Constructing Deserving Patients: An exploration of self-tracking with high blood pressure using discourse analysis

by

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ABSTRACT

CONSTRUCTING DESERVING PATIENTS: AN EXPLORATION OF SELF-TRACKING WITH HIGH BLOOD PRESSURE USING A DISCOURSE ANALYSIS

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Wearable self-tracking devices are increasingly being used to manage high blood pressure (HBP). While self-tracking technologies (STT) have been praised for their potential to revolutionize health care, many authors have criticized self-tracking for perpetuating healthist ideals, little research has investigated how these health discourses are reproduced in users’ accounts of self-tracking. As such, the current research seeks to understand: 1) how STT users with high blood pressure understand what STT can do for them, and 2) how STT users with high blood pressure are positioned in their talk. Semi-structured interviews were conducted with 8 STT users with HBP. A discourse analysis revealed that participants’ constructions of self-tracking allowed them to avoid being positioned as moral failures due to their chronic conditions and take up a deserving patient subject position instead. This thesis demonstrates the complex ways in which participants engaged with their devices and their data.
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Introduction

This thesis seeks to investigate how self-tracking is taken up by individuals with high blood pressure to negotiate the moral implications of poor health. Self-tracking technologies (STT) refer to devices that automatically measure a host of variables such as geolocation, movement, mood, sleep, heart rate, breathing, and galvanic skin response (Ruckenstein, 2014) with the intention of promoting self-awareness and positive behaviour change (Khovanskaya, Adams, Baumer, Voida, & Gay, 2013). Traditionally, self-tracking has referred to a practice of tracking various aspects of life through journals, food diaries, and spreadsheets (Fox & Duggan, 2013). As of 2018, one in four Canadians uses a consumer, wearable self-tracking device, such as a smartwatch or fitness band (Paré, Leaver & Bourget, 2018). In contrast to medical self-tracking devices, such as blood pressure or glucose monitors, consumer STTs are regulated as “low risk” and are intended for general wellness and disease prevention (U.S. Department of Health and Human Services, 2016). That said, STTs are increasingly being used by individuals with chronic conditions (Ayobi, Marshall, Cox, & Chen, 2017) as well as in health interventions targeting chronic illness, such as high blood pressure (Conn, 2015). As self-tracking refers to a set of technologies as well as a practice, this thesis will use the term self-tracking to refer to the practice of self-tracking and use STT when referring specifically to the devices. While self-tracking is not a new practice, technological advances have shaped the practice in new ways, with new implications for users with chronic conditions.

While people have been self-tracking since before consumer STTs became available, the amount of information these devices collect is unprecedented and continues to shape the practice in unanticipated ways. For example, Crawford, Lingel and Karppi’s (2015) historical analysis
situates the wearable self-tracking device within a history of self-measurement, similar to the weight scale. Like the scale, STTs create new references with which the body can be quantified and understood (del Rio Carral, Roux, & Santiago-Delefosse, 2016). STTs, however, do not merely provide measurement and promise insight as the scale does, but also collect and store unprecedented amounts of data owned by corporate entities (Till, 2014). As such, current methods of self-tracking are fundamentally different from previous methods. For example, the increase in the availability of wearable consumer technologies has been lauded as indicative of a broader digital health revolution that will fundamentally change what it means to be a patient (Swan, 2012). In contrast, critical health scholars have criticized these technologies and their associated practices for promoting healthism— that is the belief that health is a moral and individual responsibility (e.g. Fox, 2017; Lupton, 2015; Rich & Miah, 2017; Sanders, 2017) potentially encouraging blame for poor health (Lee & McDonald, 2010; McGannon & Spence, 2012). Healthism is particularly problematic for individuals with chronic conditions who must navigate the “untenable position” (Crawford, 1980) of being considered immoral and irresponsible due to their chronic condition, regardless of their actual health behaviours.

This thesis will explore the accounts of self-tracking device users with high blood pressure to better understand how users talk about and understand their self-tracking practices. This section will first outline the theoretical orientation of the current thesis in order to situate the literature review within its theoretical framework. The literature review will begin by providing a summary of healthism discourse to demonstrate how this dominant health discourse positions individuals with chronic conditions. Next, techno-utopian and technocritical self-tracking literature will be reviewed to illustrate why STTs have been criticized for reproducing healthism.
Next, empirical studies of self-tracking with a chronic illness will be reviewed to demonstrate the complexity of self-tracking with a chronic condition. Then, select literature on self-tracking with high blood pressure will be reviewed. This review will conclude with a summary of the research questions. Following a review of the literature and discussion of research questions, the methods of the study will be discussed. The analysis demonstrates how participants are positioned as deserving patients in their accounts of self-tracking, rather than as irresponsible or morally culpable for their high blood pressure. To date, there has been little psychological or qualitative research on self-tracking that has taken a discourse analytic approach, and as such, this thesis contributes to the growing body of research on self-tracking that understand self-tracking as situated within its social and political context.

**Theoretical Orientation**

Before exploring the relevant literature in more detail, the theoretical orientation of this study should be clarified. This thesis takes a social constructionist perspective as described in Willig (2013), in which internal states such as thoughts, feelings and cognitions are not considered to be knowable, but that reality is mediated by language. In this perspective, talk can be analyzed to explore how particular versions of reality are presented or constructed (Willig, 2013). It should be noted that this thesis uses the term “understand”, which may seem incompatible with this framework. As this orientation considers talk as its unit of analysis, the term “understand” refers broadly to how objects are constructed in participants’ talk. Whether or not participants actually feel or think in the way that their talk suggests is, from this perspective, unknowable.
Since this thesis is concerned with discourse, this concept should first be clarified. Discourse refers to a “system of statements that cohere around common meanings and values...[that] are a product of social factors, of powers and practices rather than an individual’s set of ideas” (Hollway, 1989, p.231). Discourses do not simply refer to ways of speaking, but ways of representing reality, and as such, discourses can be transmitted through a variety of avenues other than talk (Parker, 1992). Discourses “facilitate and limit, enable and constrain what can be said, by whom, and when” (Willig, 2013, p. 380). Discourses construct objects and allow for subject positions, and subject positions have implications for how individuals experience and interact with the world (Willig, 2013). Positioning refers to the “psychological and emotional experiences associated with that worldview” (McGannon & Spence, 2012, p. 34) and has implications for individuals’ subjectivity and behaviour (Willig, 2013). For example, the dominance of healthism discourse has implications for how individuals talk about and experience their health-related behaviours, such as self-tracking.

While some authors see STTs as products of dominant health discourses (Lupton, 2013a), others have argued that they also reproduce or transmit elements of discourse through their design. For instance, Lupton (2013b) identified many discourses associated with self-tracking, such as neoliberalism, datafication and, most relevant to the current research, healthism. To clarify how self-tracking devices can communicate discourse, consider Fotopoulou and O’Riordan’s (2017) conceptualization of the devices as “discursive agents.” These agents convey aspects of discourse through their associated meanings, practices and affordances (Fotopoulou & O’Riordan, 2017). Affordances refer to the actions an object affords and encourages through its design and features (Philippi & Nihlwing, 2017). As such, when considering self-tracking, it
should be noted that self-tracking can be considered as an experiential practice situated within larger discourses of health and technology, as well as bound to physical devices that perpetuate discourses through the features of the device (Fotopoulou & O’Riordan, 2017).

Taking a discursive approach to understanding health and self-tracking is essential as discourses reinforce power, but exploring discourse can also expose how power functions, thus making it susceptible to change (Willig, 2013). To date, very few studies on self-tracking have considered the role of discourse, despite the charge that technology is always implicated in power relationships and may consequently reinforce problematic health discourses (Fox, 2017; Lupton, 2013a). Also, the few studies that have engaged with accounts from individuals with chronic conditions who self-track have not taken into account the discursive context in which these devices operate. This approach allows for an exploration of self-tracking that considers the dominant social and political context of health and technology that has mostly been ignored in self-tracking research.

**Healthism**

Healthism refers to a dominant Western health discourse that is characterized by the belief that engaging in healthy behaviours is a moral duty (Crawford, 1980). Crawford (1980) argues that health and disease have always been understood as moral concepts, however the rise of what he calls “the new health consciousness” (p. 365) has allowed for an understanding of health in which everyone is “potentially sick” and therefore every decision should be evaluated for its impact on health. He argues that “the potential-sick role mandates a moral duty: the obligation to correct unhealthy habits” (Crawford, 1980, p. 365). He goes on to argue that healthism is a response to uncertainty, in which it is believed that engaging in healthy behaviours
is sure to lead to good health, thus reducing health anxiety (Crawford, 1980). In this discourse, poor health is often conflated with being overweight, such that all action must be taken to regulate body size in order to be considered healthy (Lee & McDonald, 2010). This discourse constructs a fit body as central to good health, and that through individual effort and discipline, the body can be regulated, resulting in good health (Kirk & Colquhoun, 1989).

Because healthism has been criticized for encouraging individual’s responsibility for their health, this notion should be explored further. A common critique of healthism’s emphasis on individual responsibility is that it effectively masks the social and genetic determinants of health by focusing on individual lifestyle factors and behaviour (Lupton, 2012; Lupton, 2013b). Individual and lifestyle factors only account of a small portion of one’s overall health while social determinants, primarily socioeconomic status, are better predictors of poor health (Rail, 2008). Powell and Biggs (2004) argue that the notion of responsibility, when considered in relation to health, justifies the moral judgement of those with poor health. It has been argued that emphasizing individual’s responsibility leads to victim-blaming (Asbring, 2012; Crawford, 1980) while doing little to address the causes of poor health. While it makes sense for individuals to engage in healthy behaviours to prevent ill health, emphasizing the role of personal responsibility effectively masks the multitude of reasons for poor health while justifying blame of those with poor health.

The assumption that health is something that can be achieved by individual action alone has been criticized for justifying the blame of those with poor health (Crawford, 1980; Lupton, 2013a). By focusing on individual action and representing those who take charge of their health as “ideal citizens,” those with poor health are positioned as morally inferior (Lupton, 2013a, p.
This positioning is particularly problematic for individuals who have chronic conditions, as it suggests that the individual is culpable for their ill health and therefore less deserving of sympathy or services (Galvin, 2002; Powell & Biggs, 2004). Healthism thus conflates engaging in healthy behaviours with becoming the best versions of themselves (Powrozni, 2016) and positions those with poor health as morally weak (Lupton, 2013a). Therefore, healthism allows for an untenable position in which those who are ill are considered failures and therefore less deserving of sympathy, support or care due to their condition, despite the fact that they may need it most (Crawford, 1980; Galvin, 2002). Despite healthism’s intense focus on preventing poor health, empirical studies of healthism suggest that it does little to motivate individuals or improve health.

Healthism has been criticized for normalizing negative feelings about the body. In an exploration of newspaper articles about women’s exercise habits, McGannon and Spence (2012) conclude that positioning the individual as a moral actor in relation to exercise is potentially damaging as it normalizes negative feelings about the self while providing little in the way of motivation. In addition, Fallon and Hausenblas (2005) found that women’s feelings of inadequacy elicited from viewing media images of fit bodies do not decrease after participants engaged in healthy behaviours such as exercise. As such, Fallon and Hausenblas’ study suggests that engaging in healthy behaviours does not counteract negative feelings elicited by healthist messaging.

In addition to normalizing negative feelings about the self, healthism has been criticized for being detrimental to health. For example, Powrozni (2017) proposes that healthism functions as a “prejudice justifier” (p.8) due to the increase in weight-based discrimination of
equally qualified candidates in workplaces with healthism-informed health promotion programs. The uptake of healthism has also been linked to disordered eating (Halse, Honey & Broughtwood, 2007), though it is not possible to prove that healthism directly causes this behaviour. That said, since healthism assigns value judgements to health behaviours (Crawford, 1980, Powroznik, 2017), unhealthy individuals may be discouraged from seeking medical treatment or avoid participating in certain health activities for fear of being blamed (McGannon & Spence, 2012; Richards, Reid & Watt, 2003). In addition, it has been noted that healthism’s nearly constant pressure to be “responsible” can cause reactance in individuals who are exposed to it, such that they are deterred from engaging in healthful behaviours (Garrett, 2004). These studies demonstrate that the stigmatization of poor health and normalization of negative feeling about the self in healthism discourse may actually be detrimental to health.

While healthism affects everyone, it is particularly problematic for those with chronic conditions. By constructing health as a result of an individual’s responsibility, individuals with chronic conditions are positioned as irresponsible and as failures. Many authors note that healthism’s emphasis on responsibility and moral duty can lead to victim-blaming for those who are ill (Asbring, 2012; Crawford, 1977; Lupton, 1995; Richards et al., 2003). For example, in a study by Richards et al. (2003), individuals blamed themselves for their cardiac conditions and accepted that the cause of their illness was due to lifestyle factors. Many participants believed their doctors would blame them, and some participants identified that this fear deterred them from seeking health care (Richards et al., 2003). This study illustrates that framing health as an individual’s responsibility negatively impacts how individuals with chronic conditions understand and manage their health.
Healthism discourse also positions individuals with chronic conditions as morally obligated to monitor and self-manage in order to maintain good health (Lupton, 1995). A self-managing patient refers to a patient who actively participates in a care plan, adequately monitors and manages symptoms, adopts lifestyle changes that promote health, addresses risk factors, and seeks information or support services when necessary (Lawn, McMillan & Pulvirenti, 2011). The expectation of self-management is problematic in that it does not account for the patient who is learning how to self-manage or is otherwise incapable of achieving good health, potentially excluding those most in need of services (Lawn, McMillan & Pulvirenti, 2011). Empirical studies suggest that self-managing with a chronic illness is burdensome. For example, Ancker et al.’s (2015) analysis of interviews with individuals with multiple chronic conditions conceptualized self-management as “invisible work,” in which participants indicated they were expected to spend extra time learning about their condition, navigating complex healthcare systems and advocating for their care needs. Similarly, Greenhalgh’s review (2009) argues that the concept of patient self-management is problematic but goes on to argue the expectation of patients to self-manage may lead to worse patient outcomes. As such, individuals with chronic conditions are put in an impossible position where they must then engage in time-consuming and burdening self-management behaviours that ultimately do little to improve their health in order to demonstrate their status as responsible citizens.

To conclude, healthism’s dominance is problematic for the unhealthy and healthy alike. By conflating health with morality, healthism constructs health as a concern requiring constant vigilance and regulation while encouraging potentially unhealthy attitudes and behaviours regarding health (Lee & McDonald, 2010). While looking after one’s health is admirable, the
framing of health as a moral duty and individual’s responsibility justifies blame and shame for poor health while masking other contributors to poor health, such as genetics and the social determinants of health. Now that the dominant health discourse has been explored, self-tracking literature will be reviewed in order to explore why self-tracking has been criticized for reproducing healthism.

**Self-tracking**

While the literature on self-tracking has typically taken a “techno-utopian” (del Rio Carral et al., 2016) stance that does not acknowledge the relationship between dominant health and self-tracking, critical health scholars have argued that self-tracking reproduces aspects of healthism (Lupton, 2013a). Most techno-utopian self-tracking research to date has focused on the devices’ potential to improve health or monitor disease (Jakicic et al., 2016; Lee & Finkelstein, 2013; Nelson, Verhagen, & Noordzij, 2016). Techno-critical (Rich & Miah, 2017) approaches have typically focused on privacy concerns (Becker, 2014; Lupton, 2015; Van Dijck, 2014), the implications of quantifying the body (Lupton, 2015; Ruckenstein & Pantzar, 2015) and surveillance (Becker, 2014; Lupton, 2013a; Lupton, 2016). The current study does not see technology as inherently good or bad, but rather acknowledges that these technologies have unintended and unanticipated consequences that warrant further investigation (Kranzberg, 1986). As such, consumer wearable STTs are an ideal “landing site where phenomena such as technology and power can be studied” (Pink, Sumartojo, Lupton & Heyes La Bond, 2017, p.3). This section will explore techno-utopian and technocritical self-tracking literature to demonstrate the strengths and limitations of each approach.
Currently, there is growing criticism regarding the effectiveness of self-tracking to improve users’ health. Self-tracking research typically operationalizes health improvements as behaviour change, weight loss or other “objective” measures of health, and in this category, the devices do not seem to be very effective. For instance, in a randomized controlled trial, Jakicic et al. (2016) identify that the addition of a wearable consumer device over the course of 2 years was a less effective weight loss intervention than a traditional, standard behavioural intervention. Additionally, a randomized controlled trial by Pellegrini et al. (2012) found no benefit to self-tracking over a standard control group. Even so, the benefits of self-tracking that have been identified in the literature tend to be short-term (Shuger et al., 2011; Polzein, Jakicic, Tate & Otto, 2007). While there might be subjective benefits and unintended consequences of this technology, the devices do not appear to change health behaviours or serve as particularly useful tools in long-term health interventions.

That said, many studies acknowledge a subjective benefit of self-tracking for various populations, such that it is beneficial for user wellbeing or that the user enjoys using their device (e.g. Ayobi et al., 2017; Schroeder et al., 2018; Steinert, Haesner, Tetley & Steinhagen-Thiessen, 2016). In a self-reported survey, 68% of respondents indicated that their devices helped them maintain their current health or improve their health (Paré et al., 2018). This is interesting, as one third to half of STTs users tend to abandon their devices within 6 months (Hammond, Ledger & McCaffrey, 2014) suggesting that not all users find the devices to be beneficial, interesting or useful. To summarize, there is growing criticism of the effectiveness of STTs in promoting healthy behaviours, however, users often self-report that their devices are helpful and subjectively beneficial to their health.
Qualitative studies have often illustrated that benefits and issues with the devices are not mutually exclusive. For example, Eikey and Reddy’s (2017) exploration of self-tracking in eating disorder recovery found that some participants found their devices to be useful in their recovery, while for others, the devices encouraged unhealthy behaviours such as restricting calories and over-exercising. In a study on sleep tracking, Ravichandran, Sien, Patel, Kientz and Pina (2017) found that tracking sleep provides feedback that is contradictory to evidence-based strategies for promoting good sleep health and is consequently frustrating for users. While the majority of self-tracking literature focuses on the device’s contested ability to change behaviour, this kind of research does not acknowledge the unintended benefits and challenges that can exist concurrently.

Techno-utopian research has typically highlighted the positive aspects of self-tracking and identified areas to improve the devices. For example, Morris and Aguilera (2012) explore the sharing of self-tracking data in clinical encounters and argue that self-tracking is a less stigmatizing and more empowering way to share data with health care providers. In addition, Li, Dey, and Forlizzi (2010) identified that self-tracking provides an opportunity for self-experimentation, goal-setting, and self-reflection. These studies sought to identify the benefits of self-tracking rather than take an exploratory approach, and given their theoretical orientation, must take participants’ experiences at face value rather than engage with the ways in which participants’ accounts are constrained by discourse.

In contrast, some techno-critical researchers have taken issue with self-tracking. For instance, techno-critical researchers have criticized self-tracking for reproducing healthist imperatives through their design. Lupton (2014) argues that self-tracking encourages self-
critique through their objective measures of performance. In particular, step challenges have been criticized for reinforcing healthist imperatives of responsibility despite the fact that step counts are not a strong predictor of one’s overall health (Lupton, 2014). Goals set by STTs, such as challenging users to meet increasingly higher daily step counts, have been criticized as “pointless pressure” (Ayobi et al., 2017) and restrictive (Fotopoulou & O’Riordan, 2017; Lupton, 2013a; Sanders, 2017). These goals require continuous improvement, making them potentially unsuitable for ageing, ill or differently abled bodies (Crawford et al., 2015; Thilarajah, Clark, & Williams, 2016). Failing to achieve these goals may result in self-blame due to healthism’s emphasis on responsibility.

While techno-utopian literature considers self-tracking to be empowering, this notion has been criticized. While techno-utopian authors have argued that self-tracking will empower users (e.g. Paton, Hansen, Fernandez-Luque & Lau, 2012; Swan, 2009), empowerment in this context has been understood as a set of imperatives that reproduces the healthist notion that the only barrier to good health is individual action (Lupton, 2013a). Similarly, Crawford et al. (2015) argue that providing a range of imperatives that promise self-understanding and certainty in exchange for data points cannot be considered empowering. To illustrate, consider Steinert, Haesner, Tetley, and Steinhagen-Thiessen (2016), who found that older adults who self-tracked tended to increase their step counts while their overall activity level remained the same, demonstrating the narrow ways in which STTs empower their users. As such, the empowerment provided by self-tracking is similar to healthism’s potential for empowerment; that is, as a set of obligations (Lupton, 2013a) and synonymous with responsibility (Galvin, 2002). As was explored in the healthism literature, overemphasizing individuals’ responsibility legitimizes
blame and shame for poor health while masking the genetic and social determinants of health. As such, self-tracking has been criticized for emphasizing control and obedience under the guise of empowerment.

Self-tracking and Chronic Illness

In a sample of Canadians who self-track, approximately 30% had a chronic condition (Paré et al., 2018). Of those self-trackers with a chronic condition, 60% identified that self-tracking helped them increase their confidence in managing their condition (Paré et al., 2018). That being said, those who perceive their health to be "poor" or "fair" are more likely to abandon their devices (Paré et al., 2018). As opposed to medical technologies, consumer self-tracking devices are not regulated or required to prove their effectiveness (Paton et al., 2012). Ayobi et al. (2016) argue that more research on self-tracking with a chronic condition is needed, as many studies focus on the devices’ potential to monitor disease without engaging with the social or psychological implications of the practice. Specifically, wearable consumer self-tracking research must acknowledge that these devices pose critical problems, such as collecting an unprecedented amount of data on users (Fox, 2017) that are used by corporations for profit (Till, 2014), all the while potentially increasing the “invisible work” of having a chronic condition (Ancker et al., 2015). As individuals with chronic conditions are already at risk of being perceived as immoral, and self-tracking has been criticized for reproducing healthism, attention should be paid to what is being asked of individuals with chronic conditions to ensure that the devices are of benefit to them.

The affordances of consumer STTs pose significant suitability concerns for individuals with chronic conditions. Del Rio Carral et al. (2016) argue that self-tracking leads to a new set of
referents when quantifying the body that excludes particular experiences not privileged by the devices. Additionally, while the data collected is expected to be insightful (Pantzar & Ruckenstein, 2017; Pink et al., 2017), self-tracking has been found to increase distress when the data collected does not lead users to clear or actionable next steps (Ravichandran et al., 2017) or otherwise fails to capture individuals’ experiences (Ayobi et al., 2017). For instance, wearable consumer STTs often promote a target of 10,000 steps per day, however, this is not a realistic or useful goal for many populations (Tudor-Locke et al., 2010). As such, most experts recommend using total active time rather than step counts when setting activity goals (Canadian Society for Exercise Physiology, 2010). These new referents present new ways that individuals with chronic conditions are expected to understand and manage their body in order to be considered “responsible” despite the legitimate reasons why individuals with chronic conditions may find these devices unsuitable or burdensome.

Despite the presumption that self-tracked data is neutral and objective (Lupton, 2013a), users with chronic conditions describe their data in ways that are indicative of their responsibility and morality. For example, in a thematic analysis of accounts from medical self-tracking device users with multiple chronic conditions, Ancker et al. (2015) found that participants constructed their failure to achieve goals or self-track as moral transgressions and consequently positioned themselves as bad patients. Alternately, in Ayobi et al.’s (2017) interviews with participants with multiple sclerosis, self-tracking allowed participants to demonstrate their responsibility and reduce their anxiety. For example, consider the statement from a participant: “I want to check that I got a gold star, and then it reminds me that I’ve done everything I can on that day to be healthy and that I can do no more” (Ayobi et al., 2017, p.6894). These studies illustrate that data
collected by STTs is not neutral but has moral implications for its users. The moral connotations of self-tracking should not be surprising given the dominance of healthism, in which health and disease are always understood as reflective of moral status (Crawford, 1980). Users’ interpretations of their data problematize the notion that data collected is objective and value-free and demonstrate how self-tracking with a chronic condition has moral implications for users.

Self-tracking has also been criticized for reproducing the notion that a lack of information is the dominant barrier to behavioural change (e.g. Lupton, 2013a). This assumption is particularly problematic for individuals with chronic illness who are expected to be experts in their conditions or risk being positioned as ignorant (Fotopoulou & O’Riordan, 2017; Fox, 2017). For example, in Wathen and Harris’ (2007) interviews with rural women who sought information regarding their chronic condition online, it was clear that not everyone has equal access to health information, and that those who did have access felt overloaded, scared or otherwise burdened with the task of learning about their condition. Additionally, in Morgan's (2016) synthesis of 83 studies on medical self-tracking with individuals with chronic health conditions, there was little evidence that the personalized feedback provided by the devices was useful to users. Finally, many users self-track for reasons other than to change behaviour, such as to mindfully capture unique experiences such as grieving (Sharon & Zandbergen, 2017), or to increase social recognition of health issues (e.g. Schroeder et al., 2018). As such, there is little evidence to suggest that the information provided by the devices is useful in influencing health behaviours.

Self-tracking has been criticized for constructing health as an individual responsibility that can be treated through lifestyle changes alone, thus failing to acknowledge the social
determinants that predict chronic illness (Lupton, 2013a). Since social determinants of health have a significant impact on whether someone develops a chronic illness (Statistics Canada, 2014), this oversight has the potential to reproduce existing health inequalities. Owens and Cribb (2017) rightly note that self-tracking may provide informational and motivational support but does little to change a person’s “capacity to act in the world” (p. 16). Lupton (2013a) argues that by ignoring the social determinants of health and positioning self-tracking as a primary means to achieve good health, healthist notions of blame and responsibility for poor health are reproduced in self-tracking. Individuals with chronic conditions are often positioned as immoral or irresponsible despite the impact that social determinants have on one’s health, and as such, may cause distress to users who are unable to maintain good health.

Self-tracking also has implications for how individuals with chronic conditions engage with their health care providers. For example, tracked information can enrich a care encounter, as in Mentis et al. (2017), who found patients with Parkinson’s disease used self-tracked data visualizations as an opportunity for sharing lived experiences with their care provider. In Ruckenstein’s (2015) exploration of food logging, it was concluded that self-tracking extends the medical gaze, as Lupton (2012) argues, but may also dissolve it by providing opportunities for medical professionals to step out of their comfort zone and allow the patient to be the “expert.” Similarly, Piras and Miele (2017) found that patients used data sharing to affirm their agency by choosing what information to share with their provider and what information to withhold. This negotiation allowed participants to resist being positioned as a passive patient (Piras & Miele, 2017). As such, more exploratory research that simultaneously acknowledges the constraints and the opportunities of these devices for individuals with chronic conditions is needed.
The polarization evident in the self-tracking literature may obfuscate the rich and varied experiences of self-tracking with a chronic illness, as the practice can be simultaneously burdensome and beneficial. That being said, there is considerable evidence to suggest that self-tracking reproduces healthist ideals and may thus pose issues for users with chronic conditions, such as individuals with high blood pressure.

**Self-tracking and High Blood Pressure (HBP)**

Self-tracking devices are increasingly being used to manage high blood pressure. High blood pressure is a complex condition that is often perceived to be preventable and due to individual inactivity (Norris et al., 2016). 5.4 million Canadians have high blood pressure, roughly 18% of the population (Statistics Canada, 2014). High blood pressure is often treated with a variety of medication, patient-targeted interventions and lifestyle changes, such as increasing physical activity, managing stress, reducing body weight and reducing intake of salt, fat, and alcohol (Green et al., 2008; Heart and Stroke Foundation, n.d.). The risk of high blood pressure increases with age and weight (Statistics Canada, 2014), however, there are a host of psychosocial risk factors that predict high blood pressure, such as education, race, occupation, and social support (Levenstein, Smith & Kaplan, 2001). In addition, genetics is a significant predictor for hypertension and accounts for 25-50% of the variance in high blood pressure diagnoses (Hopkins & Hunt, 2003). Despite these well-established predictors of high blood pressure, the disease is typically considered to be primarily caused by inappropriate lifestyle choices and treated with a variety of patient-targeted lifestyle interventions.

Dominant constructions of HBP have been criticized for legitimizing blame for those who fail to prevent or manage their blood pressure (Fox, 2017). Despite the wealth of research
on social determinants of HBP (e.g. Levenstein et al., 2001), HBP is often constructed by public health campaigns or in medical encounters as preventable, of a single cause and requiring vigilance and accountability (Richards et al., 2003). Additionally, awareness campaigns targeting hypertension and cardiovascular diseases, such as the Heart and Stroke Foundation’s “Heart Truth” campaign, have been criticized for constructing prevention as a personal choice that assigns blame to the individual (Norris et al., 2016). These dominant constructions shape how health behaviours are talked about and understood and inhibit discussion of the genetic and social determinants of high blood pressure. Given the construction of HBP as curable by a change in lifestyle, it is unsurprising that self-tracking is perceived as an appropriate intervention to improve HBP.

Despite their increasing popularity of self-tracking, tracking elements such as heart rate, blood pressure and other cardiac-related events can be especially problematic. Lippman (2013) identifies high blood pressure patients as being at risk of obsessing over metrics, as users often aren’t aware of how metrics such as heart rate or blood pressure naturally fluctuate throughout the day. Pantzar, Ruckenstein, and Mustonen’s (2017) exploration of participants’ experiences with heart rate data demonstrate that the data collected does not always meet expectations. For example, if a participant had a particularly stressful day but the visualization of their heart rate data did not reflect that, they often felt discouraged (Panzar et al., 2017). Additionally, reliability issues with STTs (see Lee, Kim & Welk, 2014) may cause undue worry in users, potentially providing false causes for concern (Piwek, Ellis, Andrews, & Joinson, 2016), or prompting users to limit visits to medical professionals due to false senses of security (Lupton, 2013b). In fact, in Nunes et al.’s (2015) review of consumer and medical STT, high blood
pressure is identified as a condition in which more awareness and monitoring of the condition can increase distress and cause blood pressure to rise. As such, these studies demonstrate that self-tracking is problematic for individuals with high blood pressure despite the increasing use of STTs in interventions targeting high blood pressure.

Various formal health interventions targeting high blood pressure are currently using consumer wearable STTs. These interventions typically track physical activity and heart rate and may be used in addition to blood pressure readings done at home or in a doctor’s office, since no consumer wearable devices can detect blood pressure. For example, the Ochsner Hypertension Digital Medicine Program combines Apple Watch data with a compatible wireless blood pressure cuff to track physical activity and blood pressure for patients with high blood pressure (Conn, 2015). While STTs cannot currently measure blood pressure, Apple has patented technology that could allow blood pressure to be monitored via STT (Wodinsky, 2018) despite the little empirical research exploring the benefits of continuously tracking blood pressure. While little is known about the psychological implications of self-tracking with high blood pressure, more devices and interventions are targeting individuals with high blood pressure.

As individuals with HBP are already positioned as blameworthy for their condition, careful consideration of the benefits and challenges associated with self-tracking is warranted to ensure they are not burdened further by the practice. As such, further exploration of how users with high blood pressure take up self-tracking and the associated effects on their positioning is warranted.
Research Questions and Objectives

Given the concerns that self-tracking reproduces healthism, as well as the associated implications for users with high blood pressure, the current study takes up Lupton’s (2013a) call for further exploration of self-tracking that considers the role of dominant health discourses. Additionally, exploring users’ accounts can help identify the potential new ways in which self-tracking allows participants to understand their health. Further exploration of self-tracking with chronic conditions is needed, and users with high blood pressure, who are already positioned as irresponsible, are well suited to explore this. This thesis will explore the following research questions:

**Question 1: How do users with HBP construct what STTs can do for them?** In other words, how do hypertensive self-trackers talk about the benefits and objectives of self-tracking? What aspects of their health do they think can be improved by self-tracking? How do they use their devices in the management of their high blood pressure? Focusing in detail on how self-tracking is used will allow for a discursive exploration of self-tracking that acknowledges the context of healthism in which they operate, unlike techno-utopian literature. As the concept of health is essential to understanding self-tracking, it will not be treated as a given but rather, participants’ constructions of health will be explored in order to establish what is meant by “health” in this context. For example, what does being healthy mean to them? What are the consequences of being unhealthy? By exploring how health is constructed, the analysis will then be able to explore how self-tracking is taken up in order to manage health.

**Question 2. How are users with high blood pressure positioned in their accounts of self-tracking?** For example, in what ways do participants reproduce or engage with various
health discourses? What subject positions are evident in participants’ accounts of their self-tracking? More broadly, exploring users’ positioning allows this thesis to explore the ways in which self-tracking may reproduce healthism (Fox, 2017; Lupton 2013a; Sanders, 2017), but also to investigate how self-tracking allows users to negotiate alternative subject positions. Because self-tracking has been criticized for reproducing healthism, little attention has been paid to the alternative positionings potentially available to self-tracking device users.

This literature review has demonstrated that self-tracking is not a neutral practice and may promote elements of healthism discourse. While little is known about self-tracking with high blood pressure specifically, the literature suggests that self-tracking may further position individuals with high blood pressure as responsible for their condition and therefore worthy of blame. Though critical health scholars have criticized self-tracking for promoting healthism, no studies to date have looked at accounts of users with high blood pressure with the purpose of analyzing those accounts as discourse or exploring the implications for individuals’ subjectivity. Exploring how STT users with high blood pressure are positioned in their accounts of self-tracking will allow the current research to investigate how this positioning is navigated, and to what effect.
Method

Recruitment

To be eligible for the study, participants had to self-identify as having high blood pressure and use a wearable, consumer device, such as a Fitbit or Apple Watch. As many STT users lose interest in their devices after the first 3-6 months (Rapp & Cena, 2016), participants had to have used their device for at least three months. The rationale behind this decision was to ensure that participants had enough experience with their devices to provide rich accounts of their experiences. Participants were given a short pre-screening questionnaire (Appendix A) to determine eligibility and to collect basic demographic information.

As the population of individuals with chronic conditions who self-track is relatively small in Canada (Paré et al., 2018) and the number of self-trackers with high blood pressure is not known, recruitment materials were shared widely in order to reach as many eligible adults as possible. Though there were no age restrictions to this study, the risk of high blood pressure increases with age (Statistics Canada, 2014), and this guided the recruitment strategy. Participants were recruited through posters (Appendix B) in athletic centers, university buildings, doctor’s offices, coffee shops, libraries and other community bulletin boards. More targeted recruitment was also conducted through events at the Guelph-Wellington Senior’s Association, where the researcher attended community events in order to recruit participants. Additionally, recruitment materials were distributed through newsletters distributed by the Guelph-Wellington Senior’s Association and the Toronto Senior’s Association. Most recruitment materials were posted in Guelph in order to allow users the opportunity to participate in an in-person interview. Study information was also posted on social media accounts such as Facebook and Twitter as
well as on Fitbit community forums, where they were accessible to anyone. Finally, participants were also encouraged to pass along study information to friends, colleagues, or family that may be interested in the study.

Ethics approval for this research was granted through the University of Guelph Research Ethics Board (REB# 17-12-008). Ethical approval to recruit participants was also granted through the Guelph-Wellington Senior’s Association Board of Directors. Participants were provided with a chance to win a $20 Tim Horton’s gift card for their participation. Participants could withdraw at any time without penalty. All interviews were confidential, and identifying information was removed during the transcription process.

Participants

Eight participants were recruited for this study (see Table 1 for more detail). Two participants identified as male, and the other six participants identified as female. The age range of participants ranged from 49-72, with an average age of 58 years old. The most popular type of device used by participants was a Fitbit (N = 7), such as the Fitbit Alta (N =3), the Fitbit Blaze (N = 2), or the Fitbit Flex (N = 1). One participant used an Apple Watch (N =1). Participants had been self-tracking for an average of 1.7 years.

All but one participant indicated that in addition to high blood pressure, they had other chronic conditions as well. These conditions included:

1. Mobility issues, such as arthritis and joint replacements (4 participants)
2. Diabetes or Pre-Diabetic Condition (3 participants)
3. Cardiovascular issues other than hypertension (1 participant)
4. Neurological issues (1 participant)

Based on the demographics of my sample, the presence of additional chronic conditions is not surprising, as it is estimated that up to 78% of adults age 45-84 will have two or more chronic conditions (Nicholson, 2017). While unintended, this complexity is welcomed in qualitative research, as it provides richer accounts of chronic illness and high blood pressure in a way that would not be possible if the goal was to make generalizable claims about high blood pressure as an isolated variable.

Procedure

When participants contacted the researcher via email to express interest in the study, they were provided with the pre-screening questionnaire to determine eligibility. The prescreening questionnaire was provided via email. Eligible participants then participated in a semi-structured interview either in-person, at the University of Guelph (N =1), or over the phone (N = 7). Interviews began with the administration of consent protocols and an explanation of the research (see Appendix C for consent form). Participants were encouraged to ask any questions they may have before the interview began but could ask questions at any time during the interview as well. Copies of consent forms were provided and explained by the interviewer, and in the case of phone interviews, consent was obtained verbally, and a copy of the consent form was provided to participants via email in advance of the phone interview. An interview guide (Appendix D) was used to prompt and guide the conversation. That being said, interviews tended to be conversational and therefore contained significant variation from the guide. The interview guide was composed of questions in the following domains:
1. Participants’ background/reasons for self-tracking
2. Participants’ engagement with self-tracking data
3. Participants’ understanding of health
4. Participants’ experience of their high blood pressure
5. Participants’ experiences self-tracking with high blood pressure

The interview guide was informed by Kvale’s (1996) suggestion of creating questions that connect to a thematic or dynamic dimension of the research process. The thematic dimension relates to the research topic, while the dynamic dimension promotes positive interaction with the researcher, such as building rapport and ensuring that the other is understood (Kvale, 1996). An example of a thematic question is “how do you use your self-tracking device?”, as it engages with the topic Participants’ engagement with their data and helps to answer research question How do participants construct what STT can do for them? An example of a dynamic question is “how long have you been self-tracking?” as it is a fairly neutral question that participants found easy to answer, and was therefore useful in building rapport. That being said, dynamic questions also provided opportunities to answer the research questions given the conversational nature of the interviews.

The researcher conducted interviews in person or over the phone. Participants were instructed that interviews typically lasted about 45 minutes, that there were no right or wrong answers, and that they could choose not to answer any questions if they were not comfortable. Interviews ranged from 28 minutes to 62 minutes (M = 46 minutes). Due to the semi-structured nature of the interview, participants were encouraged to guide the conversation in whatever direction they felt most appropriate. Interviews over the phone and in person did not differ in
detail, length or content. As health is a sensitive topic for many, phone interviews may have allowed a more accessible and comfortable setting for participants to discuss their health by providing additional distance from the interviewer and more flexibility in the interview. For example, participants were able to decide if they wanted to disclose visible health conditions to the interviewer, such having a mobility issue, which would not have been available to them had we met in person. Participating in phone interviews also allowed participants to participate in ways that were more convenient for them. For example, one participant participated in an interview while on their lunch break at work.

Interviews were recorded and transcribed verbatim. As is typical in discourse analysis, transcription was denaturalized with minimal notation (Oliver, Serovich & Mason, 2005). This meant that utterances such as stutters, pauses and minimal encouragers were not recorded in the transcript. This notation aligns more closely with discourse analysis as it recognizes that transcription cannot represent every aspect of a conversation, and rather treats the transcript as a construction in which the meanings can be more clearly examined (Oliver, Serovich & Mason, 2005). The researcher transcribed the majority if the interviews with the help of an undergraduate research assistant, who transcribed one interview (see Table 2 for transcription notation). This transcript was compared to the audio and checked for quality by the researcher, with corrections made as needed. Based on Fairclough (1992), I considered transcription to be the beginning of the analytical process, as general observations were collected in the form of a reflexivity journal. While this journal was never formally analyzed, it provided an opportunity to improve my interviewing skills and to identify aspects of participants’ talk that I found to be of interest before formally coding the transcripts.
On all interviews, a second pass was conducted by the researcher to ensure quality and to further embed the researcher into the analytic process. Given that one interview was transcribed by a research assistant, I considered the beginning of my analysis of that transcript to be when that interview was checked for quality. Identifiable information was either not transcribed at all or removed during the second pass. For example, the names of locations, people, and places of employment mentioned in the interview were removed from transcripts. The transcripts were then uploaded to NVivo 11 software for coding.

**Analytical Framework**

This thesis sought to explore how discourses of health are reproduced, resisted or otherwise navigated in participants’ accounts of self-tracking. A discourse analysis was conducted to address the following research questions:

1. How do users with HBP construct what STT can do for them?
2. How are users with HBP positioned in their accounts of self-tracking?

Discourse analysis “is concerned with language and its role in the constitution of social and psychological life” (Willig, 2013; p.379). As explored in the introduction to this thesis, it treats language as constructive rather than representative of reality and seeks to explore the effects of discourses on individuals’ subjectivity. Discourses are systems of meaning that do not necessarily reflect an individual’s ideas or opinions but rather are a product of social factors, practices and power (Hollway, 1989). From this perspective, the ways that certain objects are constructed make up different discourses (Willig, 2013). These discourses offer different subject positions, which have implications for those who take up particular discourses. Subject positions
identify “a location for a person within the structure of rights and duties” for those who use that discourse (Davies & Harré, 1999, p. 35). As such, subject positions have implications for an individual’s subjectivity and way of seeing the world (McGannon & Spence, 2012). Discourse analysis explores the discourses that are taken up and the implications of the subject positions that are offered in those discourses.

While individuals can take up a variety of subject positions, these are not freely taken up but depend on the dominant discourses that are available to them (Willig, 2013). Dominant discourses typically reflect and are embedded in dominant social and power structures, to the point that they may seem like common sense (Willig, 2013). Discourse analysis acknowledges a varied but limited amount of discourses that have implications for individuals’ “ways-of-seeing or ways-of-being in the world” (Willig, 2013, p. 380). As such, discourse analysis seeks to determine how a particular discourse is organized and to what effect (Potter & Wetherell, 1987). For example, healthism discourse has been criticized for glossing over the social determinants of health through its focus on individual choice, thus legitimizing public health interventions that focus on lifestyle changes and effort (Lupton, 1995). Understanding how discourses of health are taken up in participants’ accounts of self-tracking provides further insight into how alternative subject positions may be afforded to self-trackers.

Discourse analysis has been used to study healthism in a range of populations (Lee & McDonald, 2010; McGannon & Spence, 2012; Powell & Biggs, 2004) however to the author’s knowledge, no discourse analysis of users’ accounts of self-tracking has been conducted to date. While most qualitative self-tracking research has focused on users’ lived experiences of self-tracking, few studies have engaged with the implications of participants’ positioning in their
accounts of self-tracking. While critics of self-tracking have identified concerns that healthist ideals may be promoted in self-tracking (del Rio Carral et al., 2016; Lupton, 2012; Lupton, 2013a; Lupton & Jutel, 2015; Owens & Cribb, 2017; Rich & Miah, 2017), the specific ways in which those discourses are taken up in users’ accounts of self-tracking is not known. More specifically, the accounts of users with HBP will provide insight into how STT may allow users to navigate healthist subject positionings. As such, discourse analysis provides an opportunity to explore how STTs are constructed in users’ talk, and to investigate the implications of the subsequent subject positionings available for individuals with high blood pressure who self-track.

In summary, it has been demonstrated that healthism positions individuals with chronic conditions as irresponsible and immoral (e.g. Galvin, 2002; Lyons, 2000; Richards et al., 2003), and this positioning has implications for individuals with high blood pressure. Taking a discursive approach will allow the current research to explore how participants construct their devices and navigate various positionings in their accounts of self-tracking. Conducting a discourse analysis allows for an exploration of the critique that self-tracking promotes healthism discourse (e.g. Lupton, 2013a) by exploring how participants construct their health and position themselves in their accounts of self-tracking. As such, this study examines self-tracking as a “socially and culturally situated phenomenon” (Ayobi, Cox & Marshall, 2017) rather than exploring the technology in isolation. It can be expected that dominant health discourses may be taken up in participants’ accounts of self-tracking, though this may be achieved in new ways. As such, constructions of health will be explored first in order to establish what participants mean by “health” and how they are positioned in that talk, followed by an exploration of constructions of
self-tracking and the associated subject position that these constructions offer. The next section will explore in more detail how this analysis was achieved

Coding and Analysis

In total, 104 pages of transcribed data were coded and analyzed. Coding was informed by Willig’s (2013) 6 steps for conducting a discourse analysis, condensed from Parker’s (1992) steps. In the first round of coding, “discursive objects” of interest were coded, and their constructions were examined (Willig, 2013). Objects could be explicit or implicit and were coded with the goal of better understanding how these objects were constructed in participants’ talk (Parker, 1992). For example, some objects of interest in this study included self-tracking, health and high blood pressure. After being coded, these objects were analyzed to examine the different ways in which they were constructed. For example, in examining the code “good health,” it became evident that constructing good health as a result of lifestyle choices was a common construction that may be useful when answering the research questions. In this round of coding, a process of refinement occurred, typically after each transcript was coded, in which codes were created, refined, subsumed into other codes or deleted.

The second round of coding was informed by Willig’s (2013) second step which looks more closely at ways of speaking to identify prominent discourses that were drawn upon or resisted in participants’ accounts. When participants discussed things in specific or interesting ways, they were coded under “ways of speaking.” For example, healthism discourse was identified by examining the different codes related to health, such as discussing health as responsibility and a result of lifestyle choices. While many ways of speaking were identified, this too required a process of refinement in which some codes were subsumed as elements of another
or deleted due to lack of evidence or clarity. Here, an analytical decision was made to focus on the dominant discourse in participants’ talk rather than to identify all the discourses evident in participants’ talk. This resulted in the thesis’ focus on healthism discourse. By first identifying how the “objects” of participants’ talk were constructed and the discourses that were invoked, I was able to begin to make inferences about the subject positions that were taken up.

Willig’s (2013) final steps are concerned with the implications for individuals’ subjectivity and an exploration of the actions that are allowed for or constrained in these subject positions. Subject positions were not coded for explicitly but rather emerged from the examination of the discourses and constructions. These will be explored further in the analysis and discussion sections.

**Analysis**

As I have outlined in the introduction to this thesis, the objective of this analysis was to better understand how users of STT construct what their devices can do for them and to explore how these constructions allowed them to be positioned in their accounts of self-tracking. In this section, I demonstrate how participants’ accounts of self-tracking allowed them to be positioned—despite their chronic condition—as responsible and deserving patients. I accomplish this by exploring three things: constructions of health, constructions of self-tracking, and the subject position that I refer to as the deserving patient. First, I will demonstrate how participants constructed good and poor health, ultimately positioning those who are unwell as irresponsible and less deserving of sympathy. I will then demonstrate how self-tracking is constructed as indicative of one’s moral status, as sure to lead to good health, and as a self-management tool. These constructions of self-tracking serve to demonstrate users’ responsibility
and morality, thus allowing them to avoid being positioned as irresponsible or deserving of blame for their condition. Finally, this analysis concludes by exploring the deserving patient subject position evident in participants’ accounts of their health and self-tracking, in which participants are not only positioned as responsible people but as cooperative and conscientious users of the health care system.

**Constructions of health**

I begin by analyzing how the notion of “health” was constructed in participants’ talk about their well-being and their health condition. In doing so, I will show how healthist assumptions dominated their talk, and demonstrate the consequences of such constructions for participants’ subjectivity. Participants typically constructed their health as a result of life choices and effort. In addition, poor health was constructed as a burden to family and society, positioning those with poor health as less deserving of sympathy.

**What leads to good health?** This section will examine how participants constructed the causes of good health. The first important aspect of this talk was its emphasis on “making an effort” as an imperative, in phrases like “you have to get up every day and move” (Female, 72 years old) and “I have to do it for myself” (Female, 58 years old). In this talk, effort was not only depicted as crucial to the management of chronic conditions, but it was implied that failure to make an effort was a moral failure as well. To illustrate, consider the following excerpt in which a participant describes her health:

**Excerpt 1:** “I could be easily 20, 30 pounds lighter than I am, but I make a conscientious effort every day to be a better me. I think that’s the best way to put it [...] to choose a
better life […] and my kids are healthier because we’ve taught them to make healthier choices – (Female, 52 years old)

In this excerpt, the speaker suggests that making a “conscientious effort every day” results in “a better me” and “a better life.” By constructing “making an effort” as resulting in “a better me,” good health is linked to the best possible version of one’s self. As such, it is suggested that making an effort allows the participant to be considered a better person. The speaker also suggests that health is linked to body weight in her suggestion that she could be “20, 30 pounds lighter”. This is a typical healthist framing in which weight is used to indicate poor health in general (Lee & McDonald, 2010). She goes on to state that her “kids are healthier because [they have] taught them to make healthier choices.” In this statement, health is constructed as a choice and making an effort is depicted as a choice for good health. In this account, she is positioned as a good mother because she makes an effort and also helps her children make healthier choices. As such, this statement demonstrates what’s at stake for the speaker, namely that she will be considered lazy, irresponsible or a bad mother should she fail to “make an effort.” Health is therefore constructed as a something acquired through continuous effort, with moral consequences for those who fail to make an adequate effort.

In addition, constructing good health as a result of effort serves to position those who fail to make an effort as less deserving of sympathy. Individuals who fail to meet this imperative were positioned as pitiable or blameworthy. To illustrate, consider the following account of a participant’s acquaintance who struggled with multiple health issues:
**Excerpt 2:** “...if she had done something before to get herself motivated to be more healthy [...] now she doesn’t want to do anything [...] and it’s sad you know, and I feel bad for her, but I think a lot of it she’s put it on herself” – (Female, 72 years old)

Here, the speaker qualifies her sympathy for her acquaintance because she has “put it on herself” by failing to “get herself motivated to be more healthy.” Similar to Excerpt 1, it is suggested that *doing something* and *getting motivated* will result in good health. In this excerpt, the speaker implies that those with poor health should be pitied, as is evident in phrases like: “it’s sad you know” and “I feel bad for her.” She states: “but I think a lot of it she’s put on herself,” thus blaming her for her poor health and suggesting that she is less deserving of sympathy. In this excerpt, the subject is positioned as choosing to be unhealthy by failing to make an effort, and thus deserving of blame. Both excerpts illustrate the moral imperative of “making an effort” in which good health can lead to “a better me” and failing to “get motivated” is seen as less deserving of sympathy or indicative of one’s moral failure.

Healthism perpetuates the notion that poor health is primarily due to a failure of choice, which positions those with poor health as unable to make “appropriate” choices and therefore deserving of blame for their condition (Ogden, 1995). As was alluded to in Excerpt 1, participants constructed good health as a choice. Participants’ emphasis on lifestyle choice positioned those who fail to achieve good health as irresponsible for failing to make appropriate choices. To illustrate, consider the following participants’ account of weight loss:

**Excerpt 3:** “…It becomes choices, do you want to eat that piece of pie? Yes. Do I have to eat that whole piece of pie or can I just have a couple of bites, am I satisfied?
Everything’s about choices in life, and I think people forget that and I think we need to be more conscientious and more accountable for our health choices in general” (Female, 52 years old)

In this excerpt, we can see how at good health is constructed as a result of daily lifestyle choices which positions those who make good “life choices” as accountable, conscientious and therefore, good. For instance, the speaker emphasizes her self-control in the phrase: “do I have to eat that whole piece of pie or can I just have a couple bites?” suggesting that her healthy choices are a result of willpower and discipline. This representation of health allows the speaker to be positioned as responsible based on her ability to make positive health choices. Also, the speaker suggests that these small, daily “life choices,” such as not eating a piece of pie, will eventually lead to good health. The suggestion that health is a result of daily lifestyle choices implies that every choice is a choice for or against health, and this granular focus allows these choices to be scrutinized for their impact on health. In evaluating every choice for its impact on health, those who make “good life choices” can demonstrate their responsibility and accountability. For example, by stating: “we need to be more conscientious and more accountable,” she suggests that those who fail to make positive choices are therefore not accountable, rational, or conscientious.

Constructing health as a result of lifestyle choices has consequences for those who are not in good health. Participants constructed the lifestyle choices of those with chronic conditions, including themselves, as irrational or irresponsible, and therefore, blameworthy. For instance, consider how lifestyle choice is constructed in the following description of people with high blood pressure:
Excerpt 4: “...if they’re 150 pounds overweight they need to make better life choices. And I’m not just talking [about] eating. Life choices. Why are you smoking or drinking if you have high blood pressure?” (Female, 52 years old)

In the above excerpt, it is suggested that overweight individuals who smoke or drink have failed to make rational choices regarding their health and are therefore deserving of blame. This blame is evident in the participant’s accusatory tone in the question: “why are you smoking or drinking if you have high blood pressure?”. By stating: “if they’re 150 pounds overweight, they need to make better life choices”, the speaker connects being overweight with a failure to make appropriate choices about one’s life in general. This statement also functions to position those who make “irresponsible” choices as irrational. This account, therefore, suggests that the choices of those with high blood pressure can and should be subjected to scrutiny due to overweight or hypertensive patients’ inability to make proper “life choices.” While in this excerpt others are depicted as irresponsible and morally questionable, the speaker is also implicated in this unfavourable positioning in her accounts of her weight loss. For instance, consider the following account in which the same participant describes her experience with weight loss:

Excerpt 5: “I just know that I need to be accountable to somebody every week cause if I don’t I cheat like crazy and [...] I’m angry at myself cause I didn’t go down on the scale [...] but if I know my colleagues are gonna look at my weight every week, I’m more conscientious and make better choices” (Female, 52 years old)

In this excerpt, the speaker’s weight is depicted as needing to be constantly monitored, thus allowing her to be “more conscientious and make better choices.” She suggests that making
better choices is a result of being monitored by her colleagues, but this has moral implications for her as well. For instance, she describes failing to make choices that will lead to weight loss as “cheating” and implies that without being monitored she would continue to make unhealthy choices. Here, the use of “cheating” implies that she is dishonest. In this participants’ account, it is also suggested that the choices made by individuals deemed unhealthy can and should be scrutinized to ensure they are kept accountable. Participants’ constructions of lifestyle choices depict the daily choices of those who are deemed unhealthy as in need of constant monitoring, ultimately allowing them to be positioned as irresponsible and unable to make adequate choices for themselves due to their chronic condition.

This section has demonstrated that good health is constructed as a result of effort and lifestyle choices, ultimately suggesting that individuals can choose to be healthy. This construction has moral implications for those who fail to achieve good health who risk being positioned as a burden.

**Poor Health as a Burden**

In this section, I explore participants’ accounts of poor health to demonstrate how poor health was constructed as a burden to family and society. Similar to constructing good health as a choice or a result of effort, constructing poor health as a burden ultimately positions individuals with chronic conditions as moral failures for “choosing” to be unwell. Consider the following account in which a participant discusses her motivation to lose weight:

**Excerpt 6:** “I have to do it for myself but I also feel that I’m responsible to my children [...] and to my grandchildren [...] I don’t want to cheat my granddaughter out of having
her grandma [...] so I think, in a sense, it’s my responsibility to my girls and to my husband to get myself back in shape because it’s not just about me you know?” (Female, 53 years old)

In this excerpt, the participant’s talk suggests that “getting back in shape” is a responsibility to her family, stating: “I’m responsible to my children...and to my grandchildren” and “it’s my responsibility to my girls and my husband to get myself back in shape.” Her statement “it’s not just about me you know?” suggests that being out of shape is selfish. Again, this participant uses “cheating” to describe the consequences of her poor health. Here, cheating is used differently than in previous instances, as rather than “cheating” on one’s diet or making lifestyle choices that are not healthy, “cheating” in this case implies that the consequences of poor health result in an unfair outcome for her family, who have been “cheated” out of something that they deserve. As such, being in shape is equated with being a good person by fulfilling the role of good wife, mother and grandmother. In contrast to previous uses of the term “cheating”, in which exercise leads to a better version of one’s self, the speaker constructs getting in shape as fulfilling her obligation to her family. As such, failing to “get back in shape” has significant moral implications for the participant, who risks being perceived as not only irresponsible but as a bad wife, mother and grandmother.

Poor health was also constructed as a burden to society. Constructing poor health as a burden to society implies that individuals’ health choices are of interest to others, thus justifying the additional scrutiny of individuals with poor health. Constructing poor health as a burden to society has moral implications for those who are not perceived to be in good health, who must
demonstrate their responsibility and worthiness to others. To illustrate, consider the following excerpt in which the speaker reflects on patients that she encounters in her role as a nurse:

**Excerpt 7:** “I see a lot of people who come into our clinic and […] they expect the health care system to fix them […] and unfortunately we don’t have the resources, I can tell you that right now […] and they need to be responsible” (Female, 52 years old)

By stating “we don’t have the resources…and they need to be responsible,” the participant suggests that certain patients are not responsible and therefore less deserving of health services. She also states: “they expect the health care system to fix them.” Here, the participant suggests that the patients in the clinic feel entitled to care that they do not deserve by expecting the health care system to solve their health problems. By constructing poor health as a burden to society, it is implied that to be considered worthy of limited healthcare resources, one has to demonstrate responsibility and deservingness rather than expecting services as a given. In this excerpt, those who have been deemed irresponsible are positioned by the speaker as undeserving of care, and are, therefore, a burden to the healthcare system that cannot, and should not, support them. As such, individuals with chronic conditions demonstrate their responsibility and have their choices scrutinized in order to be considered deserving of services.

By exploring constructions of health, this analysis has demonstrated that participants’ talk reproduces healthist notions of effort, and lifestyle choice as resulting in good health, thus allowing some to be positioned as more deserving of treatment or sympathy than others. While this positioning is expected due to the prominence of healthism discourse, it poses particular issues for participants, all of whom had at least one diagnosis of a chronic condition and
therefore risk being positioned as irresponsible, ungrateful, selfish, or morally questionable.

Participants’ perpetuation of healthism in their constructions of health has implications for how self-tracking is taken up and understood.

Constructions of self-tracking

Next, I analyze participants’ constructions of self-tracking in order to demonstrate how they allowed participants to avoid the moral implications of having a chronic illness. I achieve this by exploring participants’ accounts of self-tracking and identifying three ways in which self-tracking was constructed in relation to health: as indicative of one’s moral goodness, as sure to lead to good health, and as a form of self-management. Evident in these constructions is the depiction of those with poor health as unreliable and irresponsible, while individuals who self-track are positioned as self-sufficient, trustworthy, and knowledgeable.

Self-tracking as demonstrative of one’s morality. Despite the techno-utopian assumption that self-tracking is a neutral practice (e.g. Ravichandran et al., 2017), participants discussed self-tracking in ways that demonstrate their status as good people. Participants’ accounts implied that failing to record certain metrics or self-track properly was harmful to their progress and akin to lying to oneself. While the point of self-tracking devices is to automatically measure a host of variables, there is additional information that can be recorded through linked phone apps or the devices themselves. For example, STTs are not able to record food and water intake, however many users log those metrics using affiliated apps on their mobile phones, “smart” devices like water bottles that sync up to the devices, or through the devices themselves. To illustrate, consider the following excerpt, in which a participant recounts her experiences recording her food intake:
Excerpt 8: “...I could feed whatever I wanted into that food journal, but I’m only cheating myself if I’m not completely honest with what I’ve eaten […] if I’m not gonna record [my food] and eat it anyways, I know that I’m cheating myself and it’s not gonna help at all” (Female, 58 years old)

In this excerpt, the speaker suggests that failing to be “completely honest” is akin to “cheating” and therefore morally questionable. In contrast to the use of the term “cheating” in previous excerpts, this account uses “cheating” to imply that failing to record certain variables is deceptive or dishonest. In this case, the use of cheating is similar to the use of cheating in which the speaker describes needing to self-monitor and be accountable to others in order to avoid “cheating” on her diet. This depiction of self-tracking is interesting as it is suggested that simply wearing the device is not enough but rather that the participant must use her device properly and actively in order to meet her goals. By emphasizing all of the ways in which users must track, and account for, their health, the speaker also reproduces the notion that unwell bodies should be monitored and scrutinized. Constructing a failure to record certain variables as morally questionable positions the speaker as a moral person who is active in the management of her health. By constructing self-tracking as demonstrative of her moral goodness, the participant is able to demonstrate the ways in which she is a good person despite her chronic conditions.

While in the previous excerpt it was suggested that failing to self-track was akin to cheating oneself, self-tracking was also depicted as ensuring one’s honesty. In the following excerpt, the speaker reinforced the notion explored earlier that those with poor health must be monitored and kept accountable by others, suggesting that those who are unfit or unwell are also
not trustworthy or able to adequately monitor themselves. Consider the following excerpt in which the speaker discusses one of the reasons she enjoys using her Fitbit:

**Excerpt 9:** “if you follow the guidelines with the Fitbit it does work […] luckily the Fitbit keeps track of my activity, that doesn’t lie […] I can say that I’m walking 250 steps an hour, but the Fitbit knows what I’m doing […] so you know, it keeps me honest”

(Female, 58 years old)

In this excerpt, the speaker states that the device “keeps me honest” because it “doesn’t lie” and it “knows what I’m doing.” In some ways, this is similar to participants’ constructions of health, in which self-monitoring and surveillance by others are constructed as crucial to good health. In stating: “the Fitbit knows what I’m doing,” it is implied that the surveillance provided by her device keeps her accountable. She states: “luckily the Fitbit keeps track of my activity” and it “doesn’t lie”, which suggests that without her device, she would not be honest about her activity levels. This speaker is thus positioned as deceptive and ignorant while self-tracking is constructed as an insightful and truthful practice. This excerpt, therefore, illustrates the moral implications of not self-tracking, as individuals with chronic conditions may be positioned as dishonest or in need of monitoring. As such, self-tracking allows participants to demonstrate their morality and accountability despite their high blood pressure, thus avoiding being positioned as irresponsible or a burden, as was evident in participants’ accounts of health.

By constructing active and proper self-tracking as indicative of one’s good morals, participants are positioned as honest and accountable rather than irresponsible or moral failures. While users’ accounts of self-tracking demonstrate the morally fraught ways in which users
describe their health, participants constructions of self-tracking allow them to mitigate these moral consequences by demonstrating the ways in which they are honest and morally good.

**Self-tracking as sure to lead to good health.** As discussed in the literature review, STTs often provide a variety of goals, reminders and challenges to users. For example, participants frequently discussed their step challenges, in which they were provided with a number of steps that they were challenged to meet each day or hour. These challenges were typically constructed as unproblematically leading to good health. Similar to participants’ accounts of good health, in which good health was constructed as a choice, constructing self-tracking as sure to lead to good health positions those who “choose” to be unhealthy as irrational and deserving of blame. To illustrate, consider the following excerpt in which a participant discusses his thought process when receiving a reminder from his Fitbit to move:

**Excerpt 10:** “...you should get up from your ass and go do something [...] if you’re actually disciplined enough to go do that rather than just ignoring [your Fitbit] [...] you notice a difference in the long run” (Male, 59 years old)

In this account, the accusatory tone and depiction of those who do not “get up” and “go do something” position users who ignore their prompts as passive regarding their health. In the statement “if you’re actually disciplined enough” to “get up from your ass and go do something,” it is implied that those who ignore their devices lack discipline. Similar to the emphasis on effort previously discussed, *doing something* and *being disciplined* is constructed in this excerpt as making “a difference in the long run.” By constructing self-tracking as leading to certain, positive change, the speaker is positioned as responsible and rational for choosing to respond to
his device’s prompts. In this account, it is implied that simply wearing the device is not enough but rather that the device must be used properly and responded to appropriately. As in participants’ accounts of health, the choice to respond to the device is evaluated for its potential to impact health, and these small choices provide an opportunity for the speaker to demonstrate his willpower and discipline. Constructing self-tracking as sure to lead to good health positions individuals who self-track as rational for making positive lifestyle choices that will surely improve their health, which serves to position those who do not self-track as irrational for “choosing” to be unhealthy.

In addition, self-tracking was constructed as a viable way to manage their high blood pressure. This construction allowed participants to be positioned as responsible despite their high blood pressure because they engaged in activities that were sure to improve their condition. To illustrate, consider the following account in which a participant discusses her motivation to begin self-tracking and its impact on her blood pressure:

**Excerpt 11:** “... [I use] the Fitbit to track my steps so I could lose weight and losing weight [...] would, of course, help lower my blood pressure” (Female, 63 years old)

In this account, it is suggested that self-tracking will lead to better health by encouraging the participant to lose weight, and thus lower her blood pressure. In this excerpt, the speaker suggests that her weight is the cause and the solution to high blood pressure, stating: “and losing weight [...] would help, of course, to lower my blood pressure.” This framing is typical of healthism, in which weight is often conflated with one’s overall health (Lee & McDonald, 2010). In this excerpt, the speaker implies that there is a causal relationship between tracking her steps
and losing weight by stating that she tracks her steps “so that I could lose weight” (emphasis added). She goes on to suggest that losing weight would, “of course”, lower her blood pressure, suggesting an obvious relationship between weight loss and blood pressure. The speaker thus reproduces the notion that blood pressure is of a single cause and therefore, of a single solution, as explored in the literature review. While she does not explicitly state that she plans to increase her steps, it is implied that tracking steps will lead to weight loss, presumably by increasing her awareness of her physical activity. Taken together, these statements suggest a logical progression between taking up self-tracking and lowering blood pressure. This account allows the participant to demonstrate the actions she is taking that will surely improve her weight and blood pressure, positioning her as rational and responsible for making a choice that is sure to lead to better health. She therefore uncritically engages with the assumption that more information about one’s health will lead to behaviour change and better health, as has been identified in self-tracking literature (e.g. Lupton, 2013a).

**Self-tracking as self-management.** Similarly, participants’ accounts of self-tracking construct self-tracking as a tool that allows users to manage their condition and make positive lifestyle choices. As explored in the literature review, individuals with chronic conditions are often expected to learn about their condition and be empowered to act on all available information to improve their health (Lawn, McMillan & Pulvirenti, 2011). In participants’ talk, self-tracking was constructed as a tool that not only allows them to gather this information and make informed lifestyle choices but also to record the positive lifestyle choices they make. Participants were thus able to demonstrate their responsibility and self-sufficiency by engaging
with their data. To illustrate, consider the following account of a participant who uses the information collected by his device to manage his sleep:

**Excerpt 13:** “...my wife will say “did you sleep well last night?” and I’ll say “I don’t know I have to look at my Fitbit”[…] I kinda like trying to figure out the nights it looks like I slept better- okay what did I do that day that was different?” (Male, 59 years old)

In this excerpt, self-tracking is constructed as an opportunity for the participant to reflect on his behaviour and determine what may have facilitated better sleep. This construction of self-tracking allows the participant to demonstrate how he manages different aspects of his health, thus demonstrating his ability to self-manage. Similar to constructing self-tracking as sure to lead to good health, the speaker implies that collecting information about one’s health or behaviour will lead to positive behaviour change. The participant states “I don’t know, I have to look at my Fitbit,” suggesting that his device is a more useful source of knowledge about himself. This reliance on his device illustrates the new ways of knowing the body that become available to participants when self-tracking (e.g. Lupton, 2014). In addition, self-tracking is constructed as an opportunity to experiment, stating “okay what did I do that day that was different?” Constructing self-tracking as a form of self-experimentation positions the speaker as informed and empowered to improve his health. As such, self-tracking allows the participant to demonstrate his ability to self-manage his chronic condition and avoid being positioned as ignorant and blameworthy.

Similarly, participants’ talk also demonstrated how self-tracking allowed participants to justify indulgences and make informed choices. By making informed choices using the data provided by STTs, participants are positioned as active in their health and self-sufficient
regardless of their health behaviours. Consider the following excerpt in which a participant recalls how she uses her Fitbit to make informed choices about her diet and activity levels:

**Excerpt 12:** “…the Fitbit […] is just a tool to help me get the weight off […] you’re doing research, your data is only as good as the information you put down […] I could feed whatever I wanted into that food journal but I’m only cheating myself if I’m not completely honest with what I’ve eaten so if I know that I want to eat more, I’m going to go out and walk more because then I will earn more calories that I can eat […]” (Female, 58 years old)

In this excerpt, self-tracking is explicitly constructed as a tool that allows the user to make educated lifestyle choices that will eventually lead to weight loss. Similar to the previous excerpt, the participant constructs self-tracking as an experiment, stating “you’re doing research” and “your data is only as good as the information you put down.” Constructing self-tracking as an experiment positions her as active in the management of her health and knowledgeable regarding her condition. Additionally, by using the language of research, she is positioned as credible and knowledgeable about her health and thus able to make educated choices about her lifestyle. Because she can appropriately alter her behaviour based on her data (e.g., walking more should she chose to eat more), she is depicted as able to manage her condition appropriately, signalling her status as a responsible person. As such, the participant's suggestion that she can “earn more calories” allows her to justify the calories she consumes as responsible not only because she was able to make an informed choice, but she was able to account for them through the “work” she engaged in, including walking. In her description of the work that goes into her decision-making, the speaker suggests that physical activity is a form of labour requiring
knowledge and experimentation and is consequently positioned as productive and self-sufficient. This construction allows the participant to avoid being positioned as irresponsible regardless of what she eats because she uses her self-tracking data to appropriately self-manage.

In this section, I have demonstrated how self-tracking is constructed as indicative of users’ moral status, sure to lead to good health, and a form of self-management. Self-tracking, therefore, allows users to be positioned as moral, rational and self-sufficient. These constructions of self-tracking allowed participants to be positioned as deserving patients despite their high blood pressure. This positioning will be explored further in the next section, in which participants accounts of patienthood are explored to demonstrate how self-tracking allows them to take up this alternative, less problematic subject position.

**The deserving patient subject position**

Participants’ accounts of health demonstrated that those who fail to achieve good health are positioned as less deserving of sympathy and health services, while self-tracking allows participants to demonstrate the ways in which they fulfill healthist expectations of good health. Participants, all of whom had a chronic condition and might otherwise be positioned as burdens or irresponsible, took up the deserving patient subject position in their accounts of self-tracking and self-monitoring. Consider the following excerpt, in which the speaker describes her husband’s diabetes diagnosis:

**Excerpt 14:** “[my husband] did not have a choice to be diabetic, he’s not overweight [...] he takes very good care of himself, and he’s always monitoring himself, and he was dealt a bad hand, so, unfortunately, diseases do that” – (Female, 52 years old)
In this excerpt, not being overweight and self-monitoring are constructed as the reasons why this participant’s husband is deserving of sympathy for his condition. Because he is “always monitoring himself” and “not overweight,” the speaker’s husband is depicted as responsible and proactive. By framing his condition as due to being dealt “a bad hand,” the speaker acknowledges the negative implications of a chronic illness diagnosis but avoids the moral consequences of this positioning as he “did not have a choice to be diabetic.” By constructing her husband’s poor health as due to “a bad hand,” the speaker avoids positioning her husband as morally suspect. The notion of deservingness is clear in this excerpt: a deserving patient is someone who “takes good care” of themselves, self-monitors, is not overweight, and therefore is ill through no fault of their own. Here, the deserving patient subject position includes those whose conditions are not their fault because the patient has otherwise demonstrated their responsibility and morality by not being overweight, taking care of themselves and self-monitoring. That being said, it is not clear in this excerpt whether the self-monitoring described in this account is regarding a consumer wearable device or some other form of self-monitoring.

In participants’ accounts, deserving patients often described using their self-tracking to improve their encounters with healthcare professionals. Self-tracking, therefore, allows participants to be positioned as cooperative patients who demonstrate their responsibility and use their data to better care for themselves. To illustrate, consider the following excerpt in which a participant describes her motivation to begin self-tracking:

**Excerpt 15:** “[my doctor] recommended I be more active […] but the only way to track it is using Fitbit, so she actually has been asking me for the last 3 or 4 years to get one” – (Female, 49 years old)
In this excerpt, the speaker suggests that self-tracking would allow her to better track her physical activity, stating: “the only way to track [physical activity] is using Fitbit” [sic]. Similar to constructions of self-tracking explored earlier, self-tracking is represented in this excerpt as an objective way of gaining insight regarding one’s health. Constructing STTs as “the only way to track” one’s activity reproduces the notion that self-tracking is a better and more objective way of knowing one’s body than relying on subjective accounts and experiences (Lupton, 2013a). This again reinforces the notion that individuals are ignorant regarding their health and need a device to adequately monitor and record their health metrics. The speaker also suggests that tracking her activity will lead to an increase in activity. For example, she states that her doctor recommends that she be more active, but the only way to track her activity is using a Fitbit. While she has been asked for “3 or 4 years to get one”, she can now demonstrate her commitment to being more active to her doctor who can now monitor her progress. As a result, the participant is positioned as a deserving patient who is responsible and active in her care because she can demonstrate her responsibility by self-monitoring as well as being monitored by a care provider.

In addition to looking after oneself and cooperating with health professionals, participants’ accounts depicted self-trackers as reducing the burden on health care providers. This positions participants as considerate, knowledgeable, and self-sufficient because they are able to use their devices to self-manage rather than be a burden. Consider the following excerpt in which an Apple Watch user describes how self-tracking can be used to make going to the doctor more convenient:
Excerpt 16: “and it might [...] help the doctors out [...] if ... people could [...] self-monitor, and with our lack of doctors [...] I like the idea of there being a doctor on the other end of your computer screen and you being able to say to them [...] these are my [numbers] today [...] and people not having to get to the doctor unless they’ve got [...] something serious” (Male, 59 years old)

In this excerpt, self-tracking is constructed as beneficial to all as it could ensure that doctors’ time is well spent, stating: “it might help the doctors out if people could self-monitor” and avoid “having to get to the doctor unless they’ve got something serious” (pauses removed). Here, self-tracking allows the speaker to be positioned as cooperative and conscientious, rather than a burden on the health care system. In this excerpt, it is implied that self-tracking is of benefit to doctors as it allows participants to limit their visits to the doctor unless it is "something serious." The speaker describes “our lack of doctors in the province” which positions him as knowledgeable about health care and constructs healthcare as a limited resource that should only be used by those who demonstrate need. He goes on to imply that some use this resource irresponsibly by suggesting that one could avoid going to the doctor if they could share their metrics remotely.” In this account, poor health is constructed as a burden on the healthcare system and positions those who self-track as responsible users of that system as they are able to appropriately limit their visits to their doctor. As such, this account of self-tracking demonstrates that in addition to allowing users to avoid being positioned as burdens, self-tracking allows users to be positioned as deserving patients because they are responsible, knowledgeable and conscientious users of the health care system despite their chronic condition and due, in part, to their self-tracking.
This section has demonstrated that in participants’ talk, STTs were constructed in ways that positioned participants as cooperative and responsible users of the health care system, ultimately allowing them to take up a deserving patient subject position. The deserving patient subject position encapsulates how health, explored in the first section, is negotiated by self-tracking, explored in the second section, by positioning self-trackers as responsible despite their chronic conditions.

**Conclusion of analysis**

This analysis demonstrates how individuals with chronic conditions are positioned in their accounts of their health, and how they use self-tracking to negotiate that positioning to ultimately demonstrate their status as deserving patients. In participants’ construction of poor health, individuals with chronic conditions were positioned as unable to self-manage without the scrutiny or monitoring of others. This positioning had moral implications for participants, who risked being depicted as lazy, dishonest, or as bad people due to their inability to properly care for themselves. In participants’ talk, self-tracking was constructed in ways that allowed participants to avoid this positioning and take up a deserving patient subject position instead. The deserving patient subject position ultimately allowed individuals with chronic conditions to demonstrate their cooperation and responsibility to their health care providers and avoid being positioned as irresponsible despite having a chronic condition.

As Crawford (1980) has argued that health has always been understood as a moral venture, it is not surprising that participants discussed their health in morally loaded ways. That being said, the ways in which self-tracking allows users to avoid this positioning are notable. The deserving patient subject position reinforces many aspects of healthism, namely that individuals
must demonstrate their responsibility in order to be considered worthy of care. As such, it may be useful to consider self-tracking as performative in that it allows participants to demonstrate their deservingness and avoid being positioned as morally culpable for their illness. This analysis demonstrates that in many ways, self-tracking is a practice that reproduces healthism, however, it achieves this in new ways and with different implications for participants’ subjectivity.

**Reflexive account**

Before moving on to the discussion, it is important to reflect on my positioning as a researcher, as I recognize that as the researcher, I carry assumptions and beliefs that have an impact on the analysis and the research process. A reflexivity journal was kept throughout the research process which provided me with an opportunity to improve interviews as well as for critical reflection. Though this journal was not analyzed formally, it was used in the creation of this reflexive account and provided a valuable opportunity to improve interviews and guide the analytical process.

First, it should be acknowledged that I do not exist outside of healthism, and despite my best intentions, I am mindful of the fact that I too discussed health in ways that reproduce healthism. For example, when a participant proudly explained they had lost 100 pounds the previous year, I responded positively, stating: “wow!”, which, while helpful in building rapport, could also be interpreted as a value judgment that may not be appropriate given the topic of this research. The reflexivity journal and careful reflection between interviews encouraged me to be more mindful during my interviews and refrain from encouraging healthist talk, however it is important to recognize that I do not exist outside of discourse and therefore reproduce it in my talk as well. As such, it is important to remember that topics such as health are value-laden and
dominant discourses of health affect the ways in which researchers, as well as participants, talk about health.

In our interviews, I was often positioned by my participants as young and in need of health advice. Participants were all older than me (M\text{age} = 58) and often gave me advice about my health based on their experiences. For instance, a participant who worked at a dermatology clinic recommended: “For the love of God, start wearing sunscreen now.” Interestingly, many participants simultaneously treated me as an “expert,” assuming I was knowledgeable enough to provide insight into how their devices should be used. This was evident when participants asked me to inform them of the “right” way to use their device or to find out how to maximize the benefits of self-tracking with high blood pressure. The ways that participants interacted with me served as a reminder that an interview is a social interaction in which individuals are positioned in a variety of ways that must be negotiated throughout the interview.

These conversations also allowed me to reflect on my own health and physicality, as some of my assumptions about the lives of individuals with chronic conditions were made evident in how this study was designed. For instance, as a generally active, healthy young woman, the complexity and challenges associated with chronic illnesses often surprised me. For example, some of my participants described how their multiple chronic conditions interacted with one another, sometimes leading to prolonged hospital stays. Though I originally intended to do all my interviews in person, it soon became apparent that asking participants to come to the University for an interview was not realistic for many participants. Interviews typically took place in the winter and spring, and simply going outside was too much of a risk for participants with mobility issues or those who were recovering from injuries. I had also assumed that local
participants would be willing and able to come to the University for an interview when possible, but even local participants preferred phone interviews, as they could talk in the comfort of their home or while they were at work. One participant was working within walking distance of the university and still opted for a phone interview. This experience reminded me of the importance of considering the assumptions that are being made about participants as it illustrates some of the challenges that individuals with chronic conditions may face when participating in research studies.

One of the reasons I chose to investigate high blood pressure/hypertension is that I felt that older adults were often left out of self-tracking research despite the increase in health interventions targeting HBP using STT. While I still feel this to be true, I am mindful of the burden of illness work that individuals with chronic conditions also face. As mentioned in the literature review, individuals with chronic conditions are expected to be knowledgeable about their condition and to engage in additional activities to manage their condition. This has been conceptualized as “illness work” and includes things like going to multiple appointments, advocating for oneself to health care professionals, and participating in research studies (Ancker et al., 2015). As such, asking participants to show up for an interview (uncompensated) may be an additional burden. As a researcher, it behooves us to examine the privilege we have when engaging with participants, who may not have the time, resources or energy to participate in research that is supposedly for their benefit.

**Discussion**

This thesis explored the accounts of self-tracking by individuals with high blood pressure to better understand how participants constructed self-tracking and how they were positioned in
their talk. As was discussed in the literature review, self-tracking has been criticized for reproducing the healthist notion that good health is a moral imperative. The analysis sought to answer the following research questions:

1) How do users with HBP construct what STT can do for them?
2) How are users with HBP positioned in their accounts?

To answer these questions, a discourse analysis was conducted. The analysis demonstrates that participants negotiated the moral consequences of poor health in their accounts of self-tracking, ultimately allowing them to take up a deserving patient subject position instead. This positioning was achieved by constructing self-tracking as indicative of one’s moral status, as sure to lead to good health, and as a self-management tool. The deserving patient subject position not only allowed participants to avoid healthist positioning, but to demonstrate the ways in which they were deserving of sympathy and services despite their chronic condition. This section will summarize the results of the analysis, draw connections to the literature, discuss the theoretical and practical implications of these findings, identify the limitations of the current study and explore directions for future research.

First, constructions of health were analyzed to better understand what participants were referring to when they discussed “health,” and how they were positioned in those accounts. Healthism was the dominant discourse that participants drew upon when discussing their health. More specifically, good health was constructed as a result of effort and lifestyle choice, while poor health was constructed as a burden. Participants’ constructions of health reproduce the healthist notion that individuals must be self-sufficient and reduce their burden on the health care
system (Lupton, 1995). The positioning of those with poor health as burdens provides participants with little opportunity to demonstrate their responsibility for their health. Rather, as in many studies of healthism, participants were often positioned as needing to “fix their flawed selves” (McGannon & Spence, 2012, p.33). By first exploring constructions of health, I was able to demonstrate how self-tracking was used to avoid being positioned as irresponsible or a moral failure due to their chronic condition later in the analysis.

Next, constructions of self-tracking were explored. In participants’ accounts, self-tracking was constructed as indicative of one’s moral goodness, as sure to lead to good health and as a self-management tool. These constructions allowed participants to demonstrate their responsibility for their health and status as a good person. By constructing self-tracking as indicative of one’s morality, participants were positioned as morally righteous because of their self-tracking practices. In addition, participants’ construction of self-tracking as sure to lead to good health positioned users as rational and responsible for “choosing” to be healthy. Finally, participants’ constructions of self-tracking as a self-management tool allowed participants to be positioned as self-sufficient rather than a burden to others. Taken together, these constructions provided participants with the opportunity to avoid healthist positioning and take up an alternative subject position.

Participants’ accounts of self-tracking provided evidence for aspects of techno-utopian and technocritical research on self-tracking. For instance, some participants identified wanting to share their data with their health care providers and engaged in “techno-euphoria” (Lupton, 2015, p.448) in which new technology, features and data are met with uncritical excitement. While techno-utopian research typically constructs self-tracking as a neutral, objective and
value-free practice, the current analysis demonstrates the ways in which participants’ understanding of health and self-tracking are not value-free but are morally fraught. Similar to Ayobi et al. (2016), participants often discussed their metrics using judgmental language. For example, truth and deception were recurring themes in participants’ accounts of their health, in which self-tracking was often used to “prove” they weren’t cheating or lying. Not only does this illustrate the morally loaded ways in which some users described their health data, it also reproduces the notion identified by Lupton (2013a) in which self-tracking is framed as a more reliable way of knowing oneself, positioning the user as ignorant, weak or morally dubious. This demonstrates a darker side of “techno-euphoria” in which, in order to legitimize a potentially burdensome practice, the user is positioned as unreliable, unethical and irrational, and therefore in need of management by an objective technology.

There was a tension between the positioning offered by participants’ invocation of healthism, which positioned participants as morally questionable and irresponsible, and participants’ accounts of self-tracking, which positioned participants as responsible. Taking up a deserving patient subject position allowed participants to demonstrate the ways in which they fulfilled healthist imperatives by self-tracking, thus proving their worth despite their chronic condition. The deserving patient subject position allowed users to record the ways in which they fulfill the elements of good health, better cooperate with care providers, and reduce their burden on the health care system by self-tracking. Regarding participants’ subjectivity, this subject position encourages easily quantifiable and recordable behaviour to demonstrate one’s positive life choices and deservingness. In addition, this subject position does not allow for an acknowledgement of the social determinants or genetic causes of poor health but focuses on
individual responsibility and self-sufficiency. As such, this subject position does not resist healthism but instead allowed participants to avoid healthism’s problematic positioning by demonstrating the ways in which participants’ fulfilled healthist notions of responsibility, thus allowing them to take up a less problematic subject position.

This notion of the deserving patient has been identified in other qualitative health research, however to the author’s knowledge, no studies to date have explored this subject position as it relates to self-tracking. For example, Buchbinder, Wilbur, McLean and Sleath’s (2015) conversation analysis investigated how patients used a variety of strategies to present themselves as deserving patients when requesting medication. Positioning self-trackers as deserving patients may be beneficial to participants at the individual level as self-tracking is primarily constructed as a way to help participants fulfill healthist imperatives and thus avoid being positioned as burdensome due to their high blood pressure and other conditions. That being said, self-tracking was ultimately constructed in ways that reproduced healthism due to the ways in which it allowed participants to construct themselves as deserving of support based on their ability to fulfill the moral imperatives of healthism.

**Implications**

The analysis illustrates how participants’ accounts constructed self-tracking as a way to manage their chronic conditions, to demonstrate their moral goodness, and to achieve good health. As such, participants’ constructions of self-tracking allowed for a less problematic subject position of the deserving patient to be taken up. This section will explore some of the theoretical and practical implications of this study.
**Contribution to the literature.** First and foremost, taking a qualitative and social constructionist perspective to self-tracking allowed for a deeper understanding of the practice of self-tracking. Chan, Walker and Gleaves (2014) note that while qualitative studies of self-tracking are increasing, many studies focus on the technology itself rather than the experiential effects of using the devices. This study expands on this, as rather than focus on the phenomenological or lived experiences of using these devices, the implications for users’ subjectivity were examined. Additionally, Veen, Gremmen, Molder and van Woerkum (2011) called for the use of discourse analysis in the study of new technologies to provide insight into the social actions that are accomplished in accounts of these devices. While Veen et al. (2011) argue that this would provide innovators with valuable information as to how to improve technology, the current research demonstrates that discourse analysis is a useful tool to explore the implications for users’ subjectivity that are allowed for by these technologies as well.

Rather than take an explicitly techno-critical or techno-utopian approach, this exploratory study attempted to investigate self-tracking in a way that was open to the benefits as well as the issues surrounding self-tracking. On an individual level, this practice can be understood as potentially beneficial and empowering for participants, as their constructions of self-tracking allowed them to avoid being positioned as irresponsible. While self-tracking has been promoted as a way to fundamentally change healthcare (see Sharon, 2017), the current analysis demonstrates that in many respects, self-tracking devices were talked about in ways that uphold dominant understandings of health. Like Piras and Miele’s (2017) exploration of self-tracking in doctor-patient encounters, this exploratory study of self-tracking demonstrates that agency and constraint can co-occur in accounts of self-tracking. As such, STTs were beneficial for
participants, as they were constructed in ways that allowed participants to avoid being positioned as irresponsible, while ultimately reinforcing dominant health discourses.

The current study also provides support for Fotopoulou and O’Riordan’s (2017) conceptualization of STTs as “discursive agents” that reproduces dominant discourses of health through its features and practices. While self-tracking appeared to allow participants to navigate healthist positioning in this study, it also reinforced healthist notions of responsibility in which individuals are only considered deserving should they submit to surveillance, make an effort, and use their data to improve their health. While many studies have criticized self-tracking for promoting healthist imperatives through the devices’ affordances, this study specifically explored how these elements were reproduced in users’ talk. Self-tracking has been understood as a by-product of healthism (Lupton, 2013a), however, this analysis also provides evidence that self-tracking may reproduce healthism in new ways.

To summarize, the analysis demonstrates that there are benefits for participants who take up self-tracking with a chronic illness as it allows them to be positioned as a deserving patient. On a broader level, this analysis provides evidence for Lupton (2013a) and others’ critiques of self-tracking, in which self-tracking reproduces, or encourages its users to reproduce, healthist expectations of morality and responsibility.

**Practical implications.** While the health benefits to self-tracking are increasingly being criticized (e.g. Jakicic et al., 2016), this analysis does demonstrate that there is a performative benefit to self-tracking as it allows participants to demonstrate their willingness to take responsibility for their health. Many authors have criticized self-tracking for being burdensome,
a form of labour or “illness work” (Ancker et al., 2015; Lupton, 2013a; Rapp & Cena, 2015, Till, 2015). As the literature on self-tracking has found only modest health benefits to self-tracking, self-tracking could be considered yet another form of illness work that individuals must engage in order to be considered worthy of services.

In a similar vein, positioning self-trackers as deserving patients has significant health equity implications. Consumer wearable devices sell for an average of $172 (Statista.com, 2015), and as such, the opportunity to demonstrate one’s status as a deserving patient afforded by self-tracking is not available to all individuals with chronic conditions. As Owens and Cribb (2017) rightly point out, the devices do little to change the structures that inhibit good health and may reinforce existing health inequalities. The benefits they do provide are only obtainable through “digital labour” (Till, 2015) and may constitute another form of illness work. While it is admirable and important that individual action is taken to preserve health, this overemphasis on individual responsibility and deservingness does not acknowledge the social and structural reasons for poor health that are better predictors of chronic illness. As such, the assumption that individuals with chronic conditions such as high blood pressure should take up self-tracking is problematic when considering the implications for health equity.

While the current analysis and previous literature provide little evidence to suggest that self-tracking fundamentally changes how health is understood, the current study does suggest that incorporating STTs into health interventions has its issues. For instance, in the United States, many health insurance providers and workplaces are providing incentives for self-tracking by reducing insurance rates for those who meet predetermined health goals (e.g. Fitbit Health Solutions, 2018). Given the concern that healthism leads to stigmatization or prejudice for those
with poor health (e.g. Asbring, 2012; Lupton, 2013a; Powroznik, 2016), incorporating devices that reproduce aspects of healthism into health interventions may also encourage blame, stigmatization or prejudice. In this study, participants’ accounts of self-tracking did little to challenge dominant understandings of health and may add to the burden of chronic illness by providing yet another way in which patients must be considered worthy of services. As such, the use of STTs as part of healthcare interventions should be carefully considered to assess whether it is appropriate to expect individuals with chronic conditions to engage in this practice.

In summary, most research on self-tracking to date has taken a positivist approach to the practice which, while valuable, does not engage with the social context in which these devices have come to be, or how they are understood and constructed. This study demonstrates the value of taking a discourse analytic approach to users’ accounts of self-tracking as it makes apparent the ways in which self-tracking allowed participants to discuss their responsibility for health in new ways. While self-tracking has been proposed as democratizing force in health care, there are significant equity issues associated with these devices. This analysis has demonstrated that there is a performative benefit to self-tracking, however, this benefit reinforces dominant understandings of health and may, therefore, reproduce existing health inequalities.

Limitations

First, it should be acknowledged that significant self-selection occurs when interviewing individuals who have been using STTs for at least three months. While participants of this study provided rich opportunities to how self-tracking was constructed, participants consisted of a privileged sample. Participants tended to be educated, middle-class, employed (or retired), and engaged in self-tracking by choice. Self-tracking was generally constructed in participants’ talk
in positive ways, though this may not have been the case if participants had been forced to self-track. As such, this analysis can only speak to the deserving patient subject position as it relates to the study’s participants, recognizing that they were a privileged sample, and acknowledging that other users’ positioning will likely differ.

Rather than identify all the discourses, moments of resistance and associated subject positions evident in participants’ accounts of self-tracking, this thesis chose to explore the dominant discourse, healthism, in greater depth. In participants’ accounts of self-tracking, other discourses were invoked that warrant further exploration, however, these did not clearly relate to the research questions nor were they invoked in as much detail as healthism. Because my analysis began with examining constructions of health, it did not make sense to explore discourses that did not relate to health, as those were not the dominant discourses that participants drew upon. While these discourses contain themes that overlap with healthism, different research questions would have allowed for an exploration of all the discourses implicated in self-tracking and the subsequent implications for participants’ subjectivity.

Because discourse analysis does not engage with participants’ thoughts, feelings or opinions, I did not feel that member checking or other, more participatory methods would be appropriate. As such, it should be made clear that this analysis does not speak for participants or necessarily give voice to their experiences of their health and self-tracking. Discourse analysis is often perceived as disempowering or judgemental for participants as it draws attention to the power of discourses rather than the agency of participants (Willig, 2013). As such, similar to Hanna (2014), I feel it is important to acknowledge that participants in this study were using the
tools available to them in an attempt to empower themselves within an imperfect system rather than criticize them for being passive transmitters of problematic discourses.

Finally, this study has limits to the kinds of claims that can be made regarding self-tracking and high blood pressure. In general, qualitative research does not seek to generalize to the broader population but rather to provide an in-depth exploration of a phenomenon. As such, this study cannot tell us about how other users in other situations are positioned in their accounts of self-tracking nor does it seek to generalize to all participants in this study. Rather, this study sought to illustrate some of the interesting ways that participants of this study positioned themselves in their talk. In addition, while this research intended to learn more about how these users with high blood pressure positioned themselves, most participants had more than one chronic condition. The presence of additional chronic conditions provided an opportunity to explore in greater detail the nuances of self-tracking with multiple conditions that were at times at odds with one another. That being said, this study’s ability to draw specific conclusions about how these participants navigated their high blood pressure is limited.

**Future directions**

As self-tracking becomes embedded into more formal settings, such as workplaces and doctors’ offices, further exploration of self-tracking as it is situated in these sites is warranted. For instance, many workplaces are encouraging the use of STTs in workplace wellness programs. Further research should investigate the specific environments that self-tracking is encouraged in to understand the implications for users’ subjectivity. For example, future research could explore the positioning of an employee who self-tracks as part of a workplace wellness
program. As self-tracking is taken up in different settings, future research should explore the different implications for users’ subjectivity that may become available.

In addition, a need for further feminist exploration of self-tracking devices has been identified in the literature (e.g. Lupton & Pederson, 2016) and the analysis of this study also suggests that this would be fruitful. While many authors have noted the ways in which healthism is taken up in gendered ways with particular implications for women’s subjectivity, little research has explored self-tracking as a gendered practice. Critics of healthism have identified that many health and exercise narratives position women as selfish and construct exercise as a duty to one’s family (McGannon & Spence, 2011) and this was evident in some of the constructions of health explored in this thesis. While the current study did note that health was constructed as indicative of good motherhood, for example, an explicitly feminist orientation to the study of self-tracking would allow for a more comprehensive investigation of how discourses of gender and health are negotiated in self-tracking. As such, future research should explore gender as it relates to self-tracking to better understand how gendered discourses are deployed in accounts of self-tracking, and to what end.

Finally, further research should explore the opportunities for improvisation, resistance, and creativity that become available with self-tracking devices (e.g. Sharon & Zandbergen, 2017). Some authors have identified using the devices in a variety of unintended ways that may resist or challenge dominant conceptualizations of self-tracking. For example, Schroeder et al. (2018) identify that one of the uses of migraine tracking apps is gathering social support and recognition for their condition. Additionally, Ruckenstein and Schüll (2017) note that the datafication of health metrics can be used to enact solidarity with other patients or second guess
doctor’s advice. While there is some evidence to suggest that self-tracking places value on specific activities over others based on their ability to be quantified (e.g. Cakici & Sanches, 2014), future studies could explore how users resist that privileging. For example, in Lupton’s (2015) study of digital reproductive health apps, she describes a practice she calls “queering the data,” in which users upload information with the purpose of skewing the aggregated data collected in an attempt to reject the normative assumptions made by the devices. As such, future inquiry could explore these devices as an opportunity for experimentation, improvisation and resistance.

**Conclusion**

This study demonstrates how participants with high blood pressure avoided being positioned as irresponsible and took up the subject position of the deserving patient in their accounts of self-tracking. The analysis demonstrates that participants typically reproduced healthism in their accounts of health and are consequently positioned as irresponsible because of their chronic illness. In participants’ accounts of self-tracking, participants were positioned as self-sufficient, knowledgeable and honest due to their self-tracking practices. Self-tracking, therefore, allowed users to take up an alternative subject position of a deserving patient. The subject position was evident in participants’ accounts of patienthood and is characterized by participants’ cooperation with healthcare professionals and their conscientious use of the healthcare system that is achieved, in part, by self-tracking. This exploratory analysis demonstrates that self-tracking provides an opportunity for individuals with chronic conditions to avoid the negative ways in which people can be positioned under healthism, but that it ultimately does not challenge healthism discourse.
While self-tracking has been praised by techno-utopian scholars for its potential to improve health and democratize medical encounters, the current study demonstrates that technocritical concerns regarding the devices are warranted. This study illustrates the potential for STTs to act as “discursive agents” (Fotopoulou & O’Riordan, 2017) that reproduce aspects of dominant health discourses, while also providing opportunities to take up alternate subject positions. Additionally, this study demonstrates the benefits of an exploratory approach rather than an explicitly techno-critical or utopian perspective, as it illustrates how self-tracking is constructed in ways that benefit users while reinforcing dominant understandings of health. As these devices become more embedded in our lives and in our care, we should be cognizant of the ways in which self-tracking reproduces dominant ways of understanding health, as well as open to the opportunities that self-tracking may provide to users with chronic conditions.
### Table 1

Demographic Characteristics of Participants (N = 8)

<table>
<thead>
<tr>
<th>Participant #</th>
<th>Age</th>
<th>Gender</th>
<th>Length of Time Tracking (Years)</th>
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<tbody>
<tr>
<td>Participant 1</td>
<td>59</td>
<td>Female</td>
<td>3</td>
</tr>
<tr>
<td>Participant 2</td>
<td>59</td>
<td>Male</td>
<td>2</td>
</tr>
<tr>
<td>Participant 3</td>
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<td>63</td>
<td>Female</td>
<td>3</td>
</tr>
<tr>
<td>Participant 5</td>
<td>58</td>
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<td>Participant 6</td>
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<td>Female</td>
<td>2.5</td>
</tr>
<tr>
<td>Participant 7</td>
<td>52</td>
<td>Female</td>
<td>1.5</td>
</tr>
<tr>
<td>Participant 8</td>
<td>49</td>
<td>Female</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Table 2

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>[…]</td>
<td>Indicates unnecessary words removed from excerpt (e.g. you know? Um, repeated words)</td>
</tr>
<tr>
<td>Ellipsis</td>
<td>Indicates a pause in speech with no words removed</td>
</tr>
<tr>
<td>[name]</td>
<td>used to replace identifier (e.g. city name, person’s name, name of workplace or employer)</td>
</tr>
<tr>
<td>[I:]</td>
<td>Used to indicate when the interviewer and participant talk over one another or when the interview uses minimal encourages (e.g. yeah, mhmm)</td>
</tr>
</tbody>
</table>
REFERENCES

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http://dx.doi.org/10.1080/14461242.2016.1211486


APPENDICES

Appendix A: Pre-Screening Questions

1. What is your age?

2. What is your gender?

3. Do you have hypertension or have been instructed by a doctor to manage your high blood pressure?

4. Do you use a self-tracking device, such as a Fit Bit or Apple Watch?

5. How long have you used your self-tracking device for?
Appendix B: Recruitment Poster

Individuals with hypertension needed for a self-tracking study!

The University of Guelph Department Of Psychology is seeking adult men and women (18 years or older) for participation in a self-tracking study!

Do you:

- Use a wearable self-tracking device (e.g. FitBit, Apple Watch) that tracks physical activity?
- Have hypertension as diagnosed by a doctor, or have been instructed by their doctor to manage your high blood pressure?

If so, then you are invited to participate in an interview (max. 60 minutes) that how self-tracking technologies (such as Fitbits and Apple Watches) are used to manage high blood pressure. This study is conducted by the Department of Psychology in partial fulfillment of Kathleen Slemon’s Master’s Thesis, under the supervision of Dr. Jeffery Yen, and has been approved by the University of Guelph Human Ethics Research Board (REB 17-12-08).

If interested, please contact kslemon@uoguelph.ca. We’re looking forward to hearing from you!
Appendix C: Consent Form

You are asked to participate in a research study conducted by Kathleen Slemon and Dr. Jeffery Yen from the Department of Psychology at the University of Guelph. The study is part of Kathleen’s Master’s thesis project. If you have any questions or concerns about the research, please feel free to contact either Kathleen Slemon (kslemon@uoguelph.ca) or Dr. Jeffery Yen (jyen@uoguelph.ca).

PURPOSE OF THE STUDY

The main purpose of this study is to explore how individuals use wearable self-tracking devices in the management of hypertension. Self-tracking refers to a practice and a technology that tracks various metrics such as physical activity, sleep, and rate. Examples of wearable self-tracking devices include the FitBit and the Apple Watch.

PROCEDURES

If you volunteer to participate in this study, we would ask you to participate in an in-person interview with the researcher at the University of Guelph where you would be asked open ended questions about your health and your experience with self-tracking devices. The interview will be recorded, and will not last more than 60 minutes.

POTENTIAL RISKS AND DISCOMFORTS

As the interview questions focus on participants’ health, participants may feel some discomfort discussing their hypertension or other health conditions with the researcher. You will be able to withdraw at any time, may answer questions based on your level of comfort and may choose not to answer specific questions if you do not feel comfortable with them.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

Participants may benefit from talking about their experience, as some participants enjoy the opportunity to share their experiences. The discipline as a whole will gain a greater understanding of a new trend in which little research has been done. Please note that the final research findings can be made available to you upon request by emailing Kathleen Slemon (kslemon@uoguelph.ca) or Dr. Yen (jyen@uoguelph.ca).

PAYMENT FOR PARTICIPATION

Participants will be entered into a draw to win a $20 Tim Hortons gift card. Odds of winning are approximately 1 in 10.

CONFIDENTIALITY
Every effort will be made to ensure participant confidentiality. Interviews will be held in a private lab in the Psychology Department. Interviews will be recorded and transcribed by the researcher with identifying information removed. Interview recordings and transcripts will be stored on a secure server in the Psychology Department. Any segments used in published materials will also be anonymized, and the names or locations of participants will not be shared.

**PARTICIPATION AND WITHDRAWAL**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may exercise the option of removing your data from the study (by letting the researchers know of your decision). You may also refuse to answer any questions you don’t want to answer and still remain in the study.

**RIGHTS OF RESEARCH PARTICIPANTS**

If you have questions regarding your rights and welfare as a research participant in this study (REB# 17-12-08.), please contact: Director, Research Ethics; University of Guelph; reb@uoguelph.ca; (519) 824-4120 (ext. 56606)

You do not waive any legal rights by agreeing to take part in this study.

This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants.

**SIGNATURE OF RESEARCH PARTICIPANT**

I have read the information provided for the study “An exploration of self-tracking devices in users with hypertension” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

____________________________________
Name of Participant (please print)

____________________________________
Signature of participant

I consent to participate in the study: YES NO
Appendix D: Interview Guide

Background/Reasons for Self-Tracking:

- What led you to begin self-tracking?
  - What appealed to you?
  - What did you know about self-tracking before you started?
- How long have you been self-tracking?
  - Why do you think you have kept up with self-tracking?

Accounts of participants’ engagement with their data:

- How do you use your device?
- What are your favourite features of your device? Least favourite features?
- What kinds of data do you collect?
  - What does the data collected mean to you/tell you?
  - Did anything surprise you about your data?
- What is it like collecting data and seeing your results?
  - How do you feel when you’ve met a challenge? What about when you didn’t meet a challenge?

How do you understand responsibility for health?

- What does being healthy mean to you? What does it look like?
  - How do you know you’re healthy?
- What does being “responsible for your health” mean to you?

Participants’ experience of hypertension:

- When were you diagnosed with hypertension? What was that like?
- What is it like having hypertension?

Experience of self-tracking and hypertension

- What is it like self-tracking with hypertension?
- How helpful is your device for someone with hypertension?
- Can you think of a time where self-tracking made you think about your health or hypertension differently?

Is there anything about the experience of self-tracking that I haven’t asked you that you would like to share?