You want a hot body? You want a Bugatti? You better work (out): FitBit, neoliberalism, and the thin ideal

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Abstract

The Fitbit manifests an ideology of healthism that prioritizes the pursuit of physical health above all else. The device's design, use, and underlying epistemic frameworks transform exercise into data, labour, and knowledge, respectively. Using an accelerometer and green LED lights, the Fitbit translates the movements of human bodies into data. 'Exercise' is thus limited to what can be mechanically registered and algorithmically sorted into a pre-set category. This freely generated user data is aggregated into profitable datasets that Fitbit can sell to advertisers. Fitbit's partnerships with insurers or employers further exploit workers by penalizing non-participants and users who generate undesirable data. Finally, the practice of activity tracking frames exercise as a health intervention and restricts the possibility of being absent from one's body. Furthermore, Fitbit understands fitness through the lens of weight management, where the fit body is a conspicuously self-disciplined (read: thin) body. By framing fitness as a choice, individuals are held personally responsible for health outcomes and being 'unfit' reflects a physical and moral failure. The insights produced by Fitbit thus restrain and shape users' self-knowledge, perpetuating a cultural norm that understands 'fit' bodies as healthy, productive, and morally good.

Keywords: fitness culture, neoliberalism, political economy, self-tracking

Introduction

The rise of wearable activity trackers in North America signals a growing interest in the measurement and management of the self. Digital technologies like the Fitbit have extended the reach of self-tracking into the realm of “lively data,” data about embodied human life that has a life of its own: it is subject to dynamic processes of collection, circulation, and analysis, influencing (and even restructuring) how we understand, navigate, and experience everyday life (Lupton, 2016, p. 5). The Fitbit interprets this data through the lens of ‘fitness,’ reinforcing a culture that conflates fitness and productivity and positions fit bodies as naturally desirable. A figurative concept, being fit is dually connoted with suitability and with physical and mental health (“Fit,” n.d.). Modern preoccupations with fitness capture this double-meaning: the rhetoric of self-optimization equates physical improvements with increased worth as a consumer, worker, and citizen. Marketing of the Fitbit and associated wellness programs link the device to healthier living, yet reviews of wearable technology usage are mixed when it comes to impact on health outcomes (Goode et al., 2016; Kerner et al., 2019; Nasland et al., 2016; Pope et al., 2019). Nonetheless, the Fitbit frames health as a personal responsibility, attributing a secondary moral component to fitness: to be fit is a matter of personal choice. The ‘unfit,’ implicitly coded as fat, body is thus objectionable, a presumed symptom of both poor health and poor self-discipline: fatness is a physical and moral failure (Elliott, 2007, p. 135). As a consequence, the fat body is marginalized as that of a “lesser’ citizen” (Elliott, 2007, p. 139).

Arguing that the Fitbit exemplifies the damages of society’s preoccupation with fitness and personal health, I will examine how Fitbit’s design, use, and underlying epistemic frameworks transform exercise into data, labour, and knowledge, respectively. I will be referring to the device, the app and online portal, and the corporation interchangeably as ‘Fitbit,’ with the understanding that these various components collectively function as a complex assemblage.

Exercise as Data

The practice of self-tracking precedes digital technologies: food diaries, records of weight over time, or timing workouts were all recognized means of accessing greater knowledge of the self through knowledge of one’s physical body (Lupton, 2016). Technologies like the Fitbit alter the scope of what can be tracked. These devices can be worn day and night, and can measure and record step count, distance travelled, number of calories burned, number of active minutes, heart rate, weight, location, and even the quantity and quality of users’ sleep. Crucially, Fitbit “collects data to estimate [...] metrics” (“Fitbit Privacy Policy,” 2018): to borrow Bowker’s (2005) terminology, these metrics represent data that has been “cooked” (p. 184). In other words, the initial data collected by the device must be acted upon to generate meaningful interpretations.

To begin, therefore, the wearer's body must be 'read' by the device. The Fitbit utilizes a combination of an accelerometer and green LED lights. The user's movement through space informs the corresponding movement of the device itself: the Fitbit then uses an internal accelerometer to sense changes in velocity along the three planes of movement. This acceleration data must then be matched with a pattern of movement that represents a specific physical activity, a process of algorithmically "whittling down thousands of possible activities to one, singular exercise" ("Our Technology," n.d.). Ironically, although Fitbit acknowledges the breadth of possible activities, the device only registers up to seven exercises: walking, running, elliptical, outdoor bike, swimming, sports, and aerobic workouts ("SmartTrack," n.d.). Notably, users have found that the broader categories of sports and aerobic workouts are recognized only when the activity involves continuous movement and consistent intensity-level (NellyG, 2018). 'Exercise,' therefore, is only understood as such when it is legible to an accelerometer.

The second primary component of the Fitbit's technology is a photoplethysmography (PPG) system, or optical heart-rate sensor: light-sensitive photodiodes that are paired with green LED lights shining onto the wearer's skin. As arteries naturally expand and contract, the intensity of green light absorption by the blood varies; the device tracks these changes in light absorption, using them as proxies for changes in blood flow ("PurePulse," n.d.). Through data processing, light absorption is translated into heartbeats per minute, or heart rate. Once again, algorithms are used to find patterns and identify resting versus active heart rates. Increased blood flow, suggesting that the user is engaged in physical activity, can be categorized into one of three heart rate zones: Fat Burn, Cardio, and Peak. These zones represent levels of calorie expenditure. Fitbit's pulse technology promises to more accurately measure how many calories are burned, in order to compensate for activity that doesn't register as 'steps' ("PurePulse," n.d.). Fitbit also assigns wearers a cardio fitness level based on their heart rate: "see how fit you are and gauge oxygen consumption without a strenuous VO2 Max test" ("PurePulse," n.d.). VO2 Max, which refers to the maximum amount of oxygen one can utilize during intense exercise, is a common assessment of cardiovascular fitness. Whereas VO2 Max tests are prohibitive, requiring expensive equipment, the Fitbit is framed here as democratizing access to insights about fitness (Kokkinos & Narayan, 2019, p. 193). On the other hand, instead of estimating oxygen consumption through an incremental exercise test, this measure is now an extrapolation based on a PPG system.

At its very core, the Fitbit doesn't track *exercise*: it tracks the movements of an accelerometer and the absorption of green light by the user's blood as proxies for exercise. It is only through processing that these data are translated into exercise types and intensity levels. As a consequence, wearers are reliant on Fitbit's algorithms to generate meaningful conclusions about their data. Furthermore, those meanings are restricted to a set of predetermined outcomes. Data about heterogenous bodies are mapped onto standard categories: seven exercise types, three intensity levels, etc. This kind of analysis raises questions about what activities – and what bodies – are not legible to the device. Elman (2018)

points out that in spite of Fitbit's enthusiastic marketing to wheelchair users, the device exemplifies ableism by registering *all* movement as 'steps' (p. 3762). The experience of the disabled body is thus effaced. Not only is movement standardized according to what Fitbit registers as activity, but measures like step count demonstrate a normative assumption about the capacities of all Fitbit users.

Exercise as Labour

Data standardization benefits Fitbit, as it enables the aggregation and sorting of individual user profiles into large-scale, saleable datasets. Fitbit's decisions about what data to collect – and the standard form it takes – reflect both what the company believes customers want to track, and what kinds of data the company wants to see generated (Till, 2014, p. 454). Critically, Fitbit-tracked exercise produces data from which value can be extracted. Having configured exercise as data-producing, users are positioned to perform “free labour” (Terranova, 2013): users generate a valuable commodity – their data – that is appropriated by a corporation to accumulate privatized wealth. This is not an argument that exercise is inherently labour; rather, exercise *becomes* labour because Fitbit treats it as such, exploiting users' activities to generate surplus value (Till, 2014, p. 452). Although self-tracked exercise occurs during a purported leisure activity, and not necessarily on a site of formal employment, the self-tracker is implicated in a digital assembly line, connected with the “algorithmic means of production” that allows for data to be captured in commodity form (McEwen, 2018, p. 243).

Within the framework of free labour, consumption and production, or leisure and labour, become inseparable. User engagement with a technology is “translated into excess productive activities that are pleasurably embraced and [...] shamelessly exploited” (Terranova, 2013, p. 37). In the case of the Fitbit, this exploitation is actually twofold, since users must also purchase the device. Users effectively *pay* to generate data that will be refined into customer profiles which Fitbit can sell to advertisers, who in turn market more products to users (Till, 2014, p. 452). Fitbit's Privacy Policy doesn't explicitly refer to selling data, but the corporation may “transfer,” “share,” or “disclose” information with third parties who provide services including data analysis, marketing, and research; these data flows take place under the umbrella of aggregated or de-identified “non-personal” information (“Fitbit Privacy Policy,” 2018). This framing merely effaces the consequences of high-level clustering and micro-targeting activities. While a single user's raw data has minimal exchange value, it becomes profitable when it is part of a larger project of data collection and analysis (McEwen, 2018, p. 242): aggregated datasets can be used by advertising companies to segment populations and target specific demographics. These profiles remain opaque to users themselves, but they have personal consequences: by tailoring the information consumers see to the profile they fit, advertisers ‘nudge’ consumers toward specific behaviours and outcomes. The assumptions and

inferences implicit in a profile reproduce a specific understanding of a person, with the increasing potential to impact their very life chances.

Furthermore, while Fitbit claims to *share* data, not sell it, this is a question of semantics: a financial arrangement with a business partner that relies on the data being ‘shared’ may not technically be a sale of data, but Fitbit is profiting nonetheless. Data transfer can also occur through corporate takeovers (Till, 2014, p. 449). In November 2019, Google announced that it was entering into an acquisition agreement with Fitbit (Osterloh, 2019). By purchasing the Fitbit company, Google has effectively purchased the company’s data as well. Given the company’s history of consumer profiling and micro-targeting, the purchase raises concerns about what the advertising giant will do with this vital data.

Opting out of the free labour model is only possible through wholesale rejection of the Fitbit. To access their metrics, users are reliant on Fitbit’s opaque analytics, which process raw data through proprietary algorithms. This is paired with a system requirement to sync the device with its paired app or online account. Users are thus locked into a relationship with the company, assuring Fitbit continued access to their data.

The asymmetrical power relation between Fitbit and its users is replicated in the relationship between users and other entities who instrumentalize the device and its data, such as insurers and employers. Elman (2018) notes that Fitbit devices are consumer devices, and thus not covered by legislation governing health care. Nonetheless, the company’s voluntary compliance with America’s Health Insurance Portability and Accountability Act has enabled the device’s smooth integration with insurance programs (p. 3767). Companies like Manulife Financial (and its American division, John Hancock) have introduced interactive life insurance programs like Vitality where policyholders earn reward points or lower insurance premiums by meeting weekly health goals. One tagline reads, “Live healthy. Earn rewards” (“Manulife Vitality,” n.d.). Notably, instead of relying purely on self-reported metrics or questionnaires, these insurance regimes are integrated with wearable technology, often including offers on discounted or free Apple Watches or Fitbits (“Vitality Program,” n.d.). While policyholders are not required to use an activity tracker to gain points, opting out will presumably restrict which rewards customers have access to.

Programs like Vitality are marketed as helping the policyholder to lead a longer and healthier life, but the benefit for the insurance provider is obvious: a longer-living customer is a customer who has to continue paying into their life insurance. As Brooks Tingle, President and CEO of John Hancock Insurance, has said, “the longer people live, the more money we make. If we can collectively help our customers live just a bit longer, it’s quite advantageous for us as a company” (Sullivan, 2018, para. 12). The fitness-conscious, self-tracker thus becomes a more profitable customer over time, while non-participants or ‘unhealthy’ customers will have to pay higher insurance premiums.

Incentivized wellness programs can also be found in the workplace, where employers aspire to increase their profit margins. Under the assumption that healthier employees will take less time off and be more productive, employers offer deals on self-tracking devices, or

enrol employees in corporate insurance regimes that financially reward (or penalize) their activities (Charitsis, 2019, p. 141). In the United States, under the Patient Protection and Affordable Care Act (2010), participation in employee wellness programs is considered voluntary as long as employee incentives do not exceed 30% of the employee's annual insurance premium. In practice, this can average almost \$2000 USD (Abelson, 2016). By enmeshing the Fitbit in workplace culture, or linking device usage to financial motivators, opting in is effectively compulsory.

The use of activity trackers in corporate wellness or insurance programs is inherently discriminatory. Non-participants and participants with poor metrics are penalized through restrictions on access to affordable health care or employment incentives (Charitsis, 2019). The inability to generate desirable data thus compounds existing social inequalities. Charitsis (2019) states, "self-tracking becomes a weapon that discriminates between people who can produce good data in their everyday activities and those who cannot" (p. 142). Higher socioeconomic status and privilege is likely to produce superior health data in the first place, while conditions like chronic illness, lower economic status, or working a precarious job with long shifts, will engender 'bad' data.

Fitbit usage implicitly positions users to generate data, with wellness regimes placing further pressure on workers to produce *good* data out of financial necessity. As a consequence, exercise is reconstituted as labour, which is exploited by corporations to generate capital. Fitbit harnesses users' activity to produce valuable datasets, insurers anticipate higher profits through longer-living customers and higher premiums for those presumed 'unfit,' and employers introduce activity tracking out of a belief that a fitter worker is a more productive, more profitable worker.

Exercise as Knowledge

The rhetoric of productivity implicitly aligns self-tracking with commercial imperatives, more so than other commercialized modes of leisure (Till, 2014, p. 452). The Fitbit reinforces an understanding of fitness that ties fitness to profitability, whether as an unpaid data generator or a waged worker. As a site of knowledge formation, the Fitbit informs users' understandings of exercise and of the self.

Through the mediation of a Fitbit, exercise is reconceptualized as a preventative measure to combat the threat of ill health. As Adams (2019) argues, this limits the meanings that people can find in their own bodies. Where moments of pain or dysfunction are what generally bring our bodies into our consciousness, activity tracking eliminates the possibility of being absent from our bodies, producing an increasing "*dys*-appearance" of the body (Adams, 2019, p. 120). By extending sensitivity to embodied experience beyond moments of dysfunction, users instead view their bodies as perpetually at risk, not necessarily as ill but as holding the potential to be ill (Adams, 2019, p. 121). All bodies, able-bodied or disabled, are

newly positioned as precarious – and this precarity is exploited by companies like Fitbit, who frame wellness as a process of perpetual convalescence (Elman, 2018, p. 3770). This is the logic that underpins corporate wellness programs, which anticipate ‘unfit’ workers to be less productive due to heightened risk of illness.

A fundamental component of the Fitbit’s design also informs how we conceptualize ‘exercise’: the device does not differentiate between deliberate exercise and mundane physical movement, so *all* movement is now constituted as exercise. According to Fitbit’s marketing materials, “every little workout counts – from a lunchtime stroll to your daily bike commute” (“SmartTrack,” n.d.). In this framing, walking during one’s lunch break or bicycling to work cannot be considered leisure activities or simple means of transporting the body from one place to another – they are *workouts*. No longer a mundane, background activity, walking becomes a health intervention (Adams, 2019, p. 121). Physical activity, so long as it is recognized by the device, must have meaning – albeit a limited one, constrained by categories like exercise type and intensity level. This undermines the possibility for movement to be unconscious or banal: walking, oftentimes, is nothing more or less than a “way of moving that makes possible many other aspects of daily life” (Adams, 2019, p. 118). Through considering any and all tracked and registered physical motion as exercise, the Fitbit brings the body constantly, unavoidably, to the fore. If the wearer cannot be *away from* their body, their relationship to the world and the meanings they find therein are reduced to this health-oriented subjectivity: their world “shrinks” (Adams, 2019, p. 120). Exercise – *deliberate* exercise – is similarly reduced. The rhetoric of self-maintenance undermines other value we might find in exercise, like social engagement, play, or pleasure.

Embodied experience becomes mediated by an external device. The resulting self-knowledge is filtered through Fitbit’s data analytics, which reinforce normativity and situate individual results within broader demographic trends. In contrast to analogue self-tracking, Fitbit defines insights about the individual user in comparison to other members of the same demographic. The Cardio Fitness Score, for example, assigns a value to the user’s fitness level based on how it compares to users of the same age and gender (“PurePulse,” n.d.). This mediation is not purely epistemic. If, for example, a user sets a goal weight for weight loss or gain, Fitbit assigns them a corresponding number of calories to consume or expend. This practice moves the Fitbit from monitoring to regulating: the device is dictating what the user should do with their body.

Even on an abstract level, the Fitbit’s design implies a particular understanding of what it means to be fit – and how to get there. Exercise often entails the shaping and changing of the body, producing “objectified embodiments of the labour exerted” (Till, 2014, p. 451). Yet the Fitbit is designed to promote a very specific embodiment; in defining fitness in relation to weight, it produces new body routines and regimens that are based on the pursuit of leanness (Fox, 2017, p. 141). Fitbit promises that the device’s improved calorie-burn tracking gives users “the right credit for [their] effort” (“PurePulse,” n.d.). This begs the question, why is tracking calorie consumption a reward? By linking exercise to calorie expenditure, Fitbit naturalizes the

link between physical activity and diet culture. How much the user exercises determines how many calories they have burned off, and thus how many calories they are now permitted to eat.

Cultural norms around weight provide a philosophy that undergirds the Fitbit technology: public health initiatives promote norms like the fatphobia inherent to ‘obesity epidemic’ rhetoric, while the fashion and entertainment industries uphold standards for desirable versus deficient bodies (Sanders, 2017). A banner running along the footer of the Fitbit website reads: “Get the skinny on all things Fitbit” (“Fitbit,” n.d.). The device’s marketing assumes that the user’s goal is to be thin, reflecting this societal narrative, conflating figurative notions of ‘fitness’ with the appearance of leanness.

The Western preoccupation with weight loss can be traced back to the nineteenth century, rising to prominence over debates around class, gender, and race (Vester, 2010). A “morality of conspicuous consumption” raised concerns that weight gain among the upwardly mobile revealed their sudden break from frugality and suggested a lack of self-discipline (Vester, 2010, p. 40). By the mid-nineteenth century, there were also concerns that sedentary life was making men too soft and feminine: their bodies needed to become more muscular (Vester, 2010, p. 41). Weight loss movements were thus initially targeted at white, middle-class men. Early women’s rights activists took up this logic of self-control and thinness, endorsing the transformation of the (white) female body to demand “access to formerly male-connoted privilege” through male-connoted leanness (Vester, 2010, p. 52). While this represented a resistance to the Victorian ideal of toyish femininity, weight management was still framed as predominantly white and wealthy, excluding marginalized social groups including the working class and people of colour (Vester, 2010, p. 58). This inequality is reproduced by the Fitbit, where socioeconomic status is implicated in the quality of user metrics and the pressure to generate better data out of financial need.

Broader associations between the pursuit of ‘fitness’ and social and economic privilege persist. Today, the commodification of physical activity has generated a market for specialized, fitness-oriented products (Till, 2014, p. 451). There is a level of financial gatekeeping at play. Attaining the fit ideal requires the means to purchase the ‘right’ foods, a gym membership, a trainer or dietician, and so on. The lean body is the model consumer, constantly injecting money into the economy, while the unhealthy, obese body is a drain on tax dollars (Elliott, 2007, p. 143). ‘Fitness’ therefore comes to be a signal of a productive member of society: a superior worker and a better consumer.

Citing de Tocqueville’s *Democracy in America* (1840), Elliott (2007) points to the historical linkage between fitness and productive citizenship. Sloth is considered both the mental and physical failure to carry out one’s responsibilities as a member of society; active, working, non-slothful bodies are contributors to democracy, while their counterparts are a drain and a detriment to society (Elliott, 2007, p. 136). In our contemporary North American context, this physical failure is expressed in democratic and economic terms: obese citizens are “failed citizens” who cost the taxpayer money by “[placing] unfair demands on health care” (Elliott, 2007, p. 138). It is a logic that permits – even demands – the shaming of ‘unfit’ bodies,

exerting further pressure to engage in practices of weight management and self-tracking. To be ‘unfit’ reflects a failure of personal responsibility, with health care configured as “something to be earned through healthy (read: good) behaviour” (Elman, 2018, p. 3770). This notion is problematic, because it assumes that health is entirely dependent on individual choices and the willingness to be fit. Furthermore, the aspirational lean body is merely a body that is *perceived* to be in control of itself (Elliott, 2007, p. 143). Such a physique might be attained through disordered eating, diet pills, smoking, and so on. Nonetheless, the privileging of the thin ideal situates weight management as a reflection of moral uprightness and self-discipline, with the ‘fit’ body as a body governed by reason.

Conclusion

Fitbit manifests an ideology of “healthism” that is preoccupied with the attainment of personal health through lifestyle change (Adams, 2019, p. 114). As a consequence, attention to, and achievement of, positive health outcomes demonstrates moral character and ‘good’ decision-making, as per the neoliberal ethic of personal responsibility. The individualization of health care obscures systemic determinants and reifies apparent ‘fitness’ (read: thinness) as ‘good’: good workers, good consumers, and good citizens. In the tradition of asking how things might be otherwise, Fox (2017) proposes taking a resistance perspective to personal health technology: activity tracking should prioritize the values of the collective, not commercial aims or the off-loading of health from a public good to a personal responsibility. We must begin to challenge this idea that being fat is the worst thing we can be. Questioning the assumption that, given the choice, we would all choose to be thin and able-bodied, we should also ask whether these characteristics truly are the basis of good health (Elman, 2018, p. 3771).

The cultural association of fitness with productivity compels people to optimize their bodies, and in so doing, optimize their ability to perform labour. The Fitbit positions users as workers even outside of formal spaces of labour by commodifying the data produced through their physical activity. What users gain through self-tracking is disproportionate to the profits they are generating on behalf of Fitbit and other corporations. Furthermore, the insights produced by Fitbit restrain and shape users’ self-knowledge by perpetuating a cultural ideology that naturalizes the pursuit of a fit (implicitly coded as thin and able) body and frames health as a personal responsibility. The Fitbit is a response to the looming threat of falling ill – or worse, gaining weight. We must reject this narrative that positions health as a matter of choice. It falls on us to reclaim how we experience and value our own bodies, and to subvert the ongoing veneration of the thin ideal.

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