THE OPTIMIZABLE SELF

HOW FITBIT SHAPES AN IDEOLOGICAL

UNDERSTANDING OF THE BODY

HYMKE THEUNISSEN

STUDENT ID: 5681081

H.F.E.THEUNISSEN@STUDENTS.UU.NL

Utrecht University

ABSTRACT

In this thesis, I analyze the phenomenon of using self-tracking technologies to optimize the body. Specifically, I focus on how the Fitbit health and fitness tracker shapes an ideological understanding of the body. First, I discuss the debate on self-tracking and self-optimization by focusing on the themes that define this practice. These include the process of datafication that turns bodily activities into data, how this works as an intervention that shapes ideas about health and fitness, what kind of subject position this creates, and how this process can turn health into an ideology. Second, I introduce my own perspective on self-tracking practices to show how self-tracking devices play a role as cultural artifacts in creating ideas around 'normal' bodies. I introduce the field of disability studies, focused on how the cultural model of disability turns the focus away from considering disability itself, to analyzing how normality is constructed through the concepts of ableism, the normate, and compulsory able-bodiedness. Third, I connect this perspective to a media analysis by showing how a self-tracking practice can be approached as a dispositif, consisting of the user, the technology, and the text. Finally, I conclude the dispositif analysis based on three points. One, I show how the Fitbit convinces its user of the credibility of its measurements. Second, I present a performative understanding of the Fitbit, as a device that brings a worldview into being when it is worn. Third, I show how Fitbit presents a paradox because while it aims to broaden the understanding of strength, its commercials do not part with a physical understanding, and its technology assesses all bodies based on one specific type of body. This highlights that Fitbit aligns with compulsory able-bodiedness, where the able-bodied position is ultimately considered best. This thesis underscores the importance of critically evaluating technologies as key players in shaping ideas of what normal bodies are.

FOR MY SISTER

ACKNOWLEDGEMENTS

I want to express my gratitude to,

Dr. Laura Karreman, who cheered me on, who shared her brilliantly relevant (and oftentimes funny) thoughts on my writing, and whose guidance has turned my vision on this thesis from an impossible mountain to climb, to an enjoyable ride.

Prof. Dr. Nanna Verhoeff, who enthusiastically provided me with a stream of suggestions to improve my research.

Maaike Wouda, without whom I genuinely believe this thesis would not exist in the first place. Thank you for giving me the tools to handle the emotional ride that writing is.

My friends and family who supported me, who would sit and write with me, or have dinners and chat about anything but the writing.

My parents who will always be a solid foundation to fall back on
(and whose espresso machine was a very welcome gift).

My partner who has never left my side.

And last but not least, my sister,
who by simply being my sister will forever continue to change my worldview.

TABLE OF CONTENTS

INTRODUCTION

Jenny wakes up to the sound of the alarm clock on her smartphone. The clock shows 7.30, and Jenny groans as she unplugs her phone from the charger and rolls to her side. She wants to snooze but knows that she has a few errands on her list for today. After going through her to-do list, she opens her Fitbit app. 70 is the score that the app shows her. "Get ready to tackle today's workout!" She reads, "Your body indicates you're ready to perform!" She scrolls down to look at her metrics. Her recent sleep scores high, as well as her past activities. Maybe she is not so tired after all? She pulls away the blankets and gets out of bed. The suggested cardio exercises look good to her. Might as well get into her workout clothes right away, she thinks – let's get this over with.

This hypothetical example illustrates a situation in which one is guided through their day based on data that a wearable device collects about one's body. Jenny wears a Fitbit tracker that collects all kinds of data about her daily activities– her sleep, her workouts, her heart rate, and her stress levels. Jenny's example is representative of a broader trend. Deborah Lupton (2016, 1), one of the key authors writing about self-tracking practices, emphasizes that while self-monitoring has been around since ancient times, with the introduction of digital technology the practice has become a widespread phenomenon that is introduced to numerous domains and is used for various purposes. An abundance of self-tracking apps can be downloaded from any smartphone, which makes purchasing a tracker an option instead of a necessity. By simply downloading an app, people can track whatever element of their lives they desire, such as their mood, finances, or weight (Lupton 2016, 16).

Self-tracking can exist of monitoring and measuring elements of one's life to help the self-tracker remember, uncover patterns, or gain new information (Lupton 2016, 2). Some people keep a list of the films they have seen on the IMDB app because they like to remember what they have seen and what they thought of it. And others keep track of the books they have read via the Goodreads app because they want to have insight into how many books a year they have read, or which genres they seem to prefer. In these self-tracking practices, people keep track of their hobbies because they are interested in them and want to record how they practice these hobbies.

However, and this is what this thesis is focused on, self-tracking can also be practiced in a more goal-oriented manner. This way, the information that is collected and measured is meant as providing insights into the workings of specific elements of one's life, such as one's fitness, health, or work productivity, with the main aim of improving these features (Lupton 2016, 2). This practice differs from keeping track of one's books and films, as the data that is collected is not merely there to help the user remember or provide them information, but

rather the data collection will serve as the starting point for the user to guide their behavior, with the goal of self-improvement.

In the health and fitness domain, people wishing to engage in self-tracking can choose from numerous options. Lupton lists various wearable devices used to monitor and improve one's health and fitness, including the Apple Watch, the Galaxy Gear Smartwatch, or even items that are not wristbands but fashion pieces, such as Ralph Lauren's Polo Tech Shirt that is embedded with sensors (Lupton 2016, 19-20). In the opening example, Jenny is using a Fitbit tracker, which will be the central case throughout this thesis. Fitbit is one of the leading players in the health and fitness domain, as it is operative in over 100 countries and has sold more than 120 million health trackers (Park 2021). With their mission to make everyone in the world healthier, the devices are specifically made with the promise of improving the user's overall health and fitness. This tracker will thus exemplify the link between self-tracking and self-improvement. Fitbit sells smartwatches (see Figure 1) and trackers (see Figure 2), which have the same principal features, with the main difference that the trackers are simpler, focused on physical measuring, and do not work with third-party apps like smartwatches do (John 2021).
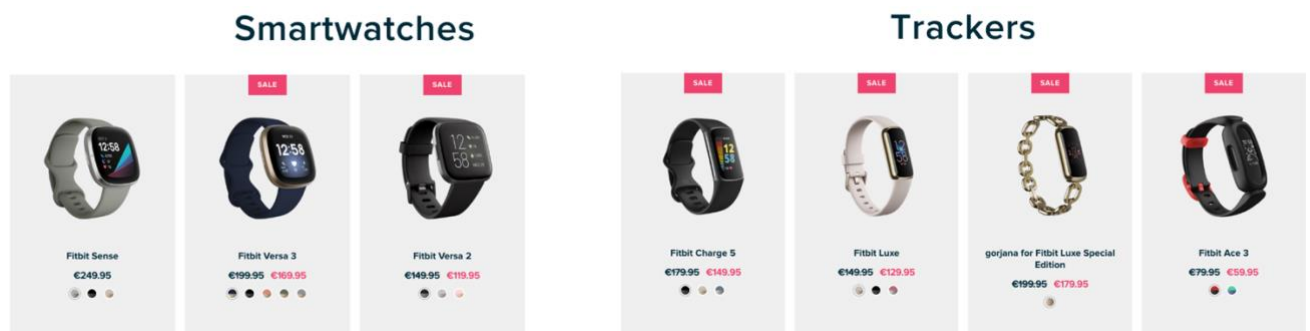
Figure 1. Fitbit Smartwatches.
https://www.fitbit.com/global/nl/
products/smartwatches

Figure 2. Fitbit Trackers.
https://www.fitbit.com/global/nl/products/trackers

The main features are targeted at measuring data relating to users' overall health. The tracker tracks data about the body which translates to a Daily Readiness Score that shows the user whether they are ready to take on a workout, or if they should recover (Fitbit 2022c). Exercise is measured automatically when the tracker detects that the user is moving, including the user's heart rate, the amount of oxygen in their body (oxygen saturation), and their pace and distance are tracked with the integrated GPS (Fitbit 2022b). Not only movement is measured, but the user is also tracked during sleep, as the tracker measures sleep stages to show a Sleep Score indicating the quality of rest (Fitbit Help 2022d). A broader picture of the user's wellness is created by the Stress Management Score, based on the data about the user's heart rate and sleep patterns (Fitbit Help 2022a). This score tells the user how their body

handles stress. The latest model in the line of trackers includes a new type of technology, called EDA. EDA stands for electrodermal activity, which indicates the changes in the sweat level of one's skin (Fitbit Help 2022a).

As this list of technological features shows, the Fitbit is capable of measuring many elements of the user's body and turning these intro metrics and scores that can guide the user's behavior. This is an interesting and relevant case, because, as scholars writing from a philosophical perspective about human-technology relations point out, technology should not be seen as a neutral artifact, but as a transformative actor that brings about change (Van Den Eede 2015, 149). Yoni Van Den Eede (2015, 149), who writes about self-tracking technologies from a postphenomenological perspective, emphasizes that technology can help to reduce or enhance things. For instance, he writes that glasses can help the wearer to see more clearly but make it more difficult for them to jump without their glasses falling off. As this example shows, technology brings transformations. In the case of self-tracking technologies, Van Den Eede (2015, 149) continues, these technologies are specifically marketed with the aim of bringing transformations.

Self-tracking practices have received great academic interest over the past years. Discussions on self-tracking have covered subjects such as the relation with data these devices assume, or what kind of logic these wearables ascribe to, such as focusing on the responsibility and self-governance of the user. However, a subject that has received little attention so far is how the transformative capabilities of self-tracking devices transform ideas about the user's body. Specifically, how self-tracking devices shape ideas about what normal bodies are (Elman 2018, 3762). How are Fitbit users guided through their day? How are they encouraged to think about their bodies? What kind of behavior does Fitbit encourage its user to adopt? And what kind of behavior is thus positioned as normal or desirable? These questions point to how Fitbit mediates a particular understanding of the world, how the user moves through this world, and how the user perceives their own body. In this thesis, I show how the Fitbit contributes to an ideological understanding of the optimizable body. The main research question in this thesis is:

How do self-tracking devices shape an ideological understanding of the self-optimizable body?

To answer this question, I will take four steps in my thesis. First, I will analyze the connection between self-tracking and self-optimization in Chapter 1. This chapter discusses the academic debate about the Fitbit with regards to its promise of self-optimization. I will trace the criticisms based on the specificities of self-tracking devices. This means that I will start with the most prominent feature of the Fitbit, which is its ability to collect data. I will then move on

to how this data is positioned as providing useful information about the user's body and how this creates a particular self-understanding for the Fitbit user. Finally, I will show how this can then be contextualized in contemporary society characterized by topics such as (unpaid) labor and neoliberalism.

Second, based on the discussion in Chapter 1, I will introduce my own perspective on self-tracking practices. This will be done by approaching self-tracking devices as media objects that play a role in shaping an understanding of what 'normal' bodies are. In Chapter 2, I will explain how this can be done by virtue of the cultural model of disability, which helps to turn attention to how normality is constructed. Third, I will combine concepts from disability studies with a media perspective on self-tracking practices, to show how media can be approached as objects that help to create an understanding of what the norm entails. This will be done in Chapter 3, where I argue for a methodological approach to understand the workings of the Fitbit tracker. I will connect the concepts from the cultural model of disability to the approach of media objects as a dispositif. This approach allows the analysis to cover the specificities of the screening situation that is created by the Fitbit wearable because it focuses on the relation between the user, the screen, and the text. In this analysis, I will focus on the interface and technology of the Fitbit device, as well as the promotional material.

Finally, I will present the results of the analysis in Chapter 4. I will discuss the dispositif analysis based on three main points. First, I will show how the Fitbit works as a device that convinces the user of the credibility of its measurements through its interface. Second, I will introduce a performative understanding of the Fitbit, as it brings a particular understanding of the world into being that only holds meaning when the wearable is worn. And third, I will show that the promotional material presents a paradoxical message about its user, as Fitbit seems to argue for a broader understanding of strong bodies, but actually counters this argument through its visuals and the technological affordances of the Fitbit device.

This thesis will show that critical consideration of technological devices such as the Fitbit is urgent, as these technologies are not neutral, but rather show a mediated perspective on the world through their choice of measurements. This is important to critically assess because this view is ideologically charged and thereby shapes understandings of what normal, or even desirable, bodies are, and this informs how people perceive themselves as relating to a norm.

CHAPTER 1:
SELF-TRACKING AND SELF-OPTIMIZATION

In this chapter, I will discuss how the Fitbit has been approached within the literature on self-tracking practices. I will focus on how the device has been discussed in relation to self-optimization. To do this, I will start with an explanation of how the goal of optimizing the self is connected to the practice of self-tracking. Then, I will discuss the criticisms expressed by authors writing from different perspectives within the humanities and social sciences. First, I will introduce the philosophical field of post-phenomenology, which will shed light on how Fitbit positions its users in the world, and how this creates ideas about themselves and their surroundings (Rosenberger and Verbeek 2015; Van Den Eede 2015). Second, data criticism will be discussed, as authors writing from this perspective challenge the idea that the dataset self-trackers base their self-optimizing practices on is neutral and objective (Van Dijck 2014; O'Neil 2016). Third, I move on to a Foucauldian-inspired discussion within the fields of sociology, media studies, cultural studies, and kinesiology, on what kind of subject is constituted through self-tracking (Fotopoulou and O'Riordan 2017; Foucault [1975] 1995; [197] 2018). Fourth, the Foucauldian concepts of surveillance and biopower serve as a base to critically engage with the processes through which certain people are prevented from engaging with the technology, which opens a discussion on the idea of (unpaid) labor (Esmonde and Jette 2020; McEwen 2018). Finally, the practice of self-tracking is contextualized within contemporary society, where self-optimization is discussed by academics as a neoliberal, ethical pursuit (Ajana 2017; Cederström and Spicer 2015; Lupton 2016; Millington 2014; Moore and Robinson 2016). Together, this overview will show the main points addressed in the debate about self-tracking practices, and taken together, this creates the basis for the introduction of my own perspective.

1.1 To Self-track is to Self-optimize

Writing from a sociological perspective, Deborah Lupton is one of the key authors in the debate on self-tracking cultures. In her book, *The Quantified Self* (2016), Lupton (2016, 2) describes self-tracking as a practice "in which people knowingly and purposefully collect information about themselves, which they then review and consider applying to the conduct of their lives." Self-tracking practices have a long history, think for instance of the practice of journaling, used to collect information about one's experience, moods, and thoughts. Moreover, the tracking of bodily activity – the subject matter of this thesis – is by no means a new phenomenon. Phoebe Moore (2018, 1) mentions the example of King Charles II of England, who lived in the 17th century, and had the habit of weighing himself after specific activities (ranging from eating to sports) to see how his body responded.

Contemporary self-tracking, however, is different from what is historically known. This is because two important developments in the 21st century altered the practice of self-tracking. The first is the introduction of Web 2.0 in 2001, which changed the internet in several ways (O'Reilly 2007). Web 2.0 is characterized by collective intelligence and interactivity, as it became easier for users to add new content to web pages, which could be linked together to create a network of connections. Users of the internet are also co-creators of Web 2.0 (O'Reilly 2007, 26). The result is that companies started to persuade users to relocate their offline behavior to online platforms (Van Dijck 2014, 198). This phenomenon is exemplified by the ways that social media have datafied social interactions and friendships in the forms of likes, comments, and followers. This means that contemporary self-tracking should be seen in the light of the rise in datafication and data collection, made possible by Web 2.0.

The second development is that digital technology and specifically the Internet of Things was introduced to the practice of self-tracking. The Internet of Things describes the phenomenon of everyday objects and devices that are connected to the internet, writes Melanie Swan (2012). The effect of this connection is that these devices can now be read, located, and controlled via the internet. For self-tracking practices, this means that devices that are attached to the body are locatable (this allows for measuring speed and distance), but also are embedded with microprocessors that can measure bodily activity (temperature, heartbeat) (Swan 2012, 218). When comparing this to older techniques of self-tracking, such as using pen and paper to document behavior, the benefits of digital technology are easy to imagine: automated, detailed, and live processing of elements that humans did not have access to before.

The Fitbit is one such tracking device that is connected to the internet and allows for continuous measuring and monitoring of one's bodily movements (Fitbit 2022b). This wearable technology comes in the form of a touchscreen wristband that measures speed, heart rate, and tracks its users' whereabouts through built-in GPS. Through the Fitbit app, users can stay up to date on fitness-related news and can discover local events, as well as connect with friends and join groups (Fitbit 2022b). This means that there is a social aspect to the Fitbit trackers that affords users to connect to others, share posts, and comment on other user's posts. The Fitbit is marketed as a device that is "packed with features that fuel your fitness journey" (Fitbit 2022e), thus targeted specifically towards the domain of exercise and fitness. The wristbands are also made with a specific promise: "these trackers were made to help you live a healthier life" (Fitbit 2022e), thereby guaranteeing Fitbit users an improvement in their health.

One of the key characteristics of a Fitbit device is that it translates bodily activity into data. This is a process that José van Dijck (2014, 198) calls datafication, which is the "transformation of social action into online quantified data." In the case of self-tracking

technologies, human movement is transformed into quantifiable data that is presented, inter alia, as the number of steps walked and for how many minutes the user was moving. While this might sound like a self-explanatory activity (to know whether one must take more steps, one first has to know how many steps one has taken), the translation of movement into data is not that neutral, according to scholars. It is important to note that this translation is based upon a certain belief: dataism. Van Dijck (2014, 201) describes dataism as the belief that objective quantification is possible, which means that one is convinced of the objective truth of the data one is presented with. One has to believe that what the tracking device shows is an unbiased representation of their movement. Second, one must trust the usefulness of this factual dataset for tracking their behavior. This means that one should not only believe that the measurements are complete, but one must also consider that this data provides a useful indication of one's behavior.

To clarify how dataism influences certain practices, Van Dijck (2014, 199) mentions the influence of (big) datasets on academic research. Researchers often consider datasets consisting of social media output, such as tweets, as indicative of people's behavior or sentiments. This results in using Twitter datasets to analyze how people respond to social events, as their tweets are seen as spontaneous responses to what is happening around them. However, what this view is missing, according to Van Dijck (2014, 199), is the critical consideration of the influence of the channel through which these sentiments are expressed. Instead of considering Twitter as a neutral channel through which opinions are voiced, one must consider how the very infrastructure of Twitter (its algorithms, protocols, and business model) provides a frame for the users to express themselves (Van Dijck 2014, 199). Returning to the Fitbit, the topic of dataism sheds light on how, in order for self-tracking to work, one must believe that the Fitbit presents the user's behavior in an unbiased and precise way, and that the collected data provide the user with an adequate foundation to base their behavior on. In the same vein that tweets are seen as an expression of people's sentiments, the data presented by Fitbit should be seen as indicative of their bodily activities.

The question then arises, when the user believes that the data collected shows the truth about their body, what is this data used for? As becomes clear from the way that the Fitbit is marketed, it is suggested to improve its user's health, thereby connecting the collection of data about one's body to the idea of self-optimization. But how is this accomplished? Why does the monitoring of movement immediately require improvement of this activity? To understand why self-tracking devices are often used to self-optimize, Minna Ruckenstein (2014, 69) introduces what she names the theme of visibility. The theme of visibility sheds light on how self-tracking devices work as mediators between aspects of the body that were once hidden from users, that have become visible with the aid of digital technology. Examples of bodily aspects that can be monitored include movement in the form of speed and location, but also

micro-behavior such as one's heartbeat. Not only have these areas been translated as perceivable data for users, but these data have also become a source of "scrutiny and intervention", writes Ruckenstein (2014, 69).

The theme of visibility is connected to self-optimization because as users can now interpret their movement as data, it makes the body more transparent, and this transparency necessitates action from its user: "It is not enough to have a more transparent view of oneself, one needs to respond to that knowledge and raise one's goals, thereby framing the "natural" body as incomplete, as failing the demands and potentials of the information age" (Ruckenstein 2014, 69). These newly acquired data transform the body into something that is "knowable": it can now be controlled because it is transformed into understandable data. And, because these data are interpreted by the user, they now experience an ignited responsibility to act upon this newly acquired information. As Moore (2018, 2) eloquently summarizes, users of self-tracking technology hope to gain intimate self-knowledge, and through this understanding, users wish to control and improve themselves.

As I mentioned above, it is important to note that the connection between data about the body and self-improvement has been around long before The Internet of Things was introduced to the practice of self-tracking. As the example of King Charles II showed, the idea of self-knowledge and self-improvement has a long history. Kate Crawford, Jessa Lingel, and Tero Karppi (2015) discuss the connection between self-tracking and self-improvement in the period of the 1890s, when the discourse surrounding the weighting scale shaped the idea of knowing oneself through the exact numbers on the scale. The authors write about the phenomenon of public weight scales, which were accessible in public areas. These scales were accompanied by the text: "He who often weighs himself knows himself well. He who knows himself well lives well" (Crawford, Lingel, and Karppi 2015, 486). This already points to two things. First, numbers about one's weight will contribute to heightened self-knowledge, as if one does not know oneself enough when this is not accompanied by corresponding numbers. Second, it points towards the connection between data about one's body, and how this data generates the possibility of self-improvement.

The weighing scales were marketed with a specific promise: "simply using the scale will result in losing '20, 30, 40 pounds or more' without the use of diets, drugs or 'tiring exercises'" (Crawford, Lingel and Karppi 2015, 488). This makes the connection between self-knowledge and self-improvement quite direct, without any interfering action required from the user of these technologies. Modern technology would not be marketed with such a direct link between measuring and improvement, as it is implied that the measurements will lead to different behavior. However, the underlying sentiment remains the same: intimate knowledge of one's body results in an optimized way of being. Comparable to what Ruckenstein (2014) writes, being presented with data results in engagement with it. Thus, the Fitbit can be seen as a device

that is connected to a long history of body tracking, in which self-knowledge leads to self-optimization, but it is part of contemporary self-tracking practices as it collects a vast amount of data as a device that is connected to the Internet of Things.

1.2 Human-technology Relations

Through the collection of data about one's activities, the Fitbit user gains an intimate understanding of their body. And, according to Ruckenstein (2014), this makes for a heightened responsibility to act upon these data. What becomes clear from this analysis of self-tracking practices is that through the insertion of technology, new measurements can be made, which inform the user about matters unknown to them before. This raises the question of how the user of Fitbit will interpret their surroundings through this device. In what way will it frame their experience?

A field within philosophy that is concerned with exactly these questions is postphenomenology: the study of human-technology relations (Rosenberger and Verbeek 2015, 9). Central authors in this tradition are Don Ihde, Peter-Paul Verbeek, and Robert Rosenberger. From a postphenomenological perspective, one can investigate how technology helps to shape the relation between human beings and the world. It is important to note here that one of the key principles of postphenomenology is that subjectivity nor objectivity are pre-existing; they come into being because of their technologically mediated relation. This means that the focus does not lie on objects or entities in isolation, as postphenomenologists do not ascribe to their separate existence, but on the relations between them which bring them into being (Rosenberger and Verbeek 2015, 19).

In his text "Tracing the Tracker", Yoni Van Den Eede (2015) analyzes self-tracking practices from a postphenomenological perspective. Van Den Eede (2015, 146) discusses the Fitbit by assessing it alongside the four human-world relations that Ihde introduced: embodiment (the experience of the user is reshaped through the technology), hermeneutic (the user experiences the world through interpretation of the technology), alterity (the user experiences the encounter with technology like a human-to-human encounter) and background relations (the user experiences this technology in the background, and not through direct interaction).

Van Den Eede (2015, 146) argues that the Fitbit can be understood as moving along all these dimensions. User experience is embodied, because the Fitbit is worn on the wrist, and the user will not see it as separate from their body after becoming accustomed to it. However, because the wristband will show data, the user will also experience a hermeneutic relation, as they interpret the world and their body through the numbers. Interestingly, Van Den Eede (2015, 146) remarks that the Fitbit can then also function as an alterity relation, as it can address the user as if it were a coach: "Companies play on this potentiality by building in

goalattaining or coaching functionalities. For instance, one may receive a weekly overview of one's progress, badges when certain goals are reached (e.g., number of steps, calories burned, …), or alerts when one is "too idle"" (Van Den Eede 2015, 146). The way that the user is addressed by the notifications on the Fitbit thus helps shape the illusion as if there is another human being assessing their progress and guiding them on their fitness journey. Finally, the Fitbit can also take on a background relation, when the wristband is not noticed, and the tracking of activities happens outside of the user's attentiveness (Van Den Eede 2015, 146).

Van Den Eede (2015, 149) also stresses that whatever form of relationality the technology may inhabit, it will always bring a transformation. The author thus emphasizes the non-neutrality of technology, as it teaches its user a particular way of being, and in the case of self-tracking devices, this way of being is attuned to improving oneself and reaching goals. This brings Van Den Eede (2015, 150) to his final thoughts on the Fitbit, as he questions what kind of transformations the Fitbit brings about. He considers the Fitbit exemplary of what Ihde calls "imagining technologies". Van Den Eede mentions two configurations of such imagining technologies. The first is the instance in which technology provides a better look into phenomena but does not change the way humans experience them. An example is a telescope, that enables people to see planets from a more detailed perspective but does not change how the people operating the telescope perceive them. A second example is when technology mediates between phenomena that cannot be perceived by humans and translate them into perceivable data. This is the case with the antenna, which translates signals into perceivable images (Van Den Eede 2015, 150-151).

When discussing the Fitbit in light of these concepts, it becomes clear that the device does not fit neatly into either category. The data image that is constructed by the device is in a sense a translation from phenomena that are not visible to the user. For instance, most people do not count their steps while walking, so the device adds this layer of information. But, since the user has measured their bodily activity, they have experienced it themselves, so even if they do not know the exact number of steps, they can estimate based on their experience whether this measurement was correct. This means that when considering step counting, the device does not really translate something that was not perceivable to the user (Van Den Eede 2015, 151). This brings Van Den Eede (2015, 151) to conclude that the Fitbit raises important questions about what kind of knowledge is produced through the device: "As development in scientific knowledge follows from instrumentation, we can ask: what forms of knowledge— scientific or other—might self-tracking technologies, in time, produce? And, moreover, how will they influence what we actually conceive of as *pertinent* knowledge?" (2015, 151). So, about self-improvement, this raises the question of the meaning of the knowledge the user bases their behavior on to upgrade their fitness level? (Van Den Eede 2015, 152).

1.3 Interpreting the Body through Data

Interpreting the world through a Fitbit device thus frames the user's experience of their surroundings: the technology transforms how the user makes sense of their behavior and how they roam through this world. This transformation heightens the importance of critically assessing what the Fitbit is actually measuring and how this is translated into feedback to the user.

Scholars writing from a critical data perspective have criticized the neutrality with which the process of collecting data to improve oneself has been treated. In her article "Datafication, dataism and dataveillance: Big Data between scientific paradigm and ideology", Van Dijck (2014, 199) calls the assumptions of dataism into question: can behavior objectively be quantified? And can human behavior indeed be tracked, or even predicted? She argues that dataism assumes an obvious relationship between humans and data, without questioning what this relationship is based on (Van Dijck 2014, 199). There is a belief in the objectivity of data, as if – to connect this to the subject matter of this thesis – the Fitbit is simply a neutral channel through which data about the body is passed to the user. This is not quite accurate, writes Van Dijck (2014, 199). She compares the collecting of data to the relationship between an MRI scan and a body: "signs of disease never simply appear on a screen, but are the result of careful interpretation *and intervention* in the imaging process" (Van Dijck 2014, 201). Especially the italicized section of her quote is relevant, as technology is often seen as a window giving insights into the workings of the body, while Van Dijck (2014, 201) emphasizes that measuring certain behavior is an intervention that favors certain metrics above others, and thus helps to shape what is deemed important as indicators of good health.

Van Dijck (2014, 201) also expresses criticism of the idea that data are presented as "raw material" to be analyzed by algorithms. The tricky part about data sets is that while they are often seen as "raw material", they can have hidden biases, or can be incomplete. This is because the collecting of data is not an objective process, and thus the idea of a neutral dataset that awaits analysis is false (Van Dijck 2014, 201). Cathy O'Neil (2016, 8) gives a clarifying example of this process when she discusses the collection of data at an elementary school to feed an algorithm that assesses the performances of teachers. One mathematics teacher tried to look into this process because she had some suspicions about the sorting system of teachers. This originated when she discovered that while her students had very high results on their reading tests, they were struggling to comprehend the texts she gave them in class. She knew that the test results weighted heavily in the sorting system, which was why she suspected teachers to adapt the test scores to be more favorable than they were (O'Neil 2016, 9). This example shows that the data set that is used to calculate which teachers are performing well is based on faulty data. While dataism would assume that the relationship between the data and the measured people is self-explanatory, this example shows that the real level of reading

expertise of students and their test scores do not correlate as the teachers had intervened to change the data (O'Neil 2016, 10).

But the story does not end here. There is another obstruction that the mathematics teacher encountered in this process. If the mathematics teacher's hypothesis was right, and the student's high scores did not reflect reality, this meant that if the students were tested again next year, their scores must have dropped (because this would reflect their real level), and this would fall squarely on the shoulders of the mathematics teacher. She would be assessed as 'underperforming' in her role as a teacher. Unfortunately, when she tried to argue for this case, she was confronted with another characteristic of interpreting an algorithm: while its precise workings are obscured, the conclusion seems unquestionable. The response she received was that her hypothesis was not backed up by proper evidence (O'Neil 2016, 10). This shows one of the key risks of dataism, where the results of the technology are treated as self-evident, while human reasoning is met with suspicion.

To connect this to the Fitbit, the criticisms that are expressed by Van Dijck (2014) draw attention to how the measuring of bodily activity is an act of intervention, and not merely of translation. According to this view, the Fitbit does not 'pass on' information about one's body to the user, but it intervenes by measuring specific elements in specific ways. This means that the dataset that is created from which certain conclusions are distilled (when the user receives a notification that they have not been moving enough) should be met with suspicion, as the dataset is not neutral and therefore not objective, as the example by O'Neil (2016) clarifies. According to Van Dijck (2014, 201), the idea of direct vision into the workings of one's body rests upon a false idea of neutrality. Instead of considering the data that Fitbit collects as reflecting the user's body, Ruckenstein (2014, 71) argues that it should be seen as shaping a different kind of body. She calls this the 'data double': "decorporealized and decontextualized bodies – hybrid composites of information – in ways that are intended to encourage people to act in certain ways" (Ruckstein 2014, 71). Understanding the data collected as a partial view that creates a new kind of body, opens up the possibility of discussing how this newly emerged entity helps users to shape ideas about health.

1.4 Surveillance and Biopower

Authors writing from a critical data perspective, thus call into question the objectivity and neutrality with which data are treated. Instead, they argue to consider the data collection as shaping a new entity: the data double (Ruckenstein 2014, 71). This brings us to the interpretation of this data double: when users are guided by their collected data to improve their health, how does this data double help to shape ideas about what healthy behavior is? Academics within the fields of sociology, media studies, cultural studies, and kinesiology analyze how a specific subject is shaped by using self-tracking devices; how does the user

interact with the data that is collected? What is the device teaching them? To analyze these matters, academics often base their criticism upon the Foucauldian concepts of surveillance and biopower. Before I elaborate on the critiques of these authors, I will first explain the concept of surveillance and its use in current debates. Secondly, I will explain biopower and how this concept relates to the debate on self-tracking.

Michel Foucault ([1975] 1995) discusses the concepts of surveillance and biopower in relation to discipline. He is concerned with how power is exercised by the state and writes that instead of 'sovereign' power, which ultimately resides in one ruler that exercises power by punishing specific people, a 'discipline society' emerged (Foucault 1995, 176). During the 17th and 18th centuries, the exercise of power shifted from being exerted from above, to being internalized by the social body through several mechanisms, such as the panopticon. With the panopticon, Foucault (1995, 195-196) describes a structure in which an individual has an overview of the entire population, while the population cannot see where this individual's gaze is oriented, which makes the population internalize the idea of ongoing surveillance, because they cannot check whether they are being watched or not.

The Foucauldian concept of surveillance is of continuing importance, as it has influenced current debates on self-tracking practices. Lupton (2016, 58) points out that the concept of surveillance is often employed to characterize how digital technologies monitor their users. However, she notes, surveillance suggests an "authoritative form of monitoring, which is exerted from above on disempowered or unknowing subjects", while there are other forms of surveillance that do not ascribe to this authoritarian position (Lupton 2016, 58). For instance, Van Dijck (2014, 205) describes another form of surveillance: dataveillance. This is the collecting of digital data, either automatically or intentionally, to monitor citizens. This is different from surveillance, writes Van Dijck (2014, 205), because whereas surveillance is used for specific goals, dataveillance happens continuously, without its purpose being outlined in advance. While self-tracking practices can be categorized under the heading of intentional data collecting, Btihaj Ajana (2017, 11-12) rightfully addresses the privacy and ownership concerns that characterize the collection of data for a commercial company. This is important to consider because even if users are purposefully collecting data about themselves for optimization, there is always another party involved, which is the company that owns the products that collect the data. Ajana (2017, 11-12) raises relevant questions to consider this involvement: who owns the data, what is it used for, and how is the user's privacy protected?

Academics discussing surveillance, often connect this subject to the Foucauldian concept of biopower. Foucault ([1976] 2018) describes biopower in his book *The History of Sexuality*. He writes that since the 17th century, the guidance and control over the path of one's life has become a political concern. Foucault traces this development alongside two different tracks. First, power structures by the state approach the body as a machine. The body is

targeted to be disciplined, to make these bodies more useful and to fit them into efficient and economic systems of control. This way of disciplining the people, Foucault (2018, 141) called the "anatomic politics directed at the human body." Second, in the 18th century, politics approached not the individual bodies, but targeted the entire population. The state regulated biological processes such as birth and death, and the quality and length of life. This is what Foucault (2018, 141) called the "biopolitics directed at the peoples." In other words, the regulation of the vitality of the population has become a political concern.

Self-tracking cultures have been analyzed through the lens of biopower to understand how they could function as devices of power that structure how people behave and healthily live their lives. The article by Aristea Fotopoulou and Kate O'Riordan (2017, 54) positions the Fitbit within the debate on biopower, by focusing on the concept of biopedagogy, which describes the "processes of learning and training bodies how to live." In their text, they argue that the Fitbit is not simply a device that can be used to change one's behavior, or to increase one's wellbeing. Instead, it is a normative device that is teaching people to become good 'biocitizens' (Fotopoulou and O'Riordan 2017, 54).

How does Fitbit teach its users what good behavior is? And how does this contribute to shaping a good biocitizen? One important way in which Fitbit operates is by mediating the body: it is presented to the user as interpretable data. These data are not simply neutral numbers that capture the body, but rather they are colored by what Fitbit perceives as 'healthy'. Fotopoulou and O'Riordan (2017, 56) emphasize that by showing specific data about the body, Fitbit decides what is prescribed as normal and desirable. This is how Fitbit positions its user in the frame of biological citizenship: it shapes the self as something that can be changed when users acquire biological knowledge about themselves (Fotopoulou and O'Riordan 2017, 63). When interpreting the Fitbit data, users are taught how to move, eat, and sleep, this intervention is what the authors argue to be a 'micropractice' that disciplines bodies. By creating ideas and beliefs, the Fitbit helps to shape reality (Fotopoulou and O'Riordan 2017).

1.5 Gender, Class, and Unpaid Labor

Based on the concepts of surveillance and biopower, Katelyn Esmonde and Shannon Jette (2020) wonder what kind of person the Fitbit serves (and whom it implicitly discriminates against), building upon the concept of unpaid labor. The authors connect the concept of surveillance to biopower, as they see surveillance as an "integral part of the exercise of biopower" (Esmonde and Jette 2020, 302). They explain how this works by pointing at how surveillance helps people accept or even internalize "dominant beliefs, particularly health-related expectations around 'normality'" (Esmonde and Jette 2020, 302). If we take the example of technological wearables, then people who accept being monitored ascribe to the

belief that under surveillance the technology will help them become healthier. They believe that the data collected by the technology is relevant, and that it says something about their health performance. For instance, users ascribe to the relevancy of the Fitbit to count the number of steps the user walks, as this indicates the activity of the user, and thereby their health level. Also, they believe that the way the technology encourages them to move is helping them become a better version of themselves. For instance, if the Fitbit ascribes to a goal of walking a certain number of steps per day, the user believes that this is an aspirational and thereby healthier alternative to the steps they walked before they wore the Fitbit. Thus, by being surveilled by a technological wearable, certain beliefs about health are communicated to the subject, and this operates as a form of biopower since the user aligns themself with these beliefs about health.

Esmonde and Jette (2020, 305) wonder what kind of subject is constructed under this surveillance by Fitbit: they look especially at the human and non-human actors that either prevent or enable people to use the Fitbit as intended. The authors found two important aspects that can be barriers for people to engage with the Fitbit as intended, namely class and gender. They write that the Fitbit is most readily employed within a specific work environment. The ability to move around during work is not enjoyed in all workplaces, some employees do not have the possibility of taking breaks every hour to move or cannot enjoy the opportunity of combining fitness and work (due to the unavailability of a work-out space at the office). This is how class is a factor in the subject that the Fitbit shapes: it is a privileged practice that requires "considerable time, money, and hope for the future" (Esmonde and Jette 2020, 305).

Also, gender is a factor that can prevent especially women from embodying the Fitbit subject. Esmonde and Jette (2020, 309) describe household labor or "second shift" that women are often expected to engage with when they return from their paid job. The authors mention the example of one Fitbit user that adopted a healthier lifestyle by changing her diet. However, as she was the one expected to prepare food, this resulted in extra labor in preparing both her husband's food and her own (as he did not align with her new diet). This resulted in a diminished amount of time that this woman was able to spend on fitness. The authors conclude the text with their main point:

> While it is theoretically possible to become a Fitbit subject from any social location, it is undoubtedly more difficult to do so if you do not have the flexibility to walk throughout the day, a body that can take 10,000 steps per day, the availability of safe and interesting areas to walk in, or even the appearance of a person who can walk in those safe areas without arousing suspicion. (Esmonde and Jette 2020, 311).

Thus, the position that is most readily supported by the Fitbit is that of an able-bodied man, working in an environment where he gets the opportunity to move throughout the day. If a user does not comply with this norm, they will encounter difficulties in trying to embody this proposed user.

Where Esmonde and Jette (2020) analyze how household labor can prevent women from engaging with their Fitbit, Karen Dewart McEwen (2018) draws a parallel between the two: she argues that self-tracking with the aid of technology should be considered as unpaid labor. She explains this argument using the concept of reproductive labor, which describes labor that should be done to sustain the body and mind of the person to enable them in carrying out the shift of paid labor (McEwen 2018, 239-240). This includes practical labor such as cleaning and washing, but also other activities, such as showing affection and companionship. McEwen (2018, 240) argues that this form of reproductive labor is exploited maximally because it is not only unpaid but also hidden. When the laborer sells their labor, the foundation of reproductive labor ensures that this transaction is possible, thereby they are "silently selling this embodied reproductive labor along with it" (McEwen 2018, 240). This means that this reproductive labor is a vital aspect that ensures the possibility of providing paid labor, but it is not acknowledged nor monetized.

Through self-tracking, McEwen (2018, 244) argues that the user engages in reproductive labor in two ways. They are sustaining the body to keep fit to be a productive employee, but they also produce data that are very valuable for companies. McEwen (2018, 248) understands these practices of reproductive labor as blurring the lines between life during work, and life outside of work: self-tracking devices turn the 'free' time of laborers into exploitable activities. This view considers wearables such as the Fitbit as ultimately aiding capitalist values, as the device helps to construct a healthy subject, which is profitable for capitalism in the long run since the users are less likely to become ill and are therefore more productive employees, but also by collecting data about themselves that will help to fill huge datasets with valuable information for companies.

1.6 Contemporary Society: Ethics and Neoliberalism

Approaching self-tracking practices from the perspective of biopower and surveillance opens up the possibility to discuss them as devices that exert power onto their users and help to discipline them. This is especially relevant when considered in relation to the specific era in which these self-tracking devices are used, as what is viewed as 'improving' oneself can change over time. Lupton (2016, 46) emphasizes, in her interpretation of Foucault, that in his writings on selfhood, Foucault demonstrated that the self is constructed through discourse and practices and that these practices change in a cultural and historical sense. This means that

the ideas of how to behave as a citizen are depended on what culturally was appropriate in which specific era. Lupton summarizes how what this view entails for this current era:

> In contemporary western societies, the care of the self is viewed as an ethical project, which requires a self-awareness based on critical and considered reflection and the acquisition of self-knowledge as part of achieving the ideal of the 'good citizen' – that is, a citizen who is responsible, capable and self-regulated in the pursuit of happiness, health, productivity and wellbeing. (Lupton 2016, 46).

This means that caring for the self is based on self-knowledge, which could be acquired through the usage of the Fitbit, and that this knowledge can be used by a responsible and self-regulating subject, to better themselves.

Furthermore, it shows that caring for the self in this era is an ethical assertion. This is in line with what Carl Cederström and André Spicer (2015) write about in their book *The Wellness Syndrome*. Cederström and Spicer (2015, 3) write that caring for the self (what they discuss under the name of wellness) has undergone a shift from a lifestyle for a small group of people, to a moral demand that pervades society. The authors argue that wellness has turned into an ideology: "it offers a package of ideas and beliefs that which people may find seductive and desirable, although, for the most part, these ideas appear as natural or even inevitable" (Cederström and Spicer 2015, 3). Because wellness has become an ideology, the authors state, the attitude towards people who fail to look after their own wellbeing becomes ethically charged. An example of this is society's attitude towards people who are fat – they are not simply fat; they are unhealthy and thereby morally flawed as they do not care enough to confine to the healthy norm. This attitude condemns that fatness is a trait of their character instead of it having a medical or social origin. This turns the non-fulfillment of the healthy norm into a stigma (Cederström and Spicer 2015, 4).

Following Foucault, what is understood as a responsible citizen undergoes cultural and historical changes (Lupton 2016, 46). In contemporary Western society, a healthy subject is a productive one (Cederström and Spicer 2015, 4). This focus on productivity and taking charge of one's health as a responsible and self-governing subject can be seen as belonging to another characteristic of this modern era: neoliberalism. Authors writing about self-improvement through self-tracking in the modern era often relate their arguments to neoliberalism. As neoliberalism is not an easy concept to grasp, as there are many interpretations of it, I would first like to introduce the writings of Wendy Brown (2015), who provides a very clear definition of neoliberalism, and the neoliberal subject. She writes that neoliberalism can be understood as a form of reason, a specific rationality that brings a subject into being that thinks and acts as if all domains of life can be understood through the model of the market (Brown 2015, 30-

31). She underscores that neoliberal thinking does not mean that all spheres of life are marketized, but rather that the model of the market is the dominant way of viewing every practice in life (even when it has nothing to do with money). She mentions the example of dating, which can be approached from an entrepreneurial position, in which the individual views their time and money as investments that could yield certain outcomes (Brown 2015, 31). The time and money spent on dating apps can easily be reframed by neoliberal reason into investments that can help to attract as many possible dating partners, thereby increasing the chances of finding a suitable partner.

Brown (2015, 33) identifies the specificities of the subject position that neoliberalism produces. It acknowledges individuals as *homo economicus* in every sphere of life, without the possibility of another approach. This means that economic models have moved from the domain of economy onto all areas of life, and the subject position that aligns with this approach is that of human capital "seeking to strengthen its competitive positioning" (Brown 2015, 33). This individual seeks to improve their future value through various domains in life, such as getting an education, reproducing, consuming, taking time for leisure; every aspect is framed as leading to a better position (Brown 2015, 34). As becomes clear from this definition, self-tracking fits within the neoliberal framework of users trying to gain a better competitive position by seeking to take charge of their health, to invest in a better future.

Within the debate on self-tracking practices, authors relate their arguments to neoliberalism to critique the kind of subject that is created. Lupton (2012, 239) writes that technologies used to improve health require a subject that is desiring of ongoing surveillance, thereby confirming the "entrepreneurial, self-regulating subject that is represented as the ideal responsible citizen in neoliberal societies." This means that the person targeted to promote their health is addressed as an individual operating isolated from their environment. The socio-political or economical context that influences people's health is not acknowledged by these technologies. Thus, health improvement is reduced to the micro-level, and therefore the sole responsibility of the individual.

Ajana (2017, 4) describes that heightened attention to numbers is in line with a neoliberal understanding of self-governance and serves a subject that voluntarily monitors their health to be in charge of their wellbeing. Phoebe Moore and Andrew Robinson (2016, 2776) also consider self-governance to be a key characteristic of neoliberalism that frames wearable technologies. They argue that neoliberalist values of control and a managerial view of one's body demonstrate the effect of wearables on their users in the workplace; employees have internalized the vital importance of performing at all times (Moore and Robinson 2016, 2776). Millington (2014, 490) argues that health tracking embodies neoliberal logic as they frame health as something that is easily influenced, which needs constant and persistent

devotion with the help of consumer products. This means that the user should buy technology, as an investment in themselves.

Academics have thus framed self-tracking within neoliberal thinking and have critiqued it for creating a self-governing, responsible subject that thinks like an entrepreneur about investing in themselves. However, some authors aim to add some more nuance to the usage of neoliberal criticism in the debate on self-tracking. Loren Gaudet (2021, 5) agrees with the criticism expressed by authors that analyze health messaging through the lens of neoliberalism. She endorses their argument that these messages often frame health in terms of individual choices, that necessitate individual responsibility, and how in this framing larger barriers on an institutional or systematic level, are not taken into consideration. However, Gaudet (2021, 5) observes that these statements are often the endpoint of analysis, which turns wearable technologies into exemplary effects of neoliberalism. Instead, she argues that it would be more helpful to see neoliberalism not as an endpoint but rather as a starting point: "understanding neoliberalism as the scene upon which our lives play out will provide us with a more manageable course of action, or at least the possibility of inciting change" (Gaudet 2021, 5).

Understanding neoliberalism as the foundation on which wearables operate enables Gaudet (2021, 10) to move the discussion to how Fitbit shapes its user's understanding of time and themselves. She explains how the Fitbit frames time by discussing how the device revolves around goal setting: to optimize, the user must manage their time to become a transformed (better) version of themselves in the future. In a telling example of how Fitbit represents children, Gaudet (2021, 10) makes her point clear. She argues that with its trackers targeted at children, Fitbit frames the young age of the child as the ideal starting point for ensuring a better future: the earlier the intervention in health takes place, the better the "return of investment" will be (Gaudet 2021, 10). This example makes clear how Fitbit frames time; as something that should be controlled to yield a good outcome.

Fitbit: The Underlying Logic of Self-optimization

In this chapter, I introduced the practice of self-tracking to optimize the self, through a discussion of the main themes in the debate surrounding this aim. It can be concluded that caution is needed when considering self-tracking practices to create a better self, as these practices are built upon several assumptions about what useful bodily information is, what healthy behavior looks like, and what underlying values the user implicitly aligns with. Through technological intervention, the user embodies a certain relation to their surroundings, based on the kind of data that is collected by the device (Rosenberger and Verbeek 2015). The data collection that promises to provide the user with self-knowledge has been critiqued for not directly providing access to the workings of the body. It should rather

be considered as an intervention that helps to shape what is considered 'healthy' (Van Dijck 2014; O'Neil 2016). This means that Fitbit has a say in deciding what is deemed healthy or not. By shaping ideas about health, the Fitbit creates a specific subject. This subject has been critiqued for being nearly unattainable to female lower-class employees (Esmonde and Jette 2020), for embodying neoliberalist values of self-governance, responsibility, and productivity (Ajana 2017; Millington 2014; Moore and Robinson 2016; Lupton 2016), and ascribing to an ideology of wellness, thereby creating a stigma around unhealthy behavior (Cederström and Spicer 2015). This means that when ascribing to the goal of self-optimization, users implicitly affiliate themselves with these underlying values. Thus, it raises the question of whether, ultimately, the self-optimizable Fitbit subject is a position worth pursuing.

CHAPTER 2:
MEDIA OBJECTS THROUGH THE LENS OF DISABILITY STUDIES

As became clear from Chapter 1, the debates surrounding Fitbit's health and fitness trackers focus on how these devices work as a technological intervention that collects data about the user's movements. What is deemed as useful to measure is decided by Fitbit itself. The adequacy of these data to self-optimize is based on the belief that the data provide insights into the workings of the body, and the mere visibility of these numbers encourages the user to act accordingly. Thereby, the Fitbit shapes ideas of how to behave, how to move, and how to rest. This means that the device can be understood as an object that normalizes certain behaviors. To ground the consideration of the Fitbit as a technology that teaches bodies how to behave, I would like to introduce a perspective on self-tracking practices that has received too little attention thus far from scholars writing in the field of media studies, which is a perspective informed by disability studies. Elizabeth Ellcessor, Mack Hagood, and Bill Kirkpatrick (2017) argue in their book *Disability Media Studies* for closer collaboration between the fields of disability studies, and media studies. This thesis is a direct response to this call, as this chapter will show how concepts from disability studies will prove fruitful in the analysis of media products such as the Fitbit.

To show how media and disability studies can be integrated, I will first introduce disability studies and show how this field originated from the social movement that fought to politicize disability and has grown into a multidisciplinary field of research. The second step that will be made in this chapter is discussing this field in relation to media studies, to understand how these two fields can productively be integrated. I will conclude by focusing specifically on concepts such as ableism (Campbell 2009), compulsory able-bodiedness (McRuer 2006), and the normate (Garland-Thomson 1997) as a lens to investigate media.

2.1 Introducing Disability Studies

> I have never consulted a seer or psychic; I have never asked a fortune-teller for her crystal ball. No one has searched my tea leaves for answers or my stars for omens, and my palms remain unread. But people have been telling my future for years. Of fortune cookies and tarot cards they have no need: my wheelchair, burn scars, and gnarled hands apparently tell them all they need to know. My future is written on my body.
>
> - Alison Kafer, *Feminist, Queer, Crip,* 1.

These are the opening lines to the book *Feminist, Queer, Crip* (2013) by Alison Kafer. In this personal anecdote, Kafer tellingly pinpoints a harmful sentiment about disability that still

prevails in society. She states that while she has never asked for any opinions on her future, people around her kept telling her what her prospects will look like, solemnly based on her appearance. And what did the future hold for her? Nothing remotely positive, should she have believed these people. The idea that her future was not one worth looking forward to is rooted in a belief that disability is a tragedy that should be better off eliminated (Kafer 2013, 2). As Dan Goodley, Bill Hughes, and Lennard Davis (2012, 1) write, disability is dominantly considered an unfashionable category; an undesirable way of being.

This quote signals a way of interpreting disability as something 'of the body'. Kafer's (2013, 2) bodily characteristics, including her skin, hands, and wheelchair, inform onlookers about her disability, and ultimately locate her disability in her body, casting it as a personal predicament. This view, called the medical model, considers disability to be a bodily/sensorial/mental deficit, thereby locating the problem of disability in the person, and equating this deficit with abnormality (Goodley 2011, 7). Reasoning within the medical model is based on perceiving disability as a clinical issue. This reasoning can be easily detected in certain phrases that are used to describe disabled people, such as stating that people are 'suffering from' certain disabilities, instead of 'having' them (Goodley 2011, 7). This shows how this view takes disability and hardship as interconnected.

This evidently engenders the belief that a disability should not be wished upon someone (Kafer 2013, 2). According to the medical model, inhabiting this position would result in a life filled with pain, discomfort, and suffering. It could be seen as a well-meant intention, when one aligns with this view, to try and shield others from experiencing intolerable misery. Kafer (2013, 4) acknowledges this herself, stating that there is truth to this position, one that is an embodied truth for her, as she experiences the hardships of being disabled. However, she states: "there is a difference between denying necessary health care, condoning dangerous working conditions, or ignoring public health concerns (thereby causing illness and impairment) and recognizing illness and disability as part of what makes us human" (Kafer 2013, 4). Thus, while there is truth to the medical model, it should not be the only way that disability is perceived, as disability is part of life in a broader sense, writes Kafer (2013, 4).

Kafer (2013, 3) critiques the medical model by pointing to an important consequence it has for disabled people, namely the way that this model shapes how people imagine a future. The medical model changes the imagination in two ways. First, people consider disability to be non-political; it is simply a matter of the body, resulting in the unquestionable fact that this category is undesirable, and therefore it is unthinkable to contest and debate its meaning. Second, this results in the imagining of a disability-free future as a self-evident fact, while the value of a future with disability is not even seen as something worth considering. Kafer's (2013,

3) mission is to question the seemingly unquestionable fact that disability is better eliminated, and instead consider disability as something "political, as valuable, as integral."

It is exactly the resistance of the medical model that characterizes all writings within disability studies (Goodley 2011, xi). The field of disability studies originated because of the social movement in the 1960s that fought for a different understanding of the position of disabled people in society (Watson, Roulstone and Thomas 2012, 3). Considering disability merely as a medical concern individualizes the problem and appoints medical professionals as the facilitators of a solution (read: cure). The disability movement set out to show that disabled people were a marginalized group with shared interests and that disability should be rethought as a political and social problem, rather than a medical problem (Watson, Roulstone and Thomas 2012, 4). Instead of locating the problem of disability in the person, the newly developed social model turned to society to understand how disabled people were *made* disabled by societal barriers (Goodley 2011, 11). This set the first wave of disability writing in motion, which was concerned with arguing why disabled people should be seen as a group that could benefit from the politicization of their disability, to create better economic and physical circumstances (Watson, Roulstone and Thomas 2012, 4).

To adequately address the ways that society created a problem with disability, the social model adopted the distinction between impairment and disability put forward by the political disability rights organization Union of the Physically Impaired Against Segregation (UPIAS) (Goodley 2011, 4-8). Scholars writing about the social model considered impairment as a "biological, cognitive, sensory or psychological difference" that limits the ability of an individual to function, whereas disability is the negative response from society, that does not accommodate for these differences, resulting in discriminatory attitudes towards disabled people (Goodley 2011, 8). This view gives society a larger responsibility in the actual treatment of disabled people as it considers disability to be socially constructed, instead of being a natural phenomenon.

Disabled people were thus acknowledged as a socially oppressed group, clearly related to other groups that fought social oppression, such as anti-racists advocating against racism and feminists battling sexism (Watson, Roulstone and Thomas 2012, 4). Disability was now perceived in terms of disablism. Fiona Kumari Campbell (2009, 4) describes disablism as follows: "a set of assumptions (conscious or unconscious) and practices that promote the differential or unequal treatment of people because of actual or presumed disabilities." In other words, because being disabled is often regarded as an undesirable way of being, disabled people are discriminated against based on their deviant position. This way of thinking created a shared identity for disabled people, necessary to acknowledge the ways in which this group must deal with discriminatory practices in society, ranging from the very structure of buildings to the values that society aligns with (Campbell 2009, 4).

This set a strand of research in motion that analyzes how disablism is produced; what practices constitute the unequal treatment of disabled people, and how can disabled people be better integrated into society? (Campbell 2009, 4). This research is based on the idea that everyone should be treated equally, and the disabling attitude of society should be critically examined because ultimately, a better society includes disabled people as fully functioning members. A new time for disabled people has arisen, as being disabled is taken seriously not only as a medical, but more so as a social problem (Goodley 2011, 8).

2.2 From the Other to the Construction of Normality

As disability studies has grown into an international, multidisciplinary field that has created a paradigm shift in the understanding of disability, the debate about the models with which to analyze disability has been expanded greatly. While the social model is still the foundation upon which disability studies rests, many scholars try to move beyond this way of thinking (Goodley 2011, 11). Building upon the social model of disability, scholars have developed a model that does not so much consider disabled people themselves, but rather turns the attention to the ways that a distinction is made between being able-bodied and being disabled. This is done through all kinds of practices that constitute what is considered normal; instead of looking at disability, scholars turned their awareness to the construction of normality (Goodley 2011, 14). This opens up a whole new way of analyzing different media objects, as the idea of a norm is everywhere. For this thesis, it is especially relevant in considering the Fitbit as a media object that shapes ideas about normal, healthy bodies.

One model that is relevant for this thesis, that moves beyond the social model is the cultural model of disability. Key scholars from the USA and Canada writing about this model have connected disability to cultural and literary analyses, connecting the field to other critiques within the humanities, such as queer theory, critical race studies, and feminism (Goodley 2011, 14). One important way that this model moves beyond the social model, is in its rejection of a distinction between disability and impairment, write Ellcessor, Hagood and Kirkpatrick (2017, 7). Instead, based on poststructuralist theory, following Michel Foucault and Judith Butler, scholars argue that both impairment and disability are socially constructed. Whereas the social model conceives of impairment as a fact of the body, that only turns into a disability because of treatment from the outside world, the cultural model argues that impairment is not a fact of the body, in the same vein that neither race nor gender are facts of the body (Ellcessor, Hagood and Kirkpatrick 2017, 7). This is because what counts as an impairment is based on shifting ideas of what a 'normal' position is. The authors illustrate this shift with the example of eyesight: "Vision that would count as "impaired" in contemporary Western society, given automobiles, the centrality of literacy, and other vision-dependent phenomena, likely would often have been considered within the range of the "normal" in the

agrarian contexts of earlier centuries" (Ellcessor, Hagood and Kirckpatrick 2017, 7). Thus, what counts as an impairment or disability is both depended on how normality is constructed within a specific culture and time, which is exactly the shift that was made in the cultural model: from analyzing how people are made disabled, to investigating how the construction of normality structures all bodies (Goodley 2011, 15).

This shift in perspective can be best illustrated by referring to the beforementioned concept of disablism, and the subsequent literature that was concerned with analyzing how disabled people can be integrated into society. Campbell (2009, 4) writes that there is one quite important realization that this scholarship is missing: it has been written from an able-bodied perspective. Campbell critiques this scholarship for analyzing disability as something 'Other', from a seemingly neutral able-bodied viewpoint. She suggests flipping the perspective from analyzing the 'Other' to analyzing how the neutral position from which disabled people are regarded is constructed. By quoting Tom Shakespeare, Campbell (2009, 4) tellingly summarizes the main goal of this new paradigm: "let us deconstruct the normality which-is-to-be-assumed."

Setting out to provide a guide for the deconstruction of normality, Campbell (2009, 5) points to the concept of ableism. She explains this concept as follows: "A network of beliefs, processes and practices that produces a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-typical and therefore essential and fully human. Disability is then cast as a diminished state of being human." Thus, Campbell (2015, 50) writes that ableism should be understood as a certain ideology, that prefers "a healthy body, a normal mind, appropriate speed of thought, and acceptable expressions of emotion." Ableism casts a specific type of being, with certain characteristics, as the preferable way, thereby automatically deferring disability as an undesirable category. Ableism thus shifts the gaze from the disabled subject to the process that constitutes normality and sheds light on how this process discards disabled people from being regarded as fully human since they do not adhere to this norm.

Elina Vaahtera (2012, 84) points out one especially relevant aspect of Campbell's focus on ableism, instead of merely on disability. When focusing on the process that constitutes certain bodies as standard, perfect examples of humanity, thinking about disability can be applied to all bodies, as they all fall into this (dis)abled dichotomy. Instead of looking at abled and disabled people as homogenous and opposing groups, Vaahtera (2012, 84) argues that Campbell invites scholars to take into consideration that all bodies are formed by hegemonic norms and that these norms should be challenged. This argument underlines the precarious category that disability is. As Ellcessor, Hagood and Kirkpatrick (2017, 6) write, for the organization of social change it was necessary to create a shared identity to politicize disabled people, but it could be seen as problematic to try and merge people to form a group while the

experiences, identities, and challenges of disabled individuals are so varied. Thus, instead, the focus of disability studies is on the "social, historical, economic, and cultural processes that regulate and control the way we think about and think through the body", as these processes shape everyone (Davis 1995, 2).

2.3 Disability and the Media

As the usefulness of the cultural model to critically interrogate the normality-to-be-assumed has been made clear, I shall now turn the discussion to how this perspective is useful in the analysis of media objects. To show the importance of this perspective, I will first introduce the evident link that already exists between disability and the media, before moving on to a discussion of how a disability perspective can help to shed light on how media products are also key players in shaping forces of ideas about normal or even desirable bodies.

When considering both disability and the media, one readily concludes that there is an evident match between the two: disabled people appear abundantly in visual media (Davis 2017, 39). These visual media range from all kinds of genres, writes Davis (2017, 39-40): from the character Walter White Jr. with cerebral palsy on the fiction series *Breaking Bad,* to reality tv shows where audiences follow the lives of people with OCD. Unfortunately, the number of disabled characters does not equal the quality of their representation. The way that ideas about disability are represented through characterizations in media is important because it can help to affirm or oppose certain societal understandings of disability. Currently, the representation of disabled characters has not been as layered and truthful as one might hope.

As early as the 1990s, Colin Barnes (1992) published a book called *Disabling Imagery and the Media: An Exploration of the Principles for Media Representations of Disabled People*. In this book, Barnes sets out to create an overview of common stereotypes of disabled people that are created by or reimbursed by a range of media, such as film, books, radio, and the press. One important stereotype that Barnes describes is the typification of disabled people as sinister or evil. This stereotype is important because, whereas Barnes (1992) discerns this view in early writings, such as the Bible, where disability is often connected to sin or related to sinners (thereby casting disability as a moral condition), I argue that the prevalence of this stereotype in the contemporary media landscape highlights the importance of including a disability perspective in media studies.

One example of a recent mainstream iteration of the evil disabled person can be found in the bond villain Lyutsifer Safin in the latest 2021 bond film, *No Time to Die*. Safin has facial scars because of a poisonous attack. Not only is this his most prominent physical characteristic, but the attack is also positioned as the reason for his villainy, as Safin is out for revenge (Fandom 2022). This presents being disabled both as a personal tragedy and as a reason for evil behavior. Another recent example is the 2020 reimaging of Roald Dahl's *The*

Witches. In this film, the witches (the antagonists of the story) are represented with limb differences, both on their hands and feet. The witches are shown to have three fingers, a deliberate change from the 'claws' from the original story. This adaptation has met with criticism from the disability community, especially from people with limb differences who started the hashtag #NotAWitch to reclaim limb differences in a positive light (International Paralympic Committee 2020). These examples show that the harmful stereotype of equating physical disabilities with immoral personalities is still prevalent.

Analyzing current media outlets through the lens of concepts from disability studies is a relevant undertaking because stereotypical understandings of disability are still prevalent, which influence the way that ideas about disability are crystallized in society. This is underlined by the need for the disability community to speak out against the equation of limb differences and witchery. However, the telling title of the introduction to Davis' (1995, 1) influential book *Enforcing Normalcy,* still holds for media studies*:* "Disability, the Missing Term in the Race, Class, Gender Triad." Davis argues that disability is often overlooked, while it should be a term alongside those of race, class, and gender in cultural analyses. This is because, as Davis (1995, 1) writes, in the same way in which the concept of race influences how everyone in society behaves and regards others, disability – or rather, the construction of normality – influences everyone by casting some bodies as able, and some as disabled. However, as Ellcessor and Kirkpatrick (2019, 139) argue when discussing disability in relation to media studies, gender, class, and race often have a prominent place in media and cinema analyses, while disability has remained relatively unexplored.

Ellcessor, Hagood, and Kirkpatrick (2017) make an important contribution to this interdisciplinary conversation between media and disability studies through their book *Disability Media Studies*. They argue that the two fields as not thoroughly connected, as both fields have distinct journals and conferences, making it difficult for scholars to engage with disability and media studies together (Ellcessor and Kirkpatrick 2017, 3). By providing an extensive overview of various scholars engaging with both disability and media studies, the authors show what this interdisciplinary conversation can look like. They show that for disability studies, the perspective can be shifted from textual analysis of media representations to a broader investigation of media in economic and ideological terms, focusing also on production and reception. For media studies, the authors show that disability can serve as a lens to analyze media, resulting in heightened awareness of how media can shape different kinds of embodiments, or, the other way around, how different types of embodiment shape media (Ellcessor and Kirkpatrick 2017, 4).

Returning to the gender-race-class triad often used in media analyses, one can imagine how easily integrated disability would be in these terms. Because, as Davis (1995, 1) mentions, there are quite some similarities between how all these categories of analysis operate. Ellcessor

and Kirkpatrick (2019, 140) illustrate this with the example of imagining a feminist perspective on cinema: this calls into question the way that gender differences are constructed through the text. The same dynamics are at play when including a disability perspective: "We are interrogating the dynamics of power and normalization that produce certain kinds of bodies, sensoriums, and cognitivities as "able, normal, better" and other as "disabled, abnormal, worse"" (Ellcessor and Kirkpatrick 2019, 140). This means that to study disability is to focus on how media play a role in shaping ideas about what desirable or normal bodies are.

In the afterword of *Disability Media Studies,* Rachel Adams (2017, 357) points out a very important contribution that the book makes in including disability in media research. She writes that within the humanities, when disability serves as a category of analysis, this is often done by interpreting media representations through the lens of disability (Adams 2017, 360). Whereas Adams (2017, 360) considers this endeavor to "reveal unexpected insights", she also praises the contributions to the book that engage in alternative methods to textual analysis. One such example is the contribution by Mack Hagood (2017, 313), who points to how instead of analyzing media representations, research on the intersection of disability and media studies could benefit from scrutinizing media technologies both as artifacts and as culture. In his contribution to the book, Hagood (2017, 318) focuses on how media can expand the biological senses, as media introduce new ways of knowing and experiencing. By focusing on this type of mediation, Hagood (2017, 314) urges more interdisciplinary work on the study of disability and media to engage with the technology itself – including, for instance, heightened attention to how "cultural differences and ideals get built into media technologies."

Here, a clear connection with the debate on self-tracking practices arises, as Hagood (2017, 314) mentions explicitly how not only media representations, but the very artifacts themselves can work as normalizing devices. Moreover, Hagood (2017, 321) mentions how his framework is indebted to Foucault, and his work on biopolitics. With this framework, Hagood (2017, 321) aims to create a research agenda that prioritizes the "critical examination of media technologies as they surveil, sound, normalize, classify, and regulate human bodies in accordance with prevailing forms of knowledge and power." The concepts of surveillance and biopower are integral to the debate on self-tracking cultures, as illustrated in Chapter 1. As the discussion in Chapter 1 of the article by Fotopoulou and O'Riordan (2017) shows, the device has been analyzed as exerting normative power on its users, functioning as a micropractice that helps to discipline bodies and teach them how to behave.

While Fotopoulou and O'Riordan (2017) do engage with questions of normality, thereby coming very close to the terrain of disability and media studies, they do not explicitly position their research as connected to disability studies. This is where Hagood (2017) sees potential for further developing inquiries in this vein. He stresses that analyzing technologies

can shed light on how media "are used to perform the reality of disease and disability" (Hagood 2017, 324). This shows a particular understanding of media, one that emphasizes that media have power in shaping reality, not merely through representation, but as an active force in the network of humans and technology (Hagood 2017, 324).

2.4 A Disability Perspective on Fitness Technologies

Scholars writing about media and disability argue for closer collaboration between the two fields, especially with a focus on how disability cannot only shed light on media representations, but also on technologies, both as artifacts and as culture (Ellcessor and Kirkpatrick 2017). Ellcessor and Kirkpatrick (2019, 141) mention fitness-tracking apps explicitly, pointing to the importance of looking into these "medicalized representations of the body." They argue that this is necessary, because, as the focus has shifted within disability studies from analyzing disability to analyzing normality, the media can be seen as such a shaping force in what is considered to be a normate "bodymind" (Ellcessor and Kirkpatrick 2019, 141). Therefore, as Hagood's (2017) argumentation underlines, these technologies should be critically examined in their role in shaping a desirable embodiment.

In Chapter 4, an analysis of the promotion and the interface of the Fitbit fitness tracker Charge 5 will be presented. In doing so, this thesis will respond to the call by Ellcessor, Hagood, and Kirkpatrick (2017) to include a disability perspective on media objects. The analysis will be informed by concepts from the beforementioned cultural model of disability, as this model will prove adequate in discussing how media objects help to shape a certain standard to which users should adhere. Before moving on to the concepts that will inform the analysis, I will contextualize them in relation to the 'norm'.

Davis (2013, 1) is one of the most prominent authors writing in the field of disability studies who argues for a return to the norm, instead of analyzing disabled people. He makes a comparison with critical race theory: "But as with recent scholarship on race, which has turned its attention to whiteness and intersectionality, I would like to focus not so much on the construction of disability as on the construction of normalcy" (Davis 2013, 1). He argues for this shift in perspective, because ultimately, he does not consider disabled people to be the cause of their problem, but argues that normality has created a problem with disabled people (Davis 2013, 1). The question emerges: how could this have happened? How has disability become equated with terms such as 'lacking', and 'less'? Interestingly, Davis (2013, 2) writes that disability has not always been understood in this sense. In the 17th century, a word that preceded the concept of the norm was the 'ideal'. An important difference between the two is that while the norm is based on information from existing populations, the ideal relates to another realm – it is divine. Therefore, it makes no sense for humans to try to embody this ideal, because this is only possible for the Gods (Davis 2013, 2).

The idea of the norm was introduced in the nineteenth century and was made popular by statisticians as something worth pursuing (Davis 2013, 2). With the idea of a norm, automatically the option of inhabiting a deviant position is introduced. The link with disability becomes clear, because when bodies are regarded with the idea of a norm in mind, disabled people will inhabit the deviant position. Davis (2013, 2) tellingly observes that there is a vital yet macabre connection between talking about statistics and disability, for the first statisticians were all eugenicists – involved in studying humans to eliminate undesirable characteristics.

Ellcessor, Hagood, and Kirkpatrick (2017, 8) write that Rosemarie Garland-Thomson takes the theorization of normality further with her introduction of the concept 'normate'. This concept refers to a body that has a privileged position, is without stigma, and is considered a universal type in the specific society it is part of (Ellcessor, Hagood and Kirkpatrick 2017, 8). Interestingly, this position is usually invisible. Ellcessor, Hagood, and Kirkpatrick (2017, 8) compare it to the way that the unquestioned experience of aligning with one's gender became an identity position when the concept of 'cis' was introduced in queer theory. Garland-Thomson (1997, 8) writes herself that the normate position is created because of the deviant positions of others, which in fact make the boundaries of the normate very shallow: while it seems that this position describes most of the people in a society, in actuality, only a minority of people actually embody the normate position. However precarious this position thus is, it is still upheld by "built environments, social institutions, and cultural discourses including media texts" (Ellcessor, Hagood and Kirkpatrick 2017, 8). A critical interrogation of how this position informs society is thus what disability studies can help to accomplish.

Another concept that helps to interrogate the norm is what Robert McRuer (2006) calls 'compulsory able-bodiedness'. McRuer (2006, 6) conceptualized compulsory able-bodiedness through a reading of what has been called 'compulsory heterosexuality'. He explains that compulsory heterosexuality is created because heterosexuality is positioned as the natural and normal relation between sexes, which allows for homosexuality to be a marginalized position. While sexuality is then positioned as a choice, a preference, it is actually part of a system in which there is no choice (McRuer 2006, 7). These same practices are at work in creating able-bodiedness: everyone wants to be 'normal' in the able-bodied sense as well. McRuer (2006, 9) writes that people are encapsulated in a system where "the disciplines of normality" reign, and this creates a common ground that all people can agree on: ultimately, the superior way to look at the world is from an able-bodied perspective, and the better way to be is to have an able-bodied identity.

I would like to illustrate how compulsory able-bodiedness can be discerned by bringing in an example by Kafer (2013, 8), who tellingly observes how compulsory able-bodiedness influences everyone, in perhaps unseen ways. She writes about the anxiety many people

experience about aging. I would like to add that in contemporary society people often try to fight this fear by slowing down this process by using cosmetics (or plastic surgery). Another example that Kafer mentions is the treatment of children that are relatively short for their age with growth hormones. Both these situations do not include disabled people per se, but the reasons for taking measures against certain anxieties are driven by the idea of compulsory able-bodiedness, a fear of not living up to what is considered an adequate height or a preferable embodiment (Kafer 2013, 8). This shows that compulsory able-bodiedness works as a system, in which every single person interprets their bodies, and makes decisions based on a preference for normality.

Thus, the concepts of the normate and compulsory able-bodiedness both help to shine a light on matters that would have otherwise remained unseen: the position of ultimate normality is one that is taken for granted, yet highly influential for anybody that must relate to it. Julie Passante Elman (2018, 3762) highlights the importance of using these concepts to analyze wearables, as she writes that they are "genealogically suffused with disability." She critiques past scholarship for not engaging substantially with disability, and advocates for a more detailed understanding of how concepts like health or wellness have a historical as well as a moral origin, and how the measuring of fitness is rooted in an able-bodied bias (Elman 2018, 3763). She provides useful examples of using a disability perspective to look into representations of disabled people in the realm of fitness: is their disability positioned as something tragic that should be overcome? (Elman 2018, 3765). Also, wearables prove an interesting case as their connection to self-optimization makes for "an endless process of self-rehabilitation": thereby framing the bodies of the employees as ultimately working towards a certain type of embodiment– as compulsory able-bodiedness supposes (Elman 2018, 3770).

Elman's (2018) text is a great example of how the concepts discussed in this chapter can focus as a lens to adequately grapple with the construction of normality through wearables. In her analysis, she has considered multiple aspects of media, including the design and advertising of the Fitbit, but also the politics surrounding wellness culture, as she has also considered legal contests (Elman 2018, 3770). Nicole Matthews (2022, 313) aligns with this call to consider multiple aspects of media, such as advertising. She argues that while the content of apps has been analyzed from a disability perspective, the ways that the products are sold have not received much scholarly attention (Matthews 2022, 313-314). She discusses how two hearing apps disrupt the binary between non-disabled/disabled in their marketing, and thereby shape broader implications about how dis/ability is understood (Matthews 2022, 312). The articles by Elman (2018) and Matthews (2022) show that heightened attention to disability, in terms of investigating normality, can help to understand how different aspects of media, including advertisements of products and their design, play an active role in shaping ideas about health and fitness, based on specific understandings of embodiment.

The Fitbit as a Shaping Force of Normality

In this chapter, I have introduced the call for an interdisciplinary conversation between disability studies and media studies. This call will be honored by this thesis in its use of the concepts of ableism (Campbell 2009), compulsory able-bodiedness (McRuer 2006), and the normate (Garland-Thomson 1997) as a lens to analyze media objects. This thesis considers the Fitbit Charge 5 as a cultural artifact that shapes ideas around health, able-bodiedness and fitness. Through analyzing both the promotion of the tracker and its interface, attention will be paid to how the device works to normalize certain understandings of our bodies. Therefore, it will add to the call by Hagood (2017) in considering media objects themselves. Through analyzing the advertisements *and* the interface, not only will this analysis help to understand how the ideal Fitbit user is presented, but also how the tracker addresses its user. This will create a layered understanding of the ways in which the device helps to shape normality as a cultural artifact. In the next chapter, I will elaborate on matters relating to the other side of this dialogue by showing how the methodology informed by media studies will work together with the disability perspective.

CHAPTER 3:
THE PRACTICE OF SELF-TRACKING AS DISPOSITIF

Chapter 2 has shown that media studies can benefit from integrating critical concepts from disability studies in their research, as these help scholars to engage with questions relating to the construction of normality. Connecting these concepts to the field of media studies will help to understand how media products play a role in shaping conventions around bodily behavior. In this chapter, I will connect the concepts from Chapter 2 to the specific media perspective that I will adopt to analyze self-tracking practices. This chapter introduces the methodological approach of the case study, which is the practice of self-improvement using a Fitbit tracker. I will first introduce the idea of a dispositif, which is a particular understanding of media that sheds light on the relationships between the user of a medium, the technological elements of a medium, and the text that a medium shows. I will gain an understanding of how the different relations are formed within this dispositif by carrying out two methods of analysis: a discursive interface analysis of the Fitbit tracker and app (that will help to understand the relation between the text and the technology) and a content analysis based on film theory of the promotional material (that will help to understand how the ideal user presented by the company makes use of their Fitbit). Ultimately, these analyses help to create a new perspective on the idea of self-optimization through self-tracking.

3.1 Dispositif

Frank Kessler (2007) traces the origins of the concept *dispositif* in the writings of Jean-Louis Baudry, who wrote in the field of cinema studies about 'apparatus theory'. Kessler explains that Baudry positioned the dispositif as part of the *appareil de base,* which refers to every piece of technology that is needed to produce and screen a film. The dispositif, then, refers to the specific screening situation (Kessler 2007). The relevance of this concept for film studies is how it moves away from the analysis of the film as text, and sheds light on how meaning is created between the viewer and the text, including how the technological specificities shape this meaning. To understand the difference, one can imagine analyzing a film through a feminist lens to understand how women are represented on screen, which can be done through a textual analysis of the film itself. However, the concept of dispositif can be used to not only consider the film itself but turn the attention to how the viewer of the film is positioned in relation to the film, and in which specific environment this film is shown. This will then help to analyze how meaning is created in the relation between the spectator and the film.

André Parente and Victa de Carvalho (2009) specify how the concept of the dispositif helps to understand the specificities of a screening situation. They describe the classic set-up of the cinema via the three poles that include technology, narrative form, and architecture.

The hegemonic way of viewing cinema would be a spectator, sitting in a darkened movie theatre, watching a roughly 2-hour visual narrative. Importantly, they write that this classic set-up has become the norm for talking about cinema: "It is important to remember, however, that there is not always a room, that the room is not always plunged into darkness, that the projector is not always hidden and that the film is not always projected or even telling a story" (Parente and de Carvalho 2009, 38-39). In other words, there are different ways in which a cinematic experience can take form, and the concept of dispositif sheds light on exactly these nuances.

In their chapter ""*Rendre reel aux yeux du public":* Stage Craft, Film Tricks, and the *Féerie*" in the edited volume *Media Archaeology and Intermedial Performance: Deep Time of the Theatre*, Frank Kessler and Sabine Lenk (2019) provide a succinct overview of their conceptualization of the dispositif, elaborating on how their conceptualization of the three poles that make up the dispositif relate to one another. The first pole is the techno-pragmatic pole, consisting of the technological affordances of a medium (Kessler and Lenk 2019, 88). The second pole is the textual pole, which includes text in the broadest sense, referring to text, images, or performances. The third pole is the user-spectator pole, which refers to the user or spectator that is interacting with the medium (Kessler and Lenk, 89-90).

To clarify how a medium can be approached as a dispositif, I will connect the insights by Kessler and Lenk (2019) to the example of using WhatsApp on a smartphone, to illustrate how the relations between the poles can be discerned in a tangible situation, which will make it easier to understand what the three poles refer to. Starting with the techno-pragmatic pole, Kessler and Lenk (2019, 88-89) explain that this pole creates a theoretical communication space where a specific type of communication can take place. This is because the technological elements of a screening situation provide certain means of communication, which in turn shape what kind of text is appropriate in this space. For instance, a smartphone has specific characteristic technological elements, such as internet access, a microphone, a touchscreen keyboard, and a camera, which allows the user to express themselves on WhatsApp through (video) calling and chatting. These technological conditions allow for a communication space to be shaped where informal chatting with friends is possible. Moreover, Kessler and Lenk (2019, 89) write, the communication space is also shaped by historical, social, and cultural circumstances. For instance, the widespread use of WhatsApp to casually chat with friends as a mainstream social activity helps to shape this communication space.

The techno-pragmatic pole also assigns a specific role to the user (Kessler and Lenk, 2019, 89). As the techno-pragmatic pole creates a communication space that allows for specific types of communication, this consequently shapes a specific role for the interpreter of this communication space. In other words, is the user someone to be informed? Influenced? Entertained? (Kessler and Lenk 2019, 89). In the example of using WhatsApp on one's

smartphone, the user is assigned the role of a socializer, someone who is out to interact with friends.

The textual pole, then, also relates to the communication space created by the technology (Kessler and Lenk 2019, 89). Through the text, a rhetoric strategy is adopted that fits the space of communication. To return to the WhatsApp example, the text (abbreviations that are common to use when chatting) and images (gifs or stickers) all contribute as necessary tools for a space of communication that encourages socialization. The text also informs the user, as the rhetoric strategy addresses the user in a specific way, which helps the user to frame the text, to adequately understand what is meant (Kessler and Lenk 2019, 89). WhatsApp allows one-on-one chats, where text can easily be accompanied by smileys, stickers, and gifs, thereby addressing the user in a playful way, that frames messages as spontaneous and informal.

The last pole consists of the user-spectator, who is thus addressed in a certain way by the text (Kessler and Lenk 2019, 90). In turn, the expectations of the user about how they are addressed constitute a specific framework with which they understand the text they are provided with. Returning once again to the WhatsApp example, the user of the app will have expectations that frame how they understand the chats that they receive – as they do not expect to be addressed as they would in an email, they will not interpret short messages as unthoughtful, but rather as casual chats. Kessler and Lenk (2019, 89) write that the user also takes on a specific attitude regarding the technology, based on the kind of role that the techno-pragmatic pole assigns to them. Ideally, for the communication to work smoothly, the attitude of the user is affirmative, not rejecting the type of role that is assigned to them (Kessler and Lenk 2019, 89).

As the example shows, the concept of dispositif is useful to understand not only hegemonic ways of film viewing but also look into newer or more experimental ways in which screens are used. Nanna Verhoeff (2012, 18) has taken the concept of dispositif and uses it in the field of media studies to understand "the material and spatial specificity of the setup within which screens operate." Together with Karin van Es (2018), she has written a manual on a concept-driven dispositif analysis, where the usefulness of the dispositif in particular for screen-based media is shown. Specifically focused on screen media, Verhoeff and Van Es (2018, 1) define a screening situation as an arrangement in time and space between the screen, the text that the screen shows, and the spectator. This conceptualization is in line with the three poles that Kessler (2019) describes, as Verhoeff and Van Es (2018) include the technology, the text, and the user/spectator.

Verhoeff and Van Es (2018, 1) stress the situated character of each screening situation, the relationship between the user, text, and technology is always embedded in a historical and cultural context. Every screening situation is situated in a specific time and space, which

means that the same screen can be used within different dispositifs and the meaning of these dispositifs can differ (Verhoeff and Van Es 2018, 2). To illustrate how this works, one can imagine how a laptop is used for writing, framed within the context of education, but this same laptop can be on the lap of someone on a couch while they are binging a series as a leisure activity. Verhoeff and Van Es (2018, 1) also note how the screening situation is part of a larger historical and cultural context. This means that the screening situation is part of specific institutional and discursive framings, such as commercial, educational, or artistic (Verhoeff and Van Es 2018, 1).

Analyzing the dispositif can shed light on how the spectator is presented with the images on screen, and how they make sense of it (Verhoeff and Van Es 2018, 5). The screening situation is designed for a specific purpose: the spectator can be addressed to persuade them to do or feel something. In analyzing the spectator position, a dispositif analysis focuses on the position that the situation most readily supports, the position that is proposed by the situation (Verhoeff and Van Es 2018, 3). The concept of dispositif is relevant for this thesis as it helps to understand not only how meaning is created through text, but how the technology and the user play a role in this process as well. This allows me to understand the Fitbit as a device that combines its technological affordances with its content and addresses the user in a specific way. How does this create a particular relation between the device and its user? And how does this in turn position the user in relation to their surroundings?

3.2 Methodological Approach

The case study central to this thesis is the practice of using the Fitbit tracker to optimize the self. The Fitbit tracker Charge 5 will serve as the exemplary model in the case study. This tracker is chosen because the Fitbit trackers – in contrast to the Fitbit smartwatches – focus explicitly on health and wellness in their use, while the smartwatches have additional (social) features that are not relevant for the focus of this thesis on the optimizable body. The approach to this case study is informed by the concept of the dispositif, as it will help to guide the analysis to show how a relation between the user, the Fitbit Charge 5, and what is shown on the tracker is created. I will inquire into the specifics of the dispositif by carrying out a discursive interface analysis, and a content analysis. The discursive interface analysis will help to understand the technology of the Fitbit in terms of its affordances and the information that the user is presented with. This analysis will shed light on two poles of the dispositif: the technology and the text. Then, the user address will be analyzed by looking at the advertisements of Fitbit to promote the Charge 5. For this analysis, I have decided not to inquire into user experience, but rather analyze how the company presents its ideal user. This is because I consider advertisements to be key players in the process of normalization, as ideas about what the technology is, who it is for, and what those people can accomplish with it are expressed in

commercials. These matters all work towards normalizing specific understandings of the self-tracking practice.

3.2.1 Fitbit Practice as Dispositif: Technology and Text

Approaching the practice of using the Fitbit to self-optimize means that this practice will be divided into the three elements of the technology (Charge 5), the text (what is shown on the tracker and in the app), and the user (wearing the Fitbit). To analyze the first two elements, the technology, and the text, a discursive interface analysis will be carried out. First, I will explain what a discursive interface analysis is and how it will help to gain an understanding of the technology and text in the Fitbit self-tracking practice. Second, I will introduce the concept of augmented space, which will help to understand how technology and text play a role in shaping the user's interpretations of their surroundings while self-tracking.

The analysis will shed light on the technical capabilities of the Fitbit (technology), and how the data that is collected by the tracker can be interpreted via a smartphone app (text). To understand what the interface allows the user to do, I will carry out a discursive interface analysis, based on the description of this method by Mel Stanfill (2015). I have chosen to carry out a discursive interface analysis (hereafter abbreviated as DIA) because it aligns with the perspective of disability studies that I elaborated on in Chapter 2. This is because a DIA emphasizes the productive power of interfaces, in how its design has certain assumptions built into them. Stanfill (2015, 1060) describes how these assumptions create a "path of least resistance", which is the way most easily navigated through the interface by the user. This shows how interfaces structure action by allowing certain things and complicating other options, thereby working as a normalizing practice (Stanfill 2015, 1060). This aligns with the disability perspective, as concepts like ableism (Campbell 2009), the normate (Garland-Thomson 1997), and compulsory able-bodiedness (McRuer 2006) point to the construction of normality and can be used as a lens to understand how technology plays a role in this construction.

To gain insight into the workings of the Fitbit, a DIA helps to understand the assumptions about its purpose and use by looking into the affordances of the interface (Stanfill 2015, 1062). Affordances refer to what a user can do with an interface: what is offered to the user? What options are provided? A DIA investigates these affordances without assuming that users know beforehand what they want out of using the product. It rather looks at the restriction of choices that users are presented with (Stanfill 2015, 1062). Not only are the functionalities taken into account, but the analysis goes further to analyze affordances more broadly: "the features, but also what is foregrounded, how it is explained, and how technically *possible* uses become more or less *normative* through productive constraint" (Stanfill 2015, 1062). This means that by looking more broadly at affordances, a DIA can shed light on the

ways these affordances are presented, and how this changes from an option for a user to a claim about what users should do, creating norms for using the interface.

When carrying out a DIA, the focus lies on the following questions: what can a user do on an interface? How do they know what they can do? And how are the options presented to them? (Stanfill 2015, 1063). The first question sheds light on how the user is guided through the interface. Users are free to decide how they make use of the interface, but it should be acknowledged that through the options that are presented the interface produces norms as it (dis)allows certain actions and thereby frames certain actions of users as suitable and preferable. The second question relates to how the options are labeled for the user. Stanfill (2015, 1063) mentions the example of naming a button 'Gameday' instead of 'Fan Zone': whereas the former emphasizes the action of gameplaying, the latter aligns the user with the identity of being a fan, both thus making claims about what the user can expect to find behind the button. The third question points to how the design of an interface addresses its user, and how this influences where the user's attention is guided to. Stanfill (2015, 1064) mentions the example of sites that are designed to have a gendered appearance or address visitors of a certain class, thereby making claims about who these interfaces are for.

3.2.2 Augmented Space

I will scrutinize the affordances of the Fitbit Charge 5 and the Fitbit app that comes with it based on the information on the Fitbit website and via accompanying videos that shed light on the process of using the Fitbit. In this analysis, next to the concepts of ableism, compulsory able-bodiedness, and the normate, this perspective will be complemented by the concept of augmented space, which helps to understand how the Fitbit and its interface can change how the user interprets their surroundings.

In his article "The Poetics of Augmented Space", Lev Manovich (2006, 220) coins the term augmented space. This concept describes the idea of a physical space that has been covered with changing information, often in multimedia form. Augmented space thus describes a space that is amplified by a layer. Manovich (2006, 222) considers three different kinds of technological applications that change space into dataspace, which he calls electronic displays, cellspace, and surveillance. Starting with electronic displays, one can easily discern their omnipresence in contemporary society, illustrated by the sheer number of screens that are present in people's daily surroundings. The electronic displays that create augmented space can be found in the example of taking the bus. Upon arriving at the bus stop, one can spot the times of the arriving busses on a screen. When waiting for the bus, one is most likely to be standing next to a large advertisement, placed at the bus stop. Then the bus arrives, clearly visible because a screen on top of the bus shows its number and direction. Then, when entering the bus, small screens are placed throughout, that show the traveler updated

information on the upcoming bus stops. This daily activity shows the abundance of screens and information that covers the physical space the traveler inhabits.

Another example of technology that creates augmented space is what Manovich (2006, 221) calls cellspace: "physical space that is 'filled' with data, which can be retrieved by a user via a personal communication device." Returning to the example of the bus stop, one can imagine how cellspace is relevant to a traveler on the bus. That is, before the traveler went to the bus station, they probably checked their journey beforehand using an app. Then, they checked whether they had enough credit on their bus card, using mobile banking to top up their balance. And, upon entering the bus and checking in with their bus card, the traveler's journey is being monitored, as they can later find their travel history online.

The bus example shows that the physical space of the traveler is augmented with data on screens, publicly available for travelers, and data that is retrieved online, which is more personalized to the user. The last type of technology that Manovich (2006, 222) describes does not add data to the space but retrieves it from it, and that type is called surveillance. Returning to the bus example, one can imagine the number of cameras that surveil the traveler. Perhaps there is one at the bus stop, there are cameras in the bus, and when arriving at the train station there will be even more cameras. These types of surveillance are also commonplace, extracting data on the whereabouts of people moving through public spaces.

The bus example shows the characteristics of augmented space, as it becomes clear that moving through physical space is now accompanied by technologies that "dynamically deliver dynamic data to, or extract data from, physical space" (Manovich 2006, 221). Importantly, augmented space is therefore also monitored space, as the technology is either delivering or extracting data from it (Manovich 2006, 223).

So, the question arises of how this augmented space changes the way that people experience their surroundings. Manovich (2006, 223) points out that the technologies used to augment and monitor physical space add new dimensions to the space, "making it multidimensional." Manovich explains how this changes people's understanding of space by bringing in the example of the panopticon by Foucault. The panopticon supposes a center point from where all peoples can be observed, thus functioning alongside the logic of "straight lines of human sight" (Manovich 2006, 224). Contemporary society functions alongside different logics, as digital technologies do not operate alongside lines, but rather function within fields: "since from the point of view of these new technologies, every point in space has a particular value on a possible continuum" (Manovich 2006, 224). Thus, technologies create new understandings of space, captured in terms such as "functions or fields" (Manovich 2006, 224), thereby creating a multidimensional physical space.

To illustrate how this multidimensional space changes people's experiences of it, Manovich (2006, 226) brings in an example by Canadian artist Janet Cardiff, who has created

audio walks where she guides people through a physical space by narrating their journey. These audio walks are a combination of giving directions, storytelling, and sound effects. Manovich (2006, 226) considers this a prime example of how physical space is overlaid with another layer of information, thereby bringing together what the person is seeing and what they are hearing, and how they experience this walk in the present while listening to pre-recorded audio. This example thus shows how physical space can be augmented by audio narration, providing an aesthetic experience of the space.

I would like to depart from this example to connect augmented space to the Fitbit, as I consider the audio walk to be similar in many respects. Experiencing an audio walk assumes an individual who is carrying a technological device on their body that guides their movements through physical space. This is a personal experience, as the audio walk can only be heard by one individual. A Fitbit tracker works similarly, as the device is attached to an individual's wrist, and guides their movement by measuring it. Thereby the Fitbit extracts data from its user, and communicates this back to them in real-time, providing an extra layer of information. Instead of walking in the park, the Fitbit changes this experience into an exercise routine, working towards the goals the user has set for themselves. In the same vein that an audio walk changes the user's perception of their environment, in aesthetic terms, the Fitbit reframes walking as keeping in shape, in fitness terms.

3.2.3 Fitbit Practice as Dispositif: User

The second method will help to understand the discourse that is created by Fitbit around the idea of self-optimization in their commercials, and how this frames their ideal user. The Charge 5 is promoted through commercials that feature disabled and non-disabled people in physical activities, as part of the campaign "What's Strong with You?" (Fitbit Europe 2021). By analyzing these visual advertisements, I will show how Fitbit contributes to a certain ideology in their commercials about what self-tracking can accomplish. I will analyze the advertisements by turning my attention to several cinematic techniques, described by David Bordwell, Kirstin Thompson, and Jeff Smith (2017) in their book *Film Art: An Introduction*.

Bordwell, Thompson, and Smith (2017, 3) distinguish two main areas where filmmakers can exert control over their film: form and style. The form of a film refers to its pattern, the way that the different elements work together to create a coherent whole, with intended effects on the viewer. The style of a film encompasses every element that makes up the visuals, which includes the mise-en-scène (how people, objects, and places are arranged), cinematography (referring to how the technology is used to record the film), sound (voices, effects, music), and editing (how the shots are arranged and how their transition is designed) (Bordwell, Thompson and Smith 2017, 3). Bordwell, Thompson, and Smith (2017, 60) stress

the importance of analyzing the form and style of a film, as the ideological meaning of a film is enacted through it.

Evidently, advertisements are not the same as films, as their focus is to sell a product. Films could rather be interpreted as art, following the perspective of Bordwell, Thompson, and Smith (2017, 4), as they are created to provide the viewer with a unique experience, leaving them with a range of (mixed) emotions. However, while the goal of advertisements differs from film, I see a value in analyzing them in the same vein for two reasons. First, apart from their goal, advertisements and film show many similarities. Advertisements make use of the same techniques as film by creating a mise-en-scène by showing people (Fitbit users), objects (Fitbit, and other objects), and settings (where the Fitbit is used). They also make use of cinematography, sound, and editing to create a visual story. Because of these similarities, it makes sense to dissect a film used to sell a product in the same way that a film as art can be dissected. Second, where film can enact its ideological meaning, advertisements can too. Intending to sell the Fitbit, the commercials also tell a story that is rooted in a culturally specific way of thinking about the world, as it aligns with or contradicts ideas about class, race, gender, disability, health, or exercise, to name a few.

3.2.4 The Technological Imaginary

To create a clear focus for the dissection of the style and form of the advertisements, I will analyze them through the lens of the technological imaginary. This concept will help to understand how an underlying utopian sentiment about technology as a solution to societal dissatisfactions can be present in the commercials.

Martin Lister, Jon Dovey, Seth Giddings, Iain Grant, and Kieran Kelly (2009, 67) write in their book *New Media: A Critical Introduction,* that the introduction of new media elicits roughly two types of responses: anxiety and optimism. Anxiety comes up when new media are introduced and compared to older media, and people fear a loss of the effects of older media. This can range from anxiety about a loss in aesthetic terms, illustrated by the introduction of photography and its effect on painting, to anxiety about how new media can change social situations. Lister et al. (2009, 67) mention the example of the introduction of the telephone, of which it was feared that it would invade the "domestic privacy of the family", or that it would allow for communication between lower and higher classes, which would have been highly inappropriate.

I would like to show with a recent example that with the introduction of a new platform, how to act and behave on the platform are embedded in the technology, which may cause people to fear the kind of life these platforms give rise to. A more recent example than the book allows for, is the ongoing anxiety people experience around the influence of social media on society. Whereas the examples in Lister et al. were focused on the media devices, such as the

camera or the telephone, in contemporary society, smartphones are an integral part of culture. This means that the anxiety people experience nowadays is targeted to more specific parts of the smartphone, such as the kinds of apps that are launched, and how these will change the way people behave socially. A more recent example includes the 2017 launch of TikTok, a social media platform that was immensely popular among children and teenagers upon its introduction (Bouyeure 2019). The app allows its users to film short videos and watch an endless stream of content created by others.

Several anxieties arose related to TikTok. For instance, the never-ending algorithmic feed of videos can pose problems for adequately censoring harmful content (Verhagen 2019). Anxiety is expressed about the kind of content that the app shows to its users, as the app is used by young people, potentially showing them images they are not yet prepared to see or understand. Also, encouraging users to partake in challenges became an integral part of the app. While most of these challenges are meant to be fun, some of them are potentially dangerous, such as a challenge that makes use of fireworks. On New Year's Eve of 2021, Dutch doctors saw an increase of children being admitted to the emergency room with burn wounds on their feet, because they stomped on fireworks to partake in a TikTok challenge (Kuiper 2022).

The anxieties surrounding the introduction of TikTok are centered around a fear of a life where young people are glued to their screens as they cannot resist its addictive workings, potentially see harmful content, and carelessly take part in challenges that might damage themselves or their environment. As Lister et al. (2009, 67) write, new media guide an expression of how people exist and behave socially. New technology may be feared to shape a way of living that does not fit with the reining norms and values of the society it is introduced to. This is important because it shows how the introduction of a new medium or technology is not merely a new product, but the introduction of novel ways of behaving, of being together, or being alone. This is why a new medium can also be seen, on the other hand, as a welcome intervention, write Lister et al. (2009, 67). This is where the concept of the technological imaginary comes in.

The technological imaginary finds its roots in psychoanalytical theory, explain Lister et al. (2009, 66). The noun *imaginaire* should be interpreted, following Jacques Lacan, as an order of experience. It sits alongside two other orders of experience, which Lacan terms the 'real' and the 'symbolic'. The imaginary refers to "a realm of images, representations, ideas and intuitions of fulfillment, of wholeness and completeness that human beings, in their fragmented and incomplete selves, desire to become" (Lister et al. 2009, 67). Thus, the imaginary describes something 'other', be these images, other people, or another state of being.

When applied to technology, the technological imaginary emphasizes how technology is often seen as a way into this "realm of completeness"; as a solution to societal dissatisfactions (Lister et al. 2009, 67). Often, new media are positioned as an upgrade from older forms of existing media. The authors continue to explain that new media are compared to older ones, not only based on 'hope for a better future', but also by drawing upon cultural connotations related to the older medium. For instance, when interactive media were introduced, they were positioned explicitly against broadcast television, which had the reputation of turning its viewers into passive consumers, otherwise commonly understood as 'couch potatoes'. Instead, interactive media were positioned as catering to a user instead of a viewer; someone who is actively involved and engaged with the medium. This shows that with the introduction of new media, its reception is based on the current values attached to older media forms, which means that to properly understand its reception, one must look critically at the values attached to older media, and wonder whose values were attached to these media, and how this translated into certain objects (such as computers) and products (such as games) having specific qualities attached to them in the first place (Lister et al. 2009, 68).

Lister et al. (2009, 69) tellingly point to a sense of déjà-vu that accompanies the launch of new media. This sense of having been here before does not relate to the specific objects that are launched, but to their discursive construction: "rather, it is a matter of the repetition of deeply ingrained ways in which we think, talk, and write about new image and communication technologies." This is important to note, because as discourse supposes, it does not merely describe objects, but has an active role in constructing them. This means that the discursive construction of media serves as a basis for the technological imaginary: the way people "think, talk and write" about new media frames the technological imagination (Lister et al. 2009, 68).

Lister et al. illustrate this recurring way of thinking about technology based on the book *Into the Image* by Kevin Robins (1996). Robins (1996, 11) argues that there is a dominant way of interpreting new media, which is to consider technology as providing a way out of societal struggles, thereby equating new technology with utopian visions. This dominant understanding considers technology to provide an endless number of possibilities to contribute to a better and enhanced society. Most importantly, Robins argues, that behind the discourse of utopia, lies a basic human mechanism of trying to control chaos. Technology is considered in terms of transcendence, it can provide access to an 'elsewhere', a better world where technology gives people a sense of security and control, in contrast to the messy world people inhabit (Robins 1996, 15). This is because new media quite literally provide access to a virtual space, providing new ways of expression. Robins (1996, 17) invites his readers to consider this urge for an 'elsewhere' as an expression of frustration with the real world, as a flight into a better realm. Interestingly, Robins (1996, 13). remarks that the utopian discourse

surrounding new media has turned into the dominant imaginary, thereby making it very difficult to imagine technological culture any other way.

Analyzing the promotion of the Fitbit Charge 5 through the lens of the technological imaginary helps to dissect the ideas of Fitbit about their tracker as creating a healthier self. The concepts turn the attention to how the Fitbit addresses its user, how this address may indicate what is expected of the user, and how this in turn says something about the 'problem' of the user, and how the virtual space of the Fitbit creates 'a way out' of this problem.

Fitbit: User, Screen and Text

In this chapter, I have shown that by addressing the Fitbit self-tracking practice as a dispositif, I can gain a deeper understanding of the technology, the text, and the user, and how these three elements relate to one another. By carrying out a discursive interface analysis, I gain an understanding of how the interface works to uphold or opposes certain norms, which enables me to understand how the technological affordances help to shape norms around the process of self-optimization. It also helps to pinpoint how the process of self-optimization takes place through the text shown on the Fitbit, as I will show how the user is addressed, and how the user in turn moves through space with their Fitbit. Ultimately, I take the practice of self-tracking with a Charge 5 as a case study that exemplifies the phenomenon of using technology to optimize the self. Approaching this practice as a dispositif allows an understanding of how the technology shapes the relation between the user, their body, and their surroundings, and what ideological understanding of self-optimization is created in this relation.

CHAPTER 4:
THE IDEOLOGICAL BODY

The Fitbit tracker is an example of the practice of self-tracking with technology to optimize the self. In this chapter, I will present the results of the dispositif analysis, which will show how the relation between the three elements of technology, text, and user can be understood as contributing to an ideological understanding of self-optimization, based on dataism and compulsory able-bodiedness. In the first section, I will show how the technology is used to analyze the body of the user, how Fitbit positions these measurements as providing a more accurate understanding of the user's body than their own interpretation, and what the consequences of this stance are. In the second section, I will show how the technology and the text work together to convince the user to believe in the possibility of optimization through data, and how this changes the user's worldview whilst wearing the tracker. In the third section, I will show how Fitbit aims to present an inclusive image of their user through their campaign "What's Strong with You?", but how, ultimately, Fitbit presents a paradox. While the company aims to change the discourse around strength, their advertisements do not seem to part with a physical understanding, and their technology works as a normalizing practice that assesses all bodies based on one specific type of body.

4.1 Analyzing the Body

The Fitbit tracker shows its user all kinds of data – how active they are, how stressed, or how well they have slept. Not only does it show these data, but it also provides the user with an interpretation of the measurements: a Daily Readiness Score provides the user with a low or high score indicating their readiness to take on a workout; the Stress Management Score shows them how well their body handles stress; the Sleep Score tells them whether their body is well-rested. It might sound convenient to know in detail how ready, sleepy, or stressed one is feeling. But how does Fitbit come up with these scores? How is the user's body assessed? It is vital to understand how the technology of the Fitbit works, to get a grasp of how the device measures specific elements, which they present as representative of broader categories such as sleep, stress, or readiness. To understand how this works I will discuss what kind of assessment Fitbit's technology enables, and what their measurements entail. Afterward, I will explain how these measurements are presented as accurate representations of the user's feelings, while they are necessarily partial. The underlying sentiment of these measurements and scores is that the Fitbit knows better how the user is feeling than the user themselves, which requires the user to align with this belief.

Returning to the three elements that make up the dispositif (technology, user, and text), the technology of the tracker is vital in creating an image of self-optimization for the

user. This is because the Fitbit tracker is equipped with specific sensors that can measure various elements of the user's body. The Fitbit is equipped with technology and sensors that measure the user's body in roughly two ways. First, the body is measured in relation to its environment: how is the user moving through space? This is measured through a built-in GPS that will track the wearer's speed and location. Also, the tracker has a 3-axis accelerometer that detects changes in gravity, which an algorithm will translate into an indication of the user's steps (Fitbit 2022b). Second, the tracker has built-in sensors that are not concerned with the body in space, but with specific processes of the body itself. These sensors include electrical sensors that are used for two purposes. First, they measure electrodermal activity, which refers to the changes in sweat level. Second, they can monitor the user's heartbeat to gain information on their heart rhythm (Fitbit 2022f).

The tracker is also equipped with light sensors that measure blood flow. As blood absorbs light, the sensors in the device measure how much light is being absorbed and thereby get an indication of the blood flow. The high and low of the blood flow indicates the heartbeat, thereby allowing the Fitbit to measure the user's heart rate (Fitbit 2022g). The infrared and red sensors in the device are used to measure the levels of oxygen in the blood, as blood with higher levels of oxygen reflects more red than infrared light, and vice versa (Fitbit Help 2022b). Finally, temperature sensors measure the temperature of the skin. This is done by creating a skin temperature baseline, which is the user's personal constant temperature. The device calculates this baseline based on data contracted from the user during their sleep (Fitbit Help 2022d).

What the Fitbit does, is that it translates the data these sensors extract from the body into statistics that are readable and graspable for the user viewing them. This includes showing the user the Daily Readiness Score discussed above, but also other scores relating to how well the user slept (Sleep Score) or how well their body handles stress (Stress Management Score). What is happening, is that Fitbit uses complicated algorithms and sensors of which the specific workings are understandable to experts and presents them in layman's terms. The consequence of presenting the data like this is that the technological specificities that make up the scores are obscured. Instead, the user is presented with a score that relates to 'sleep' or 'stress': terms that have a broader (societal) meaning.

In other words, what is happening is that daily actions, such as sleeping or feeling stressed, are turned into quantifiable data. Based on the writings of José van Dijck (2014, 198), I have explained in Chapter 1 how this process can be described as datafication. This means that Fitbit uses its sensors to measure bodily responses that they have chosen as indicators of stress. Take for instance the function of the EDA scan on the Charge 5. This feature gives the user the option to better manage their stress by measuring electrodermal activity with electrical sensors, which tell the user about changes in their sweat levels. This is done by

placing one's fingers alongside the device and holding still for between 2-7 minutes (Wearable Whisperer 2021). After these minutes, the user is asked to reflect on their mood during the session, being presented with the options 'very calm', 'calm', 'neutral', 'stressed', and 'very stressed'. Then the results are presented to the user in terms of the total 'EDA responses' (fewer responses should indicate less stress, Fitbit says). Also, the change in heart rate is presented, shown as the heart rate at the beginning and the end of the session. The device shows the user's progress in terms of how many days of mindfulness they have completed (Whearable Whisperer 2021).

The EDA scan shows what elements Fitbit measures to come up with a 'stress response', which is a combination of measuring sweat levels and the heart rate of the user, turning the daily activity of dealing with stress into a quantifiable metric. However, as we have learned from Chapter 1, datasets are often met without any suspicion towards their neutrality and objectivity, whereas critical data scholars argue for a critical stance towards their biases. Van Dijck (2014, 201) writes that while data are often seen as a direct translation from bodily activities into knowledge, measuring is actually an intervening process, in which certain metrics are privileged above others. Thus, the Fitbit decides on what to measure to give an impression of the user's stress and decides that heart rate and changes in sweat level are the key indicators of stress.

For a little thought experiment, imagine what other metrics Fitbit could have used to come up with an indication of the user's stress level. Other officially agreed upon signs of stress also include higher blood pressure, the shaking of the body, muscle tension, how often the person has a headache, whether they are forgetful, whether they are craving a cigarette or alcohol, or how emotional they are (Thuisarts 2022). It is beside the point whether Fitbit can actually measure these elements. This list is to show that by choosing to focus on heart rate and sweat production Fitbit has eliminated other factors indicative of stress and has decided to make these two factors the sole indicators in their stress analysis.

As Van Dijck (2014, 201) argues, the process of datafication rests upon the belief that is called dataism. This belief assumes that data (in this case the measuring of sweat levels and heartbeat) will give insight into the workings of the body and that this data provides a useful foundation for analyzing one's body (in this case, the level of stress that the user experiences). When presented with a score, this belief is taken further, in the sense that the user might now adapt their daily activities to the score that they receive in the morning. In Chapter 1 I have described that Ruckenstein (2014, 69) points out that with the visibility of data, a heightened responsibility to act upon these data arises. As the user now sees a Stress Management Score that's high (where the user's body shows fewer signs of stress) or low (where the body is showing signs of stress) the user is encouraged by Fitbit to plan their day accordingly, ranging from the suggestion of taking on new projects when presented with a high score, to going to

bed early when presented with a low score (Fitbit Help 2022a). Thus, when the data is presented to the user, they must relate to it: they can either go against the score by sticking to their original plan for the day, or they can adapt their plans to the height of their score, but it has become impossible not to engage with it.

Thus, what the analysis of the technology shows, is that Fitbit has sensors that measure very specific bodily activities, that are presented as representative of the user's overall level of stress or their night's rest. This gives the impression that these scores give an accurate image of the user's health and fitness. But, to believe in these scores and even take them as guidance to plan one's day, rests upon the belief of dataism, which takes the measurements of the tracker to be more accurate than the user's own understanding of their body. Through Fitbit's representation of these measurements in their tracker's interface and their app, Fitbit aims to persuade its user of the credibility of the numbers (in favor of the user's knowledge of their own body).

4.2 Performativity of the Fitbit

Returning to the figure of the dispositif, it has become clear that the technology of the tracker enables certain metrics to be measured, which Fitbit presents as indicative of the user's sleep, readiness, or stress. What is measured through the technology is presented to the user via the text, which is visible on their tracker and the app on their smartphone. In this section, I will show how the interface of the tracker and the app works to convince the user of the credibility of Fitbit's metrics. As Stanfill (2015, 1060) writes, interfaces have a productive power in what they enable users to do, and what kind of assumptions are built into the interface. Thus, how the text addresses the user in this self-tracking dispositif is important because the interface structures the action for the user and thereby influences their decisions. As will become clear in this section, the Fitbit encourages the user to adapt their behavior to their measurements, to reach certain goals that Fitbit has created. However, without the Fitbit tracker, these goals seize to exist. This is what I will call 'the performativity of the Fitbit': the device brings a world into existence that only has meaning when the tracker is worn.

Performativity is a concept that has traveled from literary theory to gender theory, to be a widespread concept that designates the act of generating a new realm of meaning through texts, gestures, etc. John Austin (1962) was the first to introduce the concept of the performative to literary theory. He introduced this concept because he considered the reigning view that regarded statements as descriptors of affairs to be too limiting. Instead, Austin (1962, 7) considered utterances to do more than merely describe something, and he coined the concept of the 'performative utterance' to refer to statements that change situations once they are said aloud. Austin (1962, 5) illustrates this by means of sentences such as 'I promise that I will bring your book back tomorrow': through verbalizing this sentence, the speaker has not

described a situation, but brought a new situation into existence in which they have made a promise.

Then, this concept traveled to gender theory, where it was introduced by Judith Butler (1999, 177), who used performativity to introduce a new way of thinking about gender; not as something that one has, but as something that one does. Instead of conceiving gender as something that precedes a person, it is rethought as a process that brings a gendered person into being through words, acts and gestures (Butler 1999, 173). Thus, the performative designates a new way of thinking that points to how new situations are created through certain acts. I would like to use this concept to understand how the data visualizations of the Fitbit can be seen as performative, in creating a new way of being in the world for its user. To understand how this happens, I will start by explaining how Fitbit measures activity through their Active Zone Minutes, and how these Active Zone Minutes are incorporated into the Daily Readiness Score. This section will make clear that the interface is designed to persuade the user of its credibility and the importance of following the tracker's directions. Then, I will show how this creates a worldview for the user, as the Fitbit introduces new terms with which the user interprets their surroundings.

4.2.1. Active Zone Minutes

Active Zone Minutes are minutes of exercise that Fitbit presents as to be 'earned' by the user throughout the day. These minutes are earned when the user is spending time in the 'fat burn', 'cardio', or 'peak heart-rate zones'. The tracker will detect if a user is spending time in these zones by measuring their heart rate through green LED flashes (called photodiodes) (Fitbit Help 2022b). Whether the user is in the beforementioned zones is measured through a formula that indicates the heart reserve. This is the difference between the maximum heart rate and the resting heart rate. The maximum heart rate is measured through a formula of 220 minus the user's age, which gives an estimation of the maximum heart rate (Fitbit Community 2021). The maximum heart rate can also be entered manually. Active Zone Minutes are presented by Fitbit as an alternative to counting steps, as it would more accurately represent the user's effort (Fitbit 2020). This is because the device measures the Active Zone Minutes by using the heart rate reserve, which means that as the user gets fitter, they might need to work harder to get into specific zones. After all, their heart reserve has shifted (Stables 2020).

Now that the process behind the measurements of the Active Zone Minutes is clear, the question arises of how these measurements are then presented to the user. The interface is guiding the user's action by setting the default option to 150 Active Zone Minutes a week. This goal is based on recommendations by the American Heart Association and World Health Organization. Harri Oinas-Kukkonen and Marja Harjumaa (2009) have written an article on persuasive systems design, introducing their model called Persuasive Systems Design Model,

which can be used to evaluate or design systems. The terms they introduce through this model are useful in clarifying how the interface of Fitbit can be persuasive. The beforementioned 150 minutes of exercise are adapted by Fitbit because the WHO has this number as a guideline (Fitbit 2022a). This is what Oinas-Kukkonen and Harjumaa (2009, 494) describe as a call to authority, which gives the interface enhanced credibility. Thus, from the very introduction of Active Zone Minutes, the Fitbit persuades the user to acknowledge the importance of Active Zone Minutes, as they work towards reaching the goals set by the indisputable authority on world health.
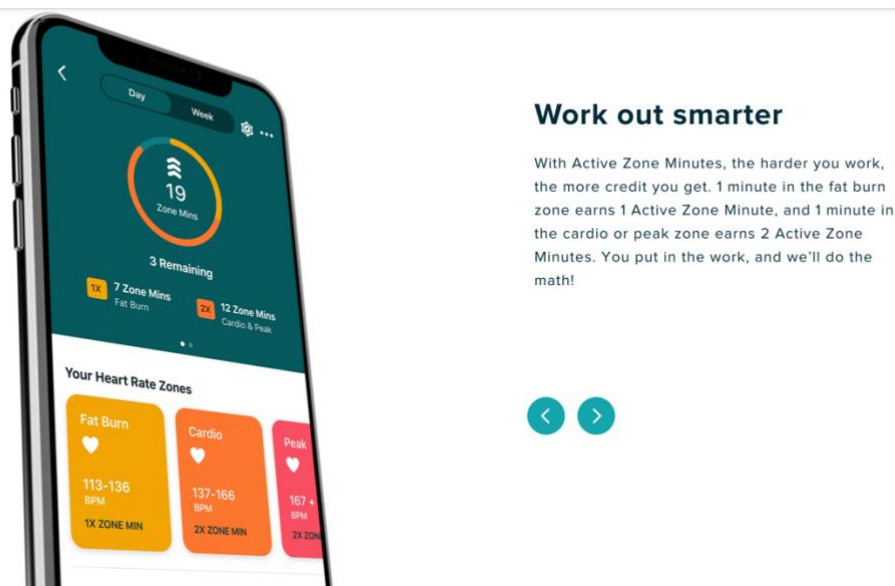

Figure 3. Active Zone Minutes on the Fitbit App Interface.
https://www.fitbit.com/global/nl/technology/active-zone-minutes

Then, the interface uses various techniques to convince the user of the importance of reaching this goal. The number of minutes thus far earned (per day or per week) is shown most prominently on top of the interface (see Figure 3). This number is encapsulated by a ring, that closes when the target is met. The effect of this ring is that the complexity of trying to adapt one's behavior to reach certain fitness goals is translated to the simple task of moving one's body to close a ring. Oinas-Kukkonen and Harjumaa (2009, 492) describe how interfaces can make people reach their target behavior more easily, and one of these techniques is for the interface to apply the principle of reduction. This means that complex behavior is reduced to simple tasks, with the effect for the user that they will have to put in less effort to change their behavior, as the interface guides them. The circle informs the user at a glance what their goal is with regards to Active Minutes: move as much as possible to get the number up, and the ring will close. This is underscored by the text beneath the ring that informs the user of exactly how many minutes they still must earn.

The persuasive power of the ring is enhanced by coloring it according to how much time the user spends in their heart zone. This is persuasive because it adds to the personalized feel of the interface. As Kessler and Lenk (2019) write, the technology creates a certain communication space that informs the type of communication that can occur. In the case of the Fitbit tracker, the device is attached to the wrist of the user, and measures highly intimate bodily processes, such as their heartbeat and sweat production. This creates a communication space where individualized feedback is possible, and even desired from the device.

This particular communication space is reflected by the interface, as it provides the user with data that only refers to their personal activities. Oinas-Kukkonen and Harjumaa (2009, 492) name personalization as one of the features that will help to support the user in completing their tasks. This is done by Fitbit by dividing the ring into sections that correspond to the total number of minutes spent in the corresponding heart zone. These sections are divided into colors indicating the intensity of the heart zone: yellow is the least intense (fat burn), orange is more intense (cardio), and red is the most intense (peak heart-rate zone). Beneath the number and the ring, three personalized cards are included that show the specific heart rate corresponding to each heart zone (colored accordingly). This also works towards connecting the heart zones to a level of intensity: the colors signify a hierarchy of intensity. As Stanfill (2015, 1063) writes, the names that are used on the interface guide how the user moves through it. By writing 'Your Heart Zones' above the three cards, the user will interpret the information that is provided by the cards as tailored to their own body. This adds to the personalized feel of the interface, which will help to persuade the user to close the ring, as they interpret the information as tailored to their body.

However, as the method by Stanfill (2015, 1062) emphasizes, it is vital to not only consider what the interface allows the user to do, but one must also understand what is prohibited or obscured. The clean and simple look of the app makes it clear that the goal is to earn all the recommended Active Zone Minutes, and that by doing so, the user is spending time in heart rate zones varying in intensity. However, what is obscured is how exactly Fitbit comes up with the measurements of heart rate zones. It is evidently possible for the user to look into this themselves, but the interface does not allow for scrutinizing these calculations. This is emphasized by the text on the website that reads: "1 minute in the fat burn zone earns 1 Active Zone Minute, and 1 minute in the cardio or peak zone earns 2 Active Zone Minutes. You put in the work, and we'll do the math!" (Fitbit 2022a) This text shows that Fitbit does not aim for its user to scrutinize the calculations, they encourage them to 'put in the work' by moving their body, and not to worry about how their Active Zone Minutes are calculated, as Fitbit does the math for them. The consequence of this obscuration is that the call for dataism becomes even more urgent. Without transparency, one must believe (instead of check) that

Fitbit shows the truth, and that it provides a solid foundation to improve one's health and fitness.

Fitbit encourages this belief by notifying the user when they are earning Active Zone Minutes. When working out, the user will receive a notification through a buzz when they enter the fat burn zone, two buzzes to indicate the cardio zone and three buzzes to indicate the peak zone (see Figure 4). The user is thus reminded through notifications that they are working towards a specific goal. Oinas-Kukkonen and Harjumaa (2009, 493) emphasize the usefulness of praising users to get them to reach their goals. This is what Fitbit does, as it does not merely inform the user of being in a heart rate zone but praises them through these notifications with words like 'Nice!'.

Interestingly, not only working out is positioned as effective for reaching the goal. Fitbit positions Active Zone Minutes as something to be earned throughout the day – any kind of activity that gets the user's heart pumping can increase the total amount of Active Zone Minutes (Fitbit 2022a). In Fitbit's commercial that introduces Active Zone Minutes, Fitbit users are not only presented as engaging in physical exercises, such as running, yoga, and cycling, but are also presented as engaging in non-fitness-like activities, such as playing outside with one's family (Fitbit 2020). This feature works due to the all-day activity tracking that Fitbit's technology enables, which monitors heart rate throughout and makes sure that every kind of movement counts towards the goal.
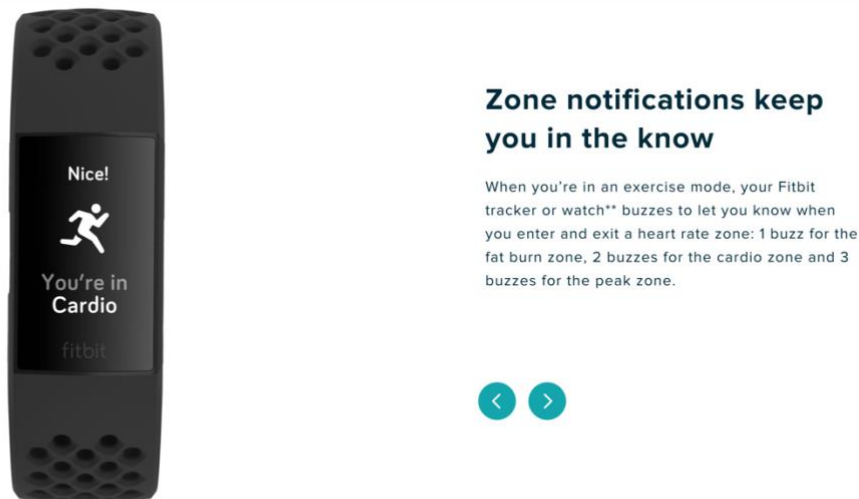

Figure 4. Heart Zone Notifications on the Fitbit Charge 5 Interface.
https://www.fitbit.com/global/nl/technology/active-zone-minutes

To understand how technology can change the perception of the user's surroundings, the concept of augmented space coined by Manovich (2006) has been discussed in Chapter 3. This concept points to the way that physical space can be expanded by a layer of multimedia information, that changes how the user experiences their surroundings. Manovich's (2006,

226) example of audio walks which create an aesthetic interpretation of the environment for the user help to understand how the Fitbit makes a similar move. While the Fitbit user might be lifting furniture up the stairs to help their friend move, the Fitbit will track their activity based on how much their heart rate is going up, as this works towards their goal of Active Zone Minutes. The effect of this is that Fitbit makes for a reinterpretation of the user's movement that differs from their original context (helping a friend move is a gesture of care) and changes it into an activity that works towards self-optimization through reaching certain fitness goals. As seen in their commercial, not only sports but also playful activities can help to earn Active Zone Minutes. This creates a different experience for the user when moving through space, as their Fitbit reminds them of the time they have to spend on exercise.

Interestingly, the augmented space that the Fitbit tracker creates, where specific measurements work towards reaching goals that Fitbit has created formulas for, only exists when wearing the tracker. Active Zone Minutes lose their meaning when the Fitbit tracker is not worn. While Active Zone Minutes have an origin in the real world, as they refer to the heartbeat of a human being, their meaning is completely dependent on the Fitbit sensors that measure heart rate, and the calculations that turn these data into meaningful statistics. As a user without the Charge 5 cannot calculate Active Zone Minutes based on formulas (as they are obscured and humanly impossible to recreate), the user depends on the device to bring Active Zone Minutes into existence.

This is what I would like to call 'the performativity of the Fitbit': it brings a goal into existence that shapes the user's life, but these goals vanish when the tracker vanishes. This perspective aligns with the concept of the data double that Ruckenstein (2014, 69) discusses, as the data double also acknowledges that the collection of data will create a new entity that refers to the user but is not entirely the same. The performativity of the Fitbit builds on this conceptualization by emphasizing how this newly created double loses meaning once the tracker is not worn. It shows that wearing the Fitbit will create a slightly different world, where activity is not interpreted by the user as a feeling of being out of breath or feeling sore the next day, but as the numbers indicating that the user's heart rate went up. This makes clear that the beforementioned belief in dataism is vital, as it presupposes a belief in the specific measurements that create the idea of Active Zone Minutes.

4.2.2 Daily Readiness Score

Fitbit complicates matters even more as it becomes clear that the scores that are presented to the user are calculated based on a combination of Fitbit's specific measurements of activity, sleep, and heartbeat. This means that the Daily Readiness Score, which indicates the user's readiness for activities, is calculated based on the Active Zone Minutes, sleep statistics, and heart rate variability (DC Rainmaker 2021). What Fitbit does, is that it makes it quite difficult

to retrace the origins of these scores. One would have to know of all three elements what formulas are used to calculate them, and then one has insights into the meaning of the elements that make up the score. But Fitbit does not provide this information themselves. Moreover, it is not shown how the three elements are evaluated to come up with the score. Looking at the element of sleep that weighs into the Daily Readiness Score, the user is presented with a graph that shows their sleep patterns in the form of the total amount of sleep per night for over a week. It is possible for the user to manually adapt their sleep score to more adequately reflect how many hours they have slept, and this will in turn change the Daily Readiness Score (DC Rainmaker 2021). This does give the user an indication of how the data Fitbit uses to calculate how well the user has slept reflect in their Daily Readiness Score, but the exact workings are still obscured as Fitbit does not provide the formula. How does the data about how much the user has been sleeping eventually turn into an indication of their energy levels? And how much does this factor into the eventual score?
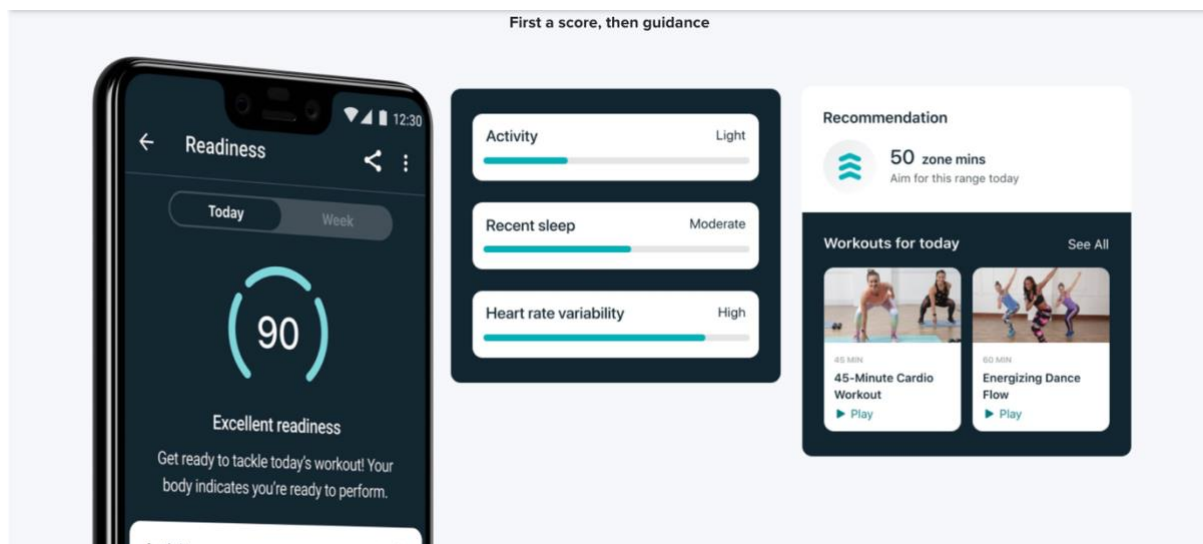

Figure 5. Interface of the Daily Readiness Score in the Fitbit App.
https://www.fitbit.com/global/nl/technology/daily-readiness-score

What this discussion of the Daily Readiness Score shows is that the reasons for the user to act upon these scores rests on the belief of dataism, as the user would first have to believe that data about one's body is a valuable indication of their health, and secondly that Fitbit adequately measures this (for it is made difficult for the user to trace the formulas). The interface of the Daily Readiness Score persuades the user of its credibility not only by presenting the score but also by giving direct suggestions on what to do with their results (see Figure 5). On the app, the user is presented with their score, which can range from 1 to 100. 1 to 29 means low readiness, and 30 and above is high readiness (Fitbit Help 2022c). Also, Fitbit has chosen to represent its data in visual graphs. The score is surrounded by a circle that can

be filled completely, or for two/thirds or one/third. This correlates with the score being higher or lower. The score, shown on top of the app, comes with a guiding text. Next to a high score the user can read the text: "Get ready to tackle today's workout! Your body indicates you're ready to perform." (Fitbit 2022c). This guidance prevents the user from interpreting the data independently, as Fitbit already provides suggestions.

The user is guided by the app through how the text addresses the user directly and gives them orders: 'Get ready to tackle today's workout!'. In Chapter 1, I explained how Van Den Eede (2015) discussed the technology of a wearable along the lines of a particular human-world relation. He writes that wearables can take on the role of coach when the user is addressed as if someone were guiding their fitness journey (Van Den Eede 2015, 146). This is what Fitbit accomplishes to do when the user is directly addressed through the text, and suggestions are given as to what the user should do next.

Not only does the Fitbit guide the user's interpretation of their score, but it also provides recommendations by suggesting a range of Active Zone Minutes to aim for, and a list of workouts corresponding to this goal. According to Oinas-Kukkonen and Harjumaa (2009, 493), providing suggestions has great persuasive powers. By giving suggestions, Fitbit immediately connects a consequence to their measurements: the score indicates how well the user is feeling, and the consequence of this score is that the user is better off with a work-out of a specific intensity level. By giving suggestions for workouts, the Fitbit also makes more explicit what the Daily Readiness Score indicates. As it does not explicitly mention where exactly the user is ready for, it is implied that the score relates to the intensity of exercise. By giving suggestions for workouts, the interface shows that a high score indicates that the user is ready to take on an intensive workout, while a low score means that the user should prioritize recovery through less intensive workouts.

It is important to note that through the design of the interface of the Daily Readiness Score, certain assumptions about fitness are communicated. Interestingly, Fitbit explains how this score works on their YouTube channel by stating that it is scientifically proven that alternating between high-intensity and low-intensity or recovery exercises is more helpful for getting in shape than only focusing on high-intensity workouts (Fitbit 2021). This suggests that high-intensity workouts are the default option for getting fitter and that completing as many of these kinds of activities as possible is to be strived for. By positioning a higher score as a higher readiness to take on an intensive workout, this score is positioned as the better result, since it indicates a readiness to do something that is seen as beneficial. To imagine alternatives, think of the name Movement Score instead of Readiness Score. This would be a more neutral name, as the score would indicate which type of movement fits the user best. The scores could then still refer to the intensity of exercises, but it would not assume that a user

had planned a high-intensity workout every day and wishes to understand how ready they are for it.

Thus, by persuading the user of the credibility of the features that Fitbit provides (such as Active Zone Minutes and the Daily Readiness Score), the tracker creates a new worldview. When wearing the tracker, the user is encouraged to earn Active Zone Minutes. These minutes hold meaning when the tracker is worn, but they have no referent outside of the Fitbit-world. This means that the user must place their trust in the technology of the Fitbit, and its calculations, to guide them in their fitness journey. The call for this belief is amplified because the interface obscures the precise calculations while presenting graphs about the user's progress and providing them with suggestions for further action.

4.3 The Moving Body

The previous two sections were focused on the technology and the text, and how these elements work together to address the user. In this section, I will focus explicitly on the user, by analyzing how Fitbit as a company imagines its user. This is done through advertisements, where the Fitbit wearer is shown engaging with the tracker. In the campaign "What's Strong with You?" Fitbit shows that through using their tracker, a different definition of strength can be established. Through an analysis of the commercials based on film theory by Bordwell, Thompson, and Smith (2017), I investigated how the elements that make up the commercials, such as the characters, surroundings, and sound, work together to create a discourse around strength. I will connect this discourse to the discussion around disability, as described in Chapter 2. I argue, through the connection with the academic discussion around disability, that Fitbit creates a technological imaginary in which it aims to oppose the dominant societal understanding of strength as something physical, but fails to do so. While their message seems to broaden what is understood as normal bodies (because Fitbit emphasizes that strength is more than physical strength) their campaign presents a paradox, as there are many elements in the technology and text that seem to counter this message.

4.3.1 What's Strong with You?

As seen in Chapter 2, the academic discourse around disability has shifted from analyzing disability as something other, to analyzing how a norm is constructed that affects all bodies (Goodley 2011, 15). This is important because what counts as 'normal' is based on shifting cultural understandings. The concept of ableism, which points toward the processes that constitute what is seen as the 'ideal body', and casts disability as inferior, brings the focus to the construction of normality (Campbell 2009, 5). Advertisements are an example of how media representations are a key force in shaping the understanding of what normality entails. But as the discussion in Chapter 2 showed, not only do media representations count as cultural

influences, but technology also plays a key role in what is seen as normal (Hagood 2017, 313). Therefore, in this section, I will consider both the representations of the user in the commercials together with the way that the text and technology work to create an understanding of normality.

In the campaign "What's Strong with You?" Fitbit is trying to change the public understanding of what it means to be strong. As the company explains in a blog post, they have carried out research in the UK, and found out that the majority of their respondents believe that 'strong' encompasses more than merely physical strength: "This research comes as part of Fitbit's latest campaign, "What's Strong with You?" which celebrates multidimensional ways in which people define their personal strength beyond the traditional physical sense, be it emotional, spiritual, or mental" (Fitbit Staff 2021). Thus, Fitbit advocates for a broader understanding of strength, tied to individual definitions which also include emotional strength, spiritual strength, and mental strength. This position shows that Fitbit is opposing a particular societal understanding and creates (through its technology) a new and improved definition that is more inclusive.

This can be understood as the presentation of a technological imaginary (Lister et al. 2009). In Chapter 3, I discussed the concept of the technological imaginary as positioning technology as a solution to societal problems. By framing the Fitbit Charge 5 in light of a complete reinterpretation of what strength means, the tracker is framed as a device that opposes what is taught to people through "dictionaries and sources of information" (Fitbit Staff 2021). The tracker is presented as a catalyst for change in public discourse around strength. Thus, Fitbit presents its trackers as guiding a revolution in thinking differently about strength. This presentation locates the problem of a limited definition of strength in what is taught to the public, and positions Fitbit as the solution to this problem.

Strength is being redefined in their commercial "Find What's Strong with You" by opening with a character reminiscing about what it means to be strong. The character, a swimmer with a limb difference, has been called strong all their life, but they state: "the idea that you power through situations, I wouldn't think that's strength. It's just a façade." Thus, the swimmer argues for a different interpretation of strength than to call someone who dealt with losing a limb strong because they seem to be coping. The swimmer considers this coping as a façade, instead of strength. Then, the commercial makes explicitly clear what it's trying to accomplish by showing a shot in which a dictionary definition of strong is wiped off from a blackboard (see Figure 6). In this sequence, it is made clear that Fitbit wants to do away with a certain understanding of strong. The text that is erased reads: "Strong (strong) adj. Having great muscular power, able to carry heavy weights or do hard physical work." Thus, a merely physical explanation of what it means to be strong does not encompass all its features, according to Fitbit.
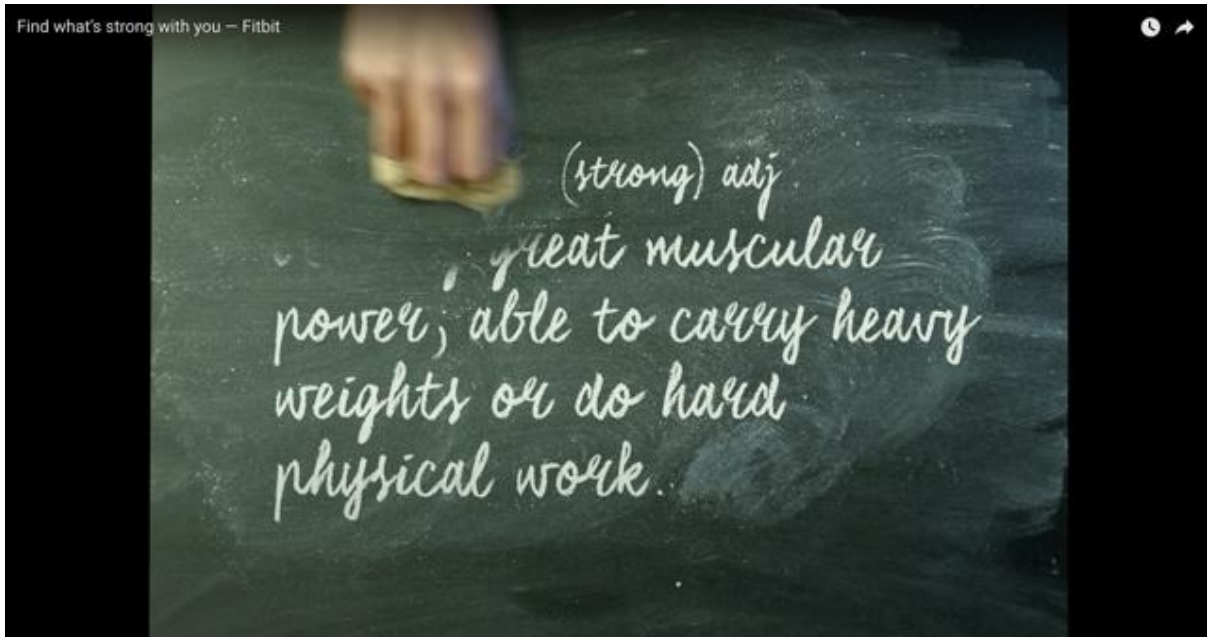
Figure 6. Shot from Fitbit Commercial: Erasure of Dictionary Definition (00:20).
https://www.youtube.com/watch?v=17Nu1RixPHU

Instead, in the advertisements, Fitbit shows a range of characters varying in terms of ethnicity, disability, age, and gender who all provide their own definition of what it means to be strong. A young black man on roller skates defines strength as "that feeling of unlimited freedom" (see Figure 7). A young drummer writes "fearlessness" as the definition of strong. An older white woman, who is shown dancing with her girlfriends, redefines strength as "to chacha through life", and the swimmer as "swimming in cold water." Thus, Fitbit is introducing a new meaning of strength by showing that each individual has their own interpretation of what it means to be strong. Interestingly, one particular type is avoided, which is the white able-bodied middle-aged male, the type that in Western society is regarded as the norm. This indicates that Fitbit is deliberately trying to include various types that do not adhere to this norm. Moreover, whereas Fitbit is trying to include a wide range of characters, there is a certain class and lifestyle that binds them all together; the actual working-class people that carry out heavy work are omitted from this commercial. This gives a clue about the target audience of the trackers not being found in this category, which reflects the argument by Esmonde and Jette (2020, 35) that I discussed in Chapter 1, that the Fitbit is targeted at people from a certain class, that have time, money and hope left to invest in a Fitbit tracker.

The swimmer explicitly mentions that the definition that focuses on physical strength excludes a lot of people. Instead, Fitbit argues that many people experience moments of strength, and these moments can also refer to feeling mentally or emotionally strong. By broadening the definition of strength, Fitbit seems to oppose the ableist assumption that being

able to do hard physical work is the most important indicator of strength. This definition takes a certain body as the norm: a healthy body that is not only able to do physical work but is also very good at it. This makes 'strength' a word to praise the exceptional activities of an already privileged body. By extending this definition to include emotional and mental strength, the boundaries of what counts as strong are shifted to include a wider range of indicators. Moreover, many physically disabled characters are shown in various advertisements of this campaign, including the swimmer with an amputated leg, a mountain climber with an amputated arm, a man in a wheelchair, and an older woman using a chair lift. This shows that by changing the boundaries of what strength is, a new deviant position is introduced, and physically disabled people who would not be considered strong in the 'old' definition, are considered strong in Fitbit's reinterpretation.
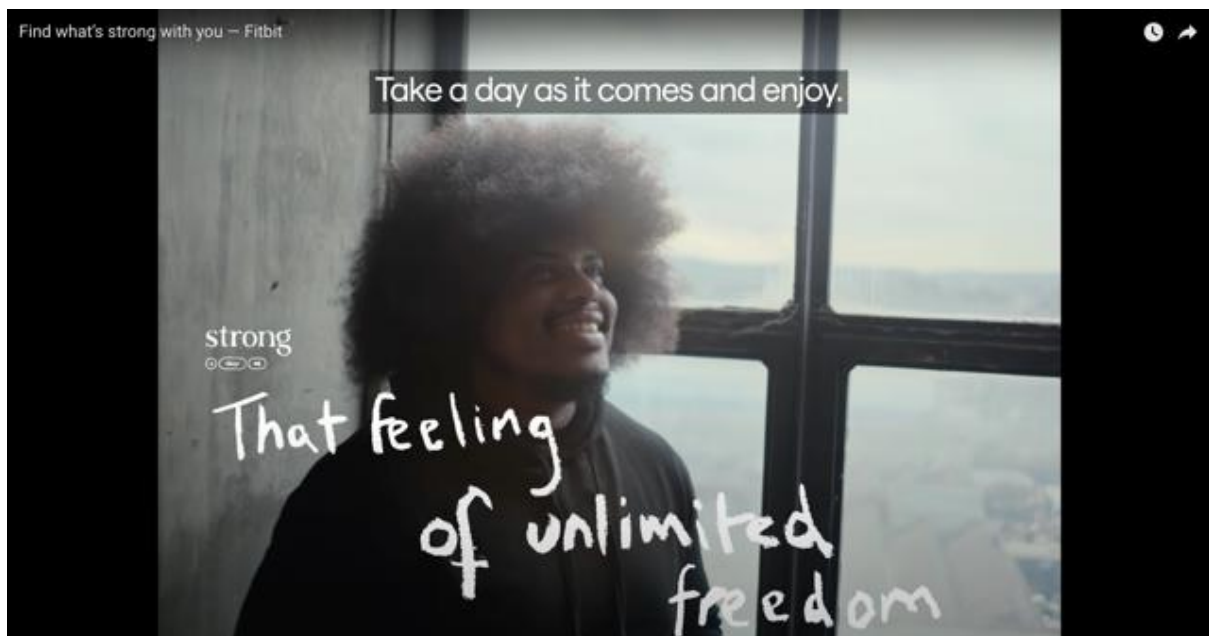

Figure 7. Shot from Fitbit Commercial: Alternative Definitions of Strength (01:15).
https://www.youtube.com/watch?v=17Nu1RixPHU

However, the message that Fitbit presents in their commercials to redefine strength presents a paradox, as there are several elements in the technology, text, and the commercials that seem to counter the message. First, while Fitbit wants to include emotional and mental strength in their definition too, this is not reflected in the commercials as not one character is standing still (see Figure 8). Every single character in the advertisements is moving. They are running, doing yoga, climbing, swimming, drumming, skating, dancing, playing soccer, moving in a wheelchair, peddling, and weightlifting. This seems to imply that movement and strength are still connected, and this leaves little room for the inclusion of mental and emotional strength with a total absence of physical activity.

Figure 8. Shot from Fitbit Commercial: Moving Characters (00:57).
https://www.youtube.com/watch?v=17Nu1RixPHU

There are two exceptions of characters that more explicitly focus on mental and emotional strength, but still the physical is never far away. There is an artistic character who exemplifies mental strength by drawing a mouse who is mentally strong enough to lift a bear (see Figure 9). Another character is a man in a wheelchair who exemplifies mental strength as he is shown mindfully breathing to slow down his nerves. But, as the artist is drawing a mouse physically lifting a bear, the drawing still relies on the physical metaphor of strength. Also, the man in the wheelchair is moving along a runway, not standing still, which categorizes him with the rest of the characters who are moving. Thus, mental and emotional strength are still underrepresented in Fitbit's depiction of strength.

Figure 9. Shot from Fitbit Commercial: Reliance on Physical Strength (01:20).
https://www.youtube.com/watch?v=17Nu1RixPHU

Moreover, the idea that strength is still related to physical movement is perpetuated through the function of the Daily Readiness Score. This score assumes that the user will take on a workout daily and positions a high readiness to take on said workout as the better result. This is reflected in the commercials, where characters make statements like: "Some nights I sleep so well I'm ready for anything.", followed by a shot of them climbing a mountain. Also, the commercials try to counter the idea of strength as being able to work out hard every day by showing a character who receives a low Daily Readiness Score and says: "I can find strength in a rest day", while they are shown practicing yoga. It is implied that yoga is not the intensity of activity that is strived for, but rather a substitute for the 'real' workout, as the character states that they can find strength in a rest day. This implies that a rest day is not something that is usually seen as indicative of strength. Also, a rest day is not even a real rest day where the user is not exercising. Yoga is still movement. It is simply a less intense day of exercise. When a rest day is still active, how does Fitbit move away from a definition of strength that is overall focused on the physical?

This implication of physical strength still being important can be understood through the notion of compulsory able-bodiedness (McRuer 2006). While the Fitbit user is seemingly presented with a choice (they can 'find strength in a rest day') they are actually encapsulated in a system in which there is no choice. Finding strength in something implies that it is not strong to begin with. While presenting the message that not being able to work out hard every day is not something to be ashamed of, Fitbit actually reinforces this idea. Why else would they call a score indicating a rest day a low score? A high score is better. This means that having a body that can work out hard every day is the better option. But what if a person receives a low score every day? What if they can only work out for one day a week? Or not at all? Will they then find strength in their low scores? As McRuer (2006, 9) writes, ultimately, the able-bodied person holds the superior position, as they would only receive high scores.

Second, while Fitbit encourages individuals to create their personal interpretations of strength, the technology in the tracker addresses all users in the same vein, by measuring their bodies to help them comply with norms that are automatically entered into the device. For instance, the Active Zone Minutes work to normalize certain metrics of exercising by making these the default settings, such as the goal of 150 minutes per week. The tracker encourages the user to comply with these norms by directly addressing them and cheering them on when they are doing a good job in reaching their goals. While there are settings that allow the user to personalize their goals, these require some editing from the user, while the recommended guidelines from the WHO are entered automatically. This is what Stanfill (2015, 1063) describes as how an interface can frame certain actions as preferable: through automatically filling in certain metrics these are presented as the preferable options. This means that when users are adopting the goals of the Fitbit to their own liking, they are deviating from the

standard that is presumed, and this is a deliberate choice. The adaptation of WHO guidelines contribute to addressing the user as if they inhabit a normate position. This is described by Garland-Thompson (1997, 8) as a privileged body without stigma that is taken as the universal type for its society. It is vital to understand that guidelines that are created for broad populations are necessarily created based on a certain understanding of the body. When these guidelines are implemented and used to assess all types of bodies, the tracker will work as a normalizing device that persuades all users to comply with a norm.

Moreover, while it is suggested that the Active Zone Minutes are personalized (as they keep personal statistics such as age and resting heart rate into account), these metrics are only personalized to measure more effectively whether the user is meeting the required standard. Thus, the personalization aspect is in the ability of the algorithm to adequately determine whether the user is doing enough to reach their goal, not in personalizing the goal itself. It is not questioned whether some users can actually meet these criteria. As said before, this assumes a particular understanding of the body that is measured. Bodies that are able to be as active as the metrics presuppose are taken as the better option, which shows how the device shapes a normate position of a type of body that has the time, ability, and headspace to move for a specific time and intensity level per day.

The Optimizable Body in the Fitbit Dispositif

From this chapter, it has become clear that the three elements of user, text, and technology work together in the self-tracking practice to create a certain understanding of the optimizable body. The user is encouraged to believe in the credibility of the tracker's measurements, as the interface analysis has shown, and is guided through their life based on the feedback that the Fitbit provides. The Fitbit is a manifestation of a broader phenomenon that takes specific technological measurements as the most important indicators of our health, thereby providing a necessarily partial view of our bodies. This analysis has shown that the Fitbit thrives on dataism. As the discussion on datafication and dataism in Chapter 1 has shown, when social activities are turned into quantifiable metrics, decisions are made as to what to measure, and what to leave out. This underscores Van Dijck's (2014) concerns that the neutrality of the Fitbit's measurements is taken for granted. If this belief in the unbiased importance of data becomes more widespread, it might become the only way of interpreting our surroundings.

As Van Dijck (2014, 201) writes, technological measurements are not so much a translation, but rather should be seen as an intervention. By choosing to measure certain metrics, such as sweat production and heart rate, Fitbit takes these as indicative of categories such as stress. This then creates what Ruckenstein (2014, 69) discusses as a data double, which is a new entity consisting of data from one's body. But, as the wristband is worn by the user and they are receiving personal feedback based on this data double, it is not that far removed

anymore from their identity: they are judged by Fitbit, and the user's body is assessed in its success in reaching their goals. This means that the data double and the user's own body become conflicted. The data double is taken as representative of the user's body, and they are judged upon these data.

The effect of this judgment is that the tracker guides the bodies of the user through space based on their data double. While the data collected by Fitbit will necessarily present a partial view of the user, the user themselves is not meant to reflect on this partiality but is encouraged to believe in the data presented to them. This is done through the obscuration of the workings of the algorithms, and by presenting the user with suggestions on what to do, instead of letting them work it out themselves. However, the Fitbit does not simply measure, it works as a device that I have discussed as performatively bringing a new way of interpreting one's body into existence. By bringing certain frames into existence with which the user can understand their body (such as the Active Zone Minutes), the Fitbit changes how the user interprets their body and their activities. Using the concept of augmented space (Manovich 2006) as a lens, I have shown that the Fitbit shapes an environment in which any type of movement is reinterpreted as activity that works towards the goal of being active enough. But these frames lose all meaning once the tracker is not worn. This makes the call for dataism even more urgent, as Van Dijck (2014) described, as the user should believe in the usefulness of Active Zone Minutes, as their precise workings are obscured.

Through an analysis of the campaign "What's Strong with You?" I have made clear that while Fitbit aims to change public discourse around what it means to be strong, the company does not seem to part with a physical interpretation in its commercials. This is relevant because as the discussion on disability studies in Chapter 2 has shown, media play an important role in creating ideas around what is seen as normal. By relying on a physical representation of strength, Fitbit encourages the idea that strength is necessarily tied to the physical, which leaves little room for mental or emotional strength. Moreover, as the discussion on media products by Hagood (2018) pointed out in Chapter 2, it is also vital to understand how technology itself can shape an understanding of normality. The analysis has shown that the Charge 5 works as a normalizing device by assessing all kinds of bodies through metrics that assume a specific type of body (for instance, a body that is assumed to be able to work out every day). As said before, the tracker's view is partial and judgmental: the users are assessed based on these measurements. I considered the assessment of the user's body through the lens of compulsory able-bodiedness as introduced by McRuer (2006) to show that the Fitbit user is encapsulated in a system where it seems like they have a choice to choose their own interpretation of strength, but they actually have no choice. Fitbit has decided what is important to measure and how these measurements indicate the user's progress. Thus, while Fitbit seems to include various bodies as being able to be assessed as strong and therefore

optimizable, the way that their actual trackers assess bodies based on a particular type of body does not reflect this view.

CONCLUSION

Self-tracking apps that target one's health and fitness have gained popularity over the last few years. Working out is no longer merely a matter of moving, sweating, and perseverance: now that sensors can measure the heart rate of the user, there is evidence to back up whether they are making progress. The Fitbit Charge 5 is created with the specific goal of improving one's health and fitness and can thus be seen as part of a broader phenomenon in which people engage in self-tracking practices intending to improve themselves. In this thesis, I analyzed this phenomenon and focused on the implications of Fitbit's assessment of the user to optimize their body, to understand the ideological implications of assessing bodies in this vein. The central question of this thesis was "How do self-tracking devices shape an ideological understanding of the self-optimizable body?"

This thesis accomplished to critically evaluate self-tracking practices. This is relevant because as Lister et al. (2009, 67) point out, new technology is not simply introduced to society; it brings with it an entirely new way of behaving. In other words, self-tracking technology shapes cultural understandings of what it means to be healthy, which has consequences for how users conceive of their bodies, illness, and health. Lupton (2016, 16) writes that whereas the quantification of aspects of one's life was once reserved for a small group of technological experts who were interested in 'hacking' their lives, the sheer amount of self-tracking technologies has made these practices available to the masses. This means that more and more bodies will be assessed by trackers based on a particular understanding of what health looks like and what a typical body looks like. Moreover, apart from these specific trackers that one must go out to intentionally purchase, anyone using a smartphone is unknowingly judged in the same way as sensors that measure the user's location, speed, and heart rate are embedded and automatically enabled in most smartphones (Lupton 2016, 17). This means that framing health and exercise through specific measurements of the body has become an important indicator of one's wellbeing, as smartphone users are automatically measured in this vein, often unknowingly. This indicates how common this view of the body has become.

In this thesis, I analyzed the connection between self-tracking and self-optimization through a discussion of the academic debates surrounding the Fitbit in Chapter 1. This chapter showed that the Fitbit works as an intervention as its choices in measurements create an idea of what is considered healthy behavior (van Dijck 2014; O'Neil 2016). The subject position that is created by Fitbit through using the device, has been critiqued for not being attainable for every type of body (Esmonde and Jette 2020), for embodying neoliberalist values (Ajana 2017; Millington 2014; Moore and Robinson 2016; Lupton 2016), and for ascribing to an ideology of wellness that considers non-conformity a moral failure (Cederström and Spicer 2015). Based

on these discussions, I introduced a new perspective on self-tracking practices that unfolds in Chapters 2 and 3. In Chapter 2, I introduced the field of disability studies, focused on how the cultural model of disability turns the focus away from considering disability itself, to analyzing how normality is constructed through the concepts of ableism (Campbell 2009), the normate (Garland-Thompson 1997) and compulsory able-bodiedness (McRuer 2006). The concepts from the cultural model of disability studies allowed the analysis to focus on how ideas around normal bodies are constructed. This is a relevant addition to the debate on self-tracking practices, as the discussion that considered these devices as tools that teach bodies how to behave (Fotopoulou and O'Riordan 2017) did provide a starting point in considering self-tracking as a normalizing practice but did not engage with a disability perspective yet.

I connected the disability perspective elaborated on in Chapter 2 to a media analysis that I introduced in Chapter 3. In Chapter 3, I showed how a self-tracking practice can be approached as a dispositif, consisting of the user, the technology, and the text (Kessler and Lenk 2019; Verhoeff and Van Es 2018). This approach allowed the analysis not only to engage with how meaning is created through the text but how the text influences and is influenced by the user and technology. Through this newly introduced perspective, this thesis responds to the call by Ellcessor and Kirkpatrick (2019) to create closer collaboration between the fields of media studies and disability studies. More specifically, this thesis contributes directly to the call by Hagood (2017) to consider not only media representations but the influence of media products themselves in shaping ideas about normal bodies.

Chapter 4 concludes the thesis by presenting the results of the dispositif analysis. I discussed the results based on three main points. First, the analysis showed that Fitbit thrives on dataism to convince its user of the credibility of the data presented to them. The user is encouraged to adopt behavior that is in line with Fitbit's suggestions and reinterpret their activities as working towards their movement goal. Second, I introduced a performative understanding of the Fitbit, which showed how the particular way of perceiving one's surroundings through the Fitbit only holds meaning when the tracker is worn. This showed how the call for dataism becomes even more urgent, as the user cannot recreate a Fitbit-view themselves. Third, I showed that Fitbit's aim of introducing a broader perspective on being strong through their campaign is paradoxical when taken together with the way the user is addressed by their tracker. While the campaign argues for an understanding of strength that moves beyond the physical, Fitbit leaves little room for another interpretation as their commercials rely heavily on physical representations of strength. Moreover, the Fitbit tracker assesses all bodies based on a particular type of body, thereby judging the user based on a perspective that aligns with compulsory able-bodiedness, where the able-bodied position is ultimately considered best.

Implications

As this thesis showed, the Fitbit tracker is based on the belief in the accuracy of data in providing insight into the workings of the body. Therefore, this thesis underlines the urgent call by José van Dijck (2014, 201) to critically assess how this belief influences certain practices. This thesis highlights the importance of understanding that the view that certain datasets provide of the body, is necessarily partial, and shows a specific frame with which to consider the body. This is not a bad thing in itself, as the data can prove useful, but it can become a problem when this is the only perspective from which certain practices are considered.

I will explain the implications of this partial view with another health-related example, namely the Nutriscore label that indicates the nutritious value of food products in the supermarket. This label shows the consumer an easy-to-grasp score that indicates whether the product they are choosing is the healthiest choice. Scores range from A-E: products high in protein or fiber receive an A, whilst products high in salt or sugars receive an E. Consumers shopping for their dinner are thus literary provided with a scientific frame for their food choices. This frame seems like the obvious choice. By making the most nutritiously healthy decisions regarding what to consume, people will develop a lifestyle that decreases the chance of disease and illness and increases the chance of a long healthy life. But would this really be the best way to frame food? Is food not also a moment to come together, to celebrate? Is food not nostalgia, culture, or pleasure? In other words, what will be left out when scoring food solely on nutritious value? The same logic operates when the view that reduces a body to the ability to increase one's heartbeat becomes the sole way of interpreting our bodies. Consider all the elements that make up the activity of exercise: it is a social event where people bond over a shared activity and it is part of a culture where specific garments are worn, and songs are sung. It can provide a sense of belonging, of experiencing relief, and of feeling confident. Dismissing all these factors and reducing movement to the increase of one's heartbeat shows how limited this perspective is. This is important to consider, as the Fitbit provides a perspective as an instrument to improve one's physique, but it excludes the social and cultural layers that are part of the reality of exercise. Therefore, it should not be considered to capture the entire reality of exercise.

Thus, it is important to understand what is not considered through these measurements, because these metrics are not insignificant: they serve as the basis for the goals that Fitbit has set for self-trackers. This is important because the particular view of the body by Fitbit is ideologically charged, but this is difficult to discern, as the underlying values seem self-explanatory. As the discussion in Chapter 1 of the book by Cederström and Spicer (2015, 3) pointed out, the authors argue that wellness has turned into an ideology, but that this is obscured because the view that wellness perpetuates seems too sensible to be seen as

ideological. Obviously, everyone shares Fitbit's desire to have a healthy body that can grow old, experience little stress and sleep well. As these values seem too self-evident to even question, it may seem that their ideological implications can be dismissed. However, it should not be forgotten that this view takes a stance in considering what people are like, what they look like, and what they desire.

These ideological implications underline the importance of the notion of neoliberalism, as discussed in Chapter 1. While neoliberalism is a term that is often used without engaging fully with it, as an umbrella term that covers many aspects, it is indeed useful to consider the way that the Fitbit device addresses its user. As Brown (2015, 31) writes, neoliberal reason frames every aspect of life in terms of the market – devotion to a specific element of one's life is reframed as an investment that can produce the wanted outcome. Through the element of reduction, such as the Active Zone Minutes discussed in Chapter 4, movement is simplified, and therefore the goal of earning a specific number of minutes per day could be introduced. Thus, the quantification of practices makes for a limited perspective on this practice and opens the floor to set goals that comply with these data. These goals then allow the user to engage with their health in a controlled way, which frames the body as a project that can be improved through reaching goals. It is important to note that neoliberal reason would frame time and dedication as investments in reaching the Fitbit-goals, but would not consider that there might be other factors influencing the position of the user in relation to their goals. For instance, as the discussion in Chapter 1 on the text by Esmonde and Jette (2020) pointed out, not every type of body can inhabit the suggested Fitbit subject position. It might be more difficult for lower-class employees who do not have spare time to exercise to reach their goals, or for women who do not feel safe exercising in unsafe neighborhoods at night, or for people who are physically unable to reach the suggested number of steps (Esmonde and Jette 2020, 35). This means that factors such as class, gender, and disability influence whether the Fitbit position is reachable to occupy.

The neoliberal idea that the user is personally responsible for their improvement is also underscored by Fitbit. As Ruckenstein's (2014) perspective on the visibility of data highlights, when the user is presented with information about their bodies, it becomes impossible for them not to engage with it. The visibility of data thus necessitates action from the user. This reframes health as a highly personal concern, as it is up to the user to choose how to engage with this new information. In the same vein as the Nutriscore example, the Fitbit reframes health as personal choices that individuals make every day. This emphasizes the concern that Cederström and Spicer (2015, 4) express about the moral implications of viewing wellness as an ideology: it can turn nonfulfillment to this ideology into a stigma. When the Fitbit makes health a highly personal concern, in turn, the frame that considers not contributing to a better physique as a personal failure is not far away. Would a person that chooses all products labeled

E be considered a bad person for making bad (nutritional) choices? Would a Fitbit user receiving a high Daily Readiness Score but who chooses to not engage in a high-intensity workout be considered lazy?

These ethical considerations also highlight the implications of assessing bodies based on what a particular type of body is able to do. As the analysis in Chapter 4 showed, the Fitbit works as a device that normalizes certain assumptions, such as the idea that the user can (and wishes to) work out every day or that certain goals that are entered automatically are the desired and normal choice. Therefore, it can be understood through the lens of compulsory able-bodiedness (McRuer 2006), which leaves the individual no choice, but ultimately frames the able-bodied position as the better position. Relating this to the beforementioned ethical implications of the Fitbit, the inability of specific users to comply with the norms and goals decided on by Fitbit could readily be framed as a moral failure.

As there are considerable implications for the Fitbit user, it is vital that future research will analyze this position from more perspectives than was possible in this thesis. A limitation in this thesis that could be addressed by further analyses, is the investigation of the experiences of actual Fitbit users. I chose to carry out a dispositif analysis, to shed light on how the relation between the Charge 5, the data showed on the device (and the app) and the user is constructed. I gained insight into the workings of these three elements by carrying out a discursive interface analysis, investigating the technology, and carrying out a film analysis of the ideal user presented in the Fitbit commercials. I chose to focus on advertisements as I considered these key players in the construction of normality by showing a particular understanding of what the Fitbit user is and does. However, this means that the analysis did not cover the real-life experiences of Fitbit users. These could be very relevant to include in future research because these experiences give insight into how users interpret their bodies themselves, how they feel the Fitbit guides them, or how they might have come up with alternate ways of self-tracking. These experiences will thus help to gain an understanding of the perspective of the Fitbit users instead of the perspective of the company itself.

What Would an all-Fitbit Future Look Like?

This thesis showed that critical consideration of how technology shapes an understanding of the body is necessary. Technologies have become an integral part of exercising and work not only to reframe how this practice is understood, but thereby also shape the user's understanding of their own body. This view is ideologically charged because it contributes to an understanding of what healthy and desirable bodies are like. This has consequences for how a broader sentiment about what bodies are and can do is constructed. If there are more and more people in society that are being tracked and judged, there is a responsibility for a critical evaluation of how these users are positioned in the world by these technologies. What would

it mean if everybody was judged with assumptions about a particular type of body? Would it make sense to ascribe to the idea that all bodies can work out every day, as the Daily Readiness Score does? What would it mean if all bodies were assessed like this?

In other words, as Peter-Paul Verbeek (2005, 212) argues, understanding that artifacts play a mediating role in understanding the world and guiding behavior means that they also shape moral considerations. This means that by designing these artifacts, claims about moral behavior are embedded in them. This does not mean that technologies determine how users perceive the world ethically, but they do play a role in shaping this view. As tracking technologies are created with a particular aim, with the promise of providing a reality where the body can be more easily optimized, they pave the way for a particular imagined future. If in this future, bodies are assessed based on a normate position that in actuality very few people embody, it might result in conflating the non-conformity of this position with moral failure. This highlights the importance of critically analyzing what claims technologies make about normality. Because, as I said before, people have the responsibility to rethink technology, as with it, the future it imagines can be rethought. This is vital, as we should keep asking ourselves: what would an all-Fitbit future look like? And, more importantly, is this a desirable future?

BIBLIOGRAPHY

Ajana, Btihaj. 2017. "Digital Health and the Biopolitics of the Quantified Self." *Digital Health* 3 (January): 1–18.

Austin, John. 1962. *How to Do Things with Words*. Oxford: Oxford University Press.

Adams, Rachel. 2017. "Afterword I: Disability in Disability Media Studies." In *Disability Media Studies*, edited by Elizabeth Ellcessor and Bill Kirkpatrick, 357-364. New York: New York University Press.

Barnes, Colin. 1992. *Disabling Imagery and the Media: An Exploration of the Principles for Media Representations of Disabled People*. Krumlin, Halifax: Ryburn Publishing.

Bordwell, David, Kristin Thompson, and Jeff Smith. 2017. *Film Art: An Introduction*. Eleventh edition. New York, NY: McGraw-Hill Education.

Bouyeure, Lisa. 2019. "Wie jonge gebruikers van TikTok te gelde wil maken,moet dat niet proberen met iets dat voor hen bedacht lijkt." *De Volkskrant,* October 4, 2019. https://www.volkskrant.nl/columns-opinie/wie-jonge-gebruikers-van-tiktok-te-gelde-wil-maken-moet-dat-niet-proberen-met-iets-dat-voor-hen-bedacht-lijkt~b01330f4/

Brown, Wendy. 2015. *Undoing the Demos: Neoliberalism's Stealth Revolution*. New York: Zone Books.

Butler, Judith. 1999. *Gender Trouble: Tenth Anniversary Edition*. New York: Routledge.

Campbell, Fiona Kumari. 2009. *Contours of Ableism: The Production of Disability and Abledness*. New York: Palgrave Macmillan.

———. 2015. "Ability." In *Keywords for Disability Studies,* edited by Rachel Adams, Benjamin Reiss, and David Serlin, 12-14. New York: NYU Press.

Cederström, Carl, and André Spicer. 2015. *The Wellness Syndrome*. Malden, MA: Polity Press.

Crawford, Kate, Jessa Lingel, and Tero Karppi. 2015. "Our Metrics, Ourselves: A Hundred Years of Self-Tracking from the Weight Scale to the Wrist Wearable Device." *European Journal of Cultural Studies* 18 (4–5): 479–96.

Davis, Lennard. 1995. *Enforcing Normalcy: Disability, Deafness, and the Body*. London: Verso.

———. 2013. *The Disability Studies Reader*. 4th ed. New York: Routledge.

———. 2017. "The Ghettoization of Disability: Paradoxes of Visibility and Invisibility in Cinema." In *Culture - Theory - Disability: Encounters between Disability Studies and Cultural Studies*. Disability Studies : Body - Power - Difference, volume 10, edited by, Hanjo Berressem, Moritz Ingwersen, and Anne Waldschmidt, 39-50. Bielefeld: Transcript.

DC Rainmaker. 2021. "Fitbit Daily Readiness Score Tested: How it actually works!" YouTube Video. 11:08. https://www.youtube.com/watch?v=Bk-FTSrjOek&t

Ellcessor, Elizabeth, Mack Hagood, and Bill Kirkpatrick. 2017. "Introduction: Toward a Disability Media Studies." In *Disability Media Studies*, edited by Elizabeth Ellcessor and Bill Kirkpatrick, 1-30. New York: New York University Press.

Ellcessor, Elizabeth, and Bill Kirkpatrick. 2019. "Studying Disability for a Better Cinema and Media Studies." *JCMS: Journal of Cinema and Media Studies* 58 (4): 139–44.

Elman, Julie Passanante. 2018. ""Find Your Fit": Wearable Technology and the Cultural Politics of Disability." *New Media & Society* 20 (10): 3760–77.

Esmonde, Katelyn, and Shannon Jette. 2020. "Assembling the "Fitbit Subject": A Foucauldian-Sociomaterialist Examination of Social Class, Gender and Self-Surveillance on Fitbit Community Message Boards." *Health* 24 (3): 299–314.

Fandom. 2022. "Lyutsifer Safin." James Bond Wiki. Accessed on March 13, 2022. https://jamesbond.fandom.com/wiki/Lyutsifer_Safin

Fitbit 2022a. "Active Zone Minutes." Technology. Accessed April 10 2022. https://www.fitbit.com/global/nl/technology/active-zone-minutes

Fitbit. 2022b. "Charge 5" Products. Accessed April 11, 2022. https://www.fitbit.com/global/nl/products/trackers/charge5?sku=421BKBK

Fitbit. 2022c. "Daily Readiness Score" Technology. Accessed April 9, 2022. https://www.fitbit.com/global/us/technology/daily-readiness-score

Fitbit. 2022d. "Home." Accessed January 24th, 2022. https://www.fitbit.com/global/nl/home

Fitbit. 2022e. "Products." Accessed April 14, 2022. https://www.fitbit.com/global/nl/products

Fitbit. 2022f. "Stress Management." Technology. Accessed April 10, 2022. https://www.fitbit.com/global/us/technology/stress

Fitbit. 2022g. "Unlock the power of PurePulse® Heart Rate." Technology. Accessed on May 9, 2022. https://www.fitbit.com/global/us/technology/heart-rate

Fitbit Community. 2021. "Heart Rate Zone Math." Last modified, December 13, 2021. https://community.fitbit.com/t5/Charge-5/Heart-Rate-Zone-math/td-p/5028335

Fitbit Help. 2022a. "How do I track and manage stress with my Fitbit device?" Accessed on May 9, 2022. https://help.fitbit.com/articles/en_US/Help_article/2077.htm

Fitbit Help. 2022b. "How do I track heart rate with my Fitbit device?" Accessed on May 9, 2022.https://help.fitbit.com/articles/en_US/Help_article/1565.htm?Highlight=infrared%20sensors

Fitbit Help. 2022c. "What's my Daily Readiness Score in the Fitbit App?" Accessed on May 8, 2022.

Fitbit Help. 2022d. "What's sleep score in the Fitbit app?" Accessed on May 9, 2022. https://help.fitbit.com/articles/en_US/Help_article/2439.htm

Fitbit Staff. 2021. "Does the Definition of Strong Need Rethinking?" News. Last modified, December 2, 2021. https://blog.fitbit.com/rethinking-strong/

Fitbit. 2020. "Make every minute count with Active Zone Minutes." YouTube Video. 01:27. https://www.youtube.com/watch?v=UfRpji0POco

Fitbit. 2021. "How to Use Daily Readiness Score." YouTube Video. 0:59. https://www.youtube.com/watch?v=6rWc7gxgu6Y&ab_channel=Fitbit

Fotopoulou, Aristea, and Kate O'Riordan. 2017. 'Training to Self-Care: Fitness Tracking, Biopedagogy and the Healthy Consumer'. *Health Sociology Review* 26 (1): 54–68.

Foucault, Michel. (1975) 1995. *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan. 2nd ed. New York, NY: Random House Inc.

Foucault, Michel. (1976) 2018. *Geschiedenis van de Seksualiteit*. Translated by Jeanne Holierhoek. Amsterdam: Boom.

Garland-Thomson, Rosemarie. 1997. *Extraordinary Bodies: Figuring Physical Disability in American Culture and Literature*. New York: Columbia University Press.

Gaudet, Loren. 2021. "The Piety of Optimization: The Rhetoric of Health Awareness in ParticipACTION and Fitbit." *Health* (February): 1-17.

Goodley, Dan. 2011. *Disability Studies: An Interdisciplinary Introduction*. Los Angeles, Calif ; London: SAGE.

Goodley, Dan, Bill Hughes, and Lennard Davis, eds. 2012. *Disability and Social Theory: New Developments and Directions*. 1st. edition. Basingstoke: Palgrave Macmillan.

Hagood, Mack. 2017. "Disability and Biomediation: Tinnitus as Phantom Disability." In *Disability Media Studies*, edited by Elizabeth Ellcessor and Bill Kirkpatrick, 311-329. New York: New York University Press.

International Paralympic Committee. 2020. "#NotAWitch calls out 'The Witches' movie for portrayal of disability." News. Last Modified November 03, 2020. https://www.paralympic.org/news/notawitch-calls-out-witches-movie-portrayal-disability

John, Allen St. 2021. "Which Fitbit Fitness Tracker or Smartwatch Is the Right Fit for You?" *Consumer Reports*, December 9, 2021. https://www.consumerreports.org/which-fitbit-fitness-tracker-or-smartwatch-is-the-right-fit-for-you-a8504243192/

Kafer, Alison. 2013. *Feminist, Queer, Crip*. Bloomington, Indiana: Indiana University Press.

Kessler, Frank and Sabine Lenk. 2019. ""*Rendre reel aux yeux du public"*: Stage Craft, Film Tricks, and the *Féerie*" In *Media Archaeology and Intermedial Performance: Deep Time of the Theatre*, edited by Nele Wynants, 83-98. Cham: Palgrave Macmillan.

Kuiper, Rik. 2022. "Voorzitter spoedeisende hulpartsen: opvallend veel kinderen met

brandwonden na TikTok-challenge." *De Volkskrant,* January 1, 2022.
https://www.volkskrant.nl/nieuws-achtergrond/voorzitter-spoedeisende-
hulpartsen-opvallend-veel-kinderen-met-brandwonden-na-tiktok-
challenge~ba025452/

Lister, Martin, Jon Dovey, Seth Giddings, Iain Grant, and Kieran Kelly, eds. 2009. *New Media: A Critical Introduction*. 2nd ed. Milton Park, Abingdon, Oxon ; New York, N.Y: Routledge.

Lupton, Deborah. 2012. "M-Health and Health Promotion: The Digital Cyborg and Surveillance Society." *Social Theory & Health* 10 (3): 229–44.

Lupton, Deborah. 2016. *The Quantified Self*. Oxford, UK: Polity Press.

Manovich, Lev. 2006. "The Poetics of Augmented Space." *Visual Communication* 5 (2): 219-240.

Matthews, Nicole. 2022. "Commodifying Diversity in the Marketing of a Digital Hearing Start-Up." *Television & New Media* 23 (3): 312–28.

McEwen, Karen Dewart. 2018. "Self-Tracking Practices and Digital (Re)Productive Labour." *Philosophy & Technology* 31 (2): 235–51.

McRuer, Robert. 2006. *Crip Theory: Cultural Signs of Queerness and Disability*. Cultural Front. New York: New York University Press.

Millington, Brad. 2014. "Smartphone Apps and the Mobile Privatization of Health and Fitness." *Critical Studies in Media Communication* 31 (5): 479–93.

Moore, Phoebe. 2018. *The Quantified Self in Precarity: Work, Technology and What Counts*. Routledge Advances in Sociology. New York: Routledge.

Moore, Phoebe, and Andrew Robinson. 2016. "The Quantified Self: What Counts in the Neoliberal Workplace." *New Media & Society* 18 (11): 2774–92.

Oinas-Kukkonen, Harri, and Marja Harjumaa. 2009. "Persuasive Systems Design: Key Issues, Process Model, and System Features." *Communications of the Association for Information Systems* 24 (28): 486-500.

O'Neil, Cathy. 2016. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. New York: Crown.

O'Reilly, Tim. 2007. "What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software." *COMMUNICATIONS & STRATEGIES* 1 (65): 17–37.

Park, James. 2021. "Fitbit Joins Google." *Fitbit News* (blog). January 14, 2021. https://blog.fitbit.com/2021-update/

Parente, André, and Victa de Carvalho. 2009. "Cinema as Dispositif: Between Cinema and Contemporary Art." *Cinémas* 19 (1): 37–55.

Robins, Kevin. 1996. *Into the Image: Culture and Politics in the Field of Vision*. London: Routledge.

Rosenberger, Robert, and Peter-Paul Verbeek. 2015. "A Field Guide to Postphenomenology."
In *Postphenomenological Investigations: Essays on Human-Technology Relations*,
edited by Robert Rosenberger and Peter-Paul Verbeek, 9-42. Lanham: Lexington
Books.

Ruckenstein, Minna. 2014. "Visualized and Interacted Life: Personal Analytics and
Engagements with Data Doubles." *Societies* 4 (1): 68–84.

Stables, James. 2020. "Fitbit Active Zone Minutes explained: How it works and compatible
devices." Last modified May 11, 2020. https://www.wareable.com/fitbit/active-zone-
minutes-explained-7968

Stanfill, Mel. 2015. "The Interface as Discourse: The Production of Norms through Web
Design." *New Media & Society* 17 (7): 1059–1074.

Swan, Melanie. 2012. "Sensor Mania! The Internet of Things, Wearable Computing,
Objective Metrics, and the Quantified Self 2.0." *Journal of Sensor and Actuator
Networks* 1 (3): 217–53.

Thuisarts. 2022. "Ik wil beter omgaan met stress." Last modified, April 7, 2022.
https://www.thuisarts.nl/stress/ik-wil-beter-omgaan-met-stress

Vaahtera, Elina. 2012. 'Compulsory Able-Bodiedness and the Stigmatised Forms of
Nondisability'. *Labda Nordica* 17 (1–2): 77–101.

Van Den Eede, Yoni. 2015. "Tracing the Tracker: A Postphenomenological Inquiry into Self
Tracking Technologies." In *Postphenomenological Investigations: Essays on
Human-Technology Relations*, edited by Robert Rosenberger and Peter-Paul
Verbeek, 143-158. Lanham: Lexington Books.

Van Dijck, José. 2014. "Datafication, Dataism and Dataveillance: Big Data between Scientific
Paradigm and Ideology." *Surveillance & Society* 12 (2): 197–208.

Verbeek, Peter-Paul. 2005. *What Things Do: Philosophical Reflections on Technology,
Agency, and Design*. University Park, Pa: Pennsylvania State University Press.

Verhagen, Laurens. 2019. "Wat is het geheim achter het succesvolste social media-bedrijf
van het moment: TikTok?" *De Volkskrant*, December 6, 2019.
https://www.volkskrant.nl/cultuur-media/wat-is-het-geheim-achter-het-
succesvolste-social-media-bedrijf-van-het-moment-tiktok~b5346b0e/

Verhoeff, Nanna. 2012. *Mobile Screens: The Visual Regime of Navigation*. MediaMatters.
Amsterdam: Amsterdam University Press.

Verhoeff, Nanna and Karin van Es. 2018. "Dispositif Analysis: How to do a Concept-Driven
Dispositif Analysis." Utrecht: Utrecht University.

Watson, Nick, Alan Roulstone, and Carol Thomas, eds. 2012. *Routledge Handbook of
Disability Studies*. New York: Routledge.

Wearable Whisperer. 2021. "Fitbit Charge 5 ECG App – How to Use (Step-by-Step)"

YouTube Video. 12:24. https://www.youtube.com/watch?v=Epx5wK8sOOs&ab_channel=WearableWhisperer

Commercials

Fitbit Europe. 2021. "Find out What's Strong with You | Fitbit Charge 5." YouTube video. November 4, 2021. 0:20. https://youtu.be/LDm3ukTty-g

Fitbit Europe. 2021. "What's Strong with Me? | Fitbit." YouTube video. November 4, 2021. 0:30. https://youtu.be/m3C17KDdHwE

Fitbit Europe. 2021. "Find What's Strong with You – Fitbit." YouTube video. November 19, 2021. 1:30. https://youtu.be/17Nu1RixPHU