INSTITUTO
UNIVERSITÁRIO
DE LISBOA

Becoming-healthy: Subjectification and behavior-based personalization in health insurance

Matthew Alexander

Master in Political Economy

Supervisor: Maria Luísa Macedo Ferreira Veloso, Associate Professor, ISCTE – Instituto Universitário de Lisboa

September, 2025

CIÊNCIAS SOCIAIS
E HUMANAS

Department of Political Economy

Becoming-healthy: Subjectification and behavior-based personalization in health insurance

Matthew Alexander

Master in Political Economy

Supervisor: Maria Luísa Macedo Ferreira Veloso, Associate Professor, ISCTE – Instituto Universitário de Lisboa

September, 2025

Acknowledgements

This thesis would not have been possible without Tracy's love and support. Her insights and advice have been invaluable and her companionship and discussion at the beach every sunset were the true factors that allowed this thesis to be completed.

Luísa's dedication and expertise have been equally important and her meticulous feedback, comments, and advice have improved the rigor and focus of this research beyond measure. Her hospitality, comradery, and the generosity of her kitchen also enabled this thesis to reach a level that would have been impossible had it been written entirely in a cramped bedroom in São João.

Abstract

Behavior-based insurance, the personalization of insurance policies through the datafied representation of everyday life in an attempt to shape the behavior of insured people, continues to grow with the proliferation of self-tracking and dataveillance technologies. Users are monitored, measured, and nudged toward "better" behaviors through the use of incentives and gamified systems. But what forms of knowledge and power are reproduced in the discourses of these insurance products and how do they contribute to our understanding of our bodies and our health? These systems sit at the intersection of finance, technology, data science, and the body, and present an opportunity to examine the convergence of these powerful discursive flows. Existing literature on the subject broadly agrees that promises of personalization and individuated risk profiles are marketing strategies to attract particular customer demographics, but dismissing the articulation of the product as mere advertising ignores the effects of subjectification enacted by this exercise in "biopolitical marketing" (Zwick & Bradshaw, 2016). Through a critical analysis of the publicly available marketing discourses of Vitality, a branded ecosystem of behavior-based insurance products owned by Discovery Limited, this research examines the trajectories of knowledge, understanding of health, and effects of subjectification produced in the advertising of behavioral insurance. The analysis concludes that through the double displacement of health into abstraction and into health-as-risk, behavioral insurance amounts to a project of epistemological enclosure and the commodification of the self-directed practice of becoming healthy.

Keywords

Behavior-based insurance, Vitality, critical discourse analysis, biopolitical marketing, datafication, subjectification

Classification codes (JEL subject descriptors)

Health insurance, public and private	I13
Technological change: choices and consequences; diffusion processes	O33

Resumo

Os seguros baseados no comportamento, a personalização de apólices de seguro baseada na representação de dados da vida quotidiana, numa tentativa de moldar o comportamento das pessoas seguradas, continua a crescer com a proliferação de tecnologias de auto-rastreamento e vigilância de dados. Os utilizadores são monitorizados, medidos e incentivados a adotar comportamentos "mais adequados" através do uso de incentivos e sistemas gamificados. Mas que formas de conhecimento e poder são reproduzidas nos discursos deste tipo de seguros e como contribuem para a nossa compreensão dos nossos corpos e da nossa saúde? Estes sistemas situam-se na intersecção entre finanças, tecnologia, ciência de dados e o corpo e constituem uma oportunidade para analisar a convergência destes fluxos discursivos. A literatura existente sobre a problemática converge no sentido de considerar que os processos de personalização e de criação de perfis de risco individualizados são estratégias de marketing para atrair determinados grupos de clientes. Todavia, a venda do seguro não tem em linha de conta os efeitos da subjetivação promulgada por via do «marketing biopolítico» (Zwick & Bradshaw, 2016). Através de uma análise crítica dos discursos de marketing publicamente disponíveis da Vitality, um ecossistema de produtos de seguros comportamentais de propriedade da Discovery Limited, esta tese examina as trajetórias de conhecimento, o que é entendido como saúde e os efeitos de subjetivação produzidos na publicidade dos seguros baseados nos comportamentos. A análise conclui que, através do duplo deslocamento da saúde para a abstração e para a-saúde-como-risco, os seguros baseados em comportamentos constituem um projeto de enclausuramento epistemológico e de mercantilização das práticas dos indivíduos para se tornarem saudáveis.

Glossary of abbreviations

STS	Science and Technology Studies
CDA	Critical Discourse Analysis
TA	Thematic Analysis
GDP	Gross Domestic Product

List of figures

Table of contents

Introduction

What happens when our bodies and behaviors come to be known as data? Through the continuous tracking and surveillance of user behavior, health insurers are threatening to make us all more healthy and in the process unlock hidden value for consumers, society, and themselves. The behavior-based personalization of health insurance promises it will increase fairness through personalized incentives and premiums and reduce risk overall by guiding its users toward healthier behaviors.

The cycle of surveillance, datafication, behavioral monitoring, corrective intervention, and risk improvement forms the apparatus of behavior-based health insurance, which lies at a critical conjunction of major forces in contemporary society: finance capital, Big Data and technology, social governance, and health. This thesis will investigate the discursive articulation and subjective effects of the development of behavioral health insurance through a case study of Vitality, a branded ecosystem of behavioral insurance products wholly owned by Discovery Limited that describes itself as a "global behavioral change platform" that "rewards users for making healthy lifestyle choices" (Vitality, n.d.).

Insurance is an unusual product, one that "has the rare distinction of being in almost everybody's life and on almost nobody's mind" (Sadowski, 2024, p. 232). It indemnifies us against risk and produces forms of solidarity, making individual uncertainty about the future visible, collective, and calculable (Ewald, 1991; Barry & Charpentier, 2020). Materially, in 2020 European private insurers collected €1,264 billion in premiums, accounting for over seven percent of GDP, paid out €1,010 billion in claims and benefits, and had investments amounting to over €10,600 billion or 61 percent of GDP (Insurance Europe, 2022). Socially, it is one of the foremost technologies of governance, regulating populations by creating particular categories through statistical techniques and the production of risk (Foucault, 2007; Ewald, 1991). Taken together, this makes insurance one of "the most pervasive and powerful institutions in society" (Ericson, Doyle & Barry, 2003, p. 3).

Behavioral health insurance is the tracking and surveillance of individuals' behaviors and the use of incentive structures to reflexively price and manage risk, regulate behaviors, and reduce claims. The recent explosion of machine learning has only boosted the speculative hype from voices within the industry, who maintain that the proliferation of machinic data capture and behavioral analysis is the future of insurance (Becker et al., 2020). Among social scholars of insurance and technology, however, there is a growing and contested space of critique. The key focus has been the actual extent of implementation and efficacy of behavioral interventions, with heavy skepticism leading to an unstable consensus that they are, for now, largely exercises in marketing (Jeanningros & McFall, 2020; Sadowski et al., 2024). There remains a division between critical data scholars, who warn against behavioral insurance as an instance of broader trends in surveillance capitalism (Zuboff, 2019; Sadowski, 2024), and sociologists of insurance, who dismiss these claims as speculative and empirically unfounded; instead, they view insurance as a specific field with a set of situated codes and practices performed by a diverse group of social actors (Meyers, 2018; Tanninen, 2020).

The question this research seeks to answer is: how does behavioral health insurance, specifically Vitality, shape our understanding of our bodies and our health? In order to suggest an answer, we must investigate the folds and contours of the discourse: where does Vitality situate the discourse of behavioral health insurance and with which other discourses does it enter into connection? What is Vitality's discursive strategy and what knowledge of health is being (re)produced? What effects of subjectification are implied by Vitality's discourse? What is the discursive imaginary of the product of behavioral health insurance?

To address these questions, we will pursue the following aims. First, to locate the discursive field and understand the convergence of forces producing the discourses of behavioral insurance. Second, to analyze the knowledge produced about health, technology, and the subject by behavioral health insurance providers. Next, to theorize the processes of subjectification and the subjectivities implied by these discourses. Finally, to describe the product of behavioral health insurance as presented in the discourse. This will be achieved through a case study of Vitality, a network of behavioral health and life insurance products wholly owned by Discovery Limited and the market leader in behavioral insurance products, with over 42 million customers in more than 40 countries (Vitality, n.d.). The data set analyzed comprises the website of Vitality Global; the research, reports, and white papers produced by Vitality and partners; the Vitality Global corporate blog; and the Youtube channel of Vitality UK.

Adopting a Foucauldian framework (Foucault, 1989) and starting from the view of behavioral insurance products as a method of corporate branding, we accept these marketing offerings exactly as statements in a discourse and analyze them in their specificity. The discourse is analyzed within a critical discourse analysis methodology (Wodak & Meyer, 2009), using the tools and resources of reflexive thematic analysis (Braun & Clarke, 2006) to code and organize Vitality's marketing statements. Rather than dismissing them as mere marketing, we ask: what rules, logics, and forms of knowledge allow these statements to be made? We then bring these analyses together with existing work to ask what behavioral insurance tells us about our understanding of our bodies and ourselves—and what happens if we believe it?

This study will contribute to the field of research in two ways. First, while much of the existing scholarship within the sociology of insurance insists on approaching insurance as a bounded discipline, this study approaches it as a convergence of social forces. Second, there is a limited body of critical empirical research into behavioral insurance, and few existing studies of the discourse of behavioral insurance as a mechanism of subjectification. This thesis hopes to extend these research areas.

The structure of this thesis is as follows. The first chapter contextualizes behavioral insurance and situates it within the long trajectory of insurance, introduces the techniques of Big Data, and describes the convergence of the two in behavioral insurance. We then survey the current state of research into behavioral insurance, highlighting disagreements, tensions, and gaps in the literature and refining the

focus of our investigation. The second chapter outlines our theoretical framework, defining a conceptual toolbox with which to tackle our problem and scaffold our analysis. In chapter three we combine these concepts with the existing literature on behavioral health insurance to construct a five-dimensional analytical model, to locate critical vectors along which to situate Vitality's discourse and answer our research questions. Chapter four describes the epistemological orientation, methodological approach, and specific methods used in the analysis of the discourse. Chapter five presents the results of the inductive-interpretative analysis, describing the latent and semantic meanings present in Vitality's marketing discourse. Chapter six brings the theoretical work conducted in the first half of the thesis together with the presentation of results to analyze and discuss our findings and attempt to answer the research questions. Finally, we conclude by summarizing our investigation and reflecting on the limitations faced by this thesis and possibilities for future research.

Chapter one: Literature review

What is behavior-based health insurance?

What we are calling behavioral or behavior-based health insurance can be more precisely denominated Big-Data-enabled behavior-based personalization in health insurance (Meyers, 2018). Abstractly, it can be defined as a practice within health insurance aimed at producing a real-time system of behavioral data and using it to predict and shape behaviors. Insurers aim to create digital topographies that map closely enough onto reality to produce continuous data with some predictive capability (Ruckenstein & Schull, 2017); maps that mould the practices and aims of those who inhabit them (Tanninen et al., 2021), colonizing existing interactions and incentivizing users to engage with an increasingly dense network of points of data production (Sadowski, 2024). Materially, this translates to an insurance product which tracks and incentivizes behaviors by aggregating data from three sources: demographic data volunteered by the insured person; observational data actively produced in the engagement of insured people with systems of monitoring and tracking; and latent data produced without the conscious participation of the insured. The actively produced data may include, for example, self-tracking fitness devices (Charitsis, 2019; Jeanningros & McFall, 2020), purchases at partner businesses (Vitality, 2024), or vehicle telematics (Meyers & Van Hoyweghen, 2018a). Latent data are produced within passive or partial systems of surveillance and may be obtained by the insurer themselves or purchased from third parties (Bednarz & Manwaring, 2022). Examples include: records of online shopping, social media, or other digital actions (Zuboff, 2019); smart home devices (Maalsen & Sadowski, 2019); bank transaction data (Sadowski, 2024); or even sensors in the physical world such as GPS or mobile phones (Prince & Schwarcz, 2020). These data are then monetized by 'personalizing' premiums either directly or through discounts and rewards (Gidaris, 2019).

Behavioral insurance goes beyond the use of behavioral data to personalize insurance pricing to become a project of behavioral change, promising to improve health through the use of incentives and reward structures (Sadowski, 2024). This is also a biopolitical project of behavioral control, in which self-regulation is encouraged or enforced through distributed systems of surveillance (Sanders, 2017; Lupton & Williamson, 2017).

The phenomenon of behavioral health insurance encompasses the full range of these practices, although the object of this case study, Vitality, is analyzed in the terms of its own marketing: the collaborative sharing of behavioral data with Vitality to receive rewards and improve health outcomes. We are interested in how we understand ourselves and our health, and how Vitality's discursive strategy interacts with processes of (self-)subjectification and enables mechanisms of social control. Behavioral health insurance is approached as a site of knowledge production, an enactment of power, and a mechanism of subjectification: a discursive formation. For the purposes of this project, analysis

is thus limited to the consensual, participatory data production of insured people engaging with the socio-technical object of behavioral insurance.

The foundations of insurance: Data and quantification

The forms of insurance we recognize today required the creation of the statistical techniques of governance that emerged alongside the modern state (Ewald, 1988). These produced a new object of knowledge: the population, a collective entity in which regularities are made visible that are invisible, or behave as pure chance, at the level of the individual (Foucault, 1995; 2007). While these two levels of knowledge—the individual and the collective—made possible the management of uncertainty and risk on a societal scale, they had to be created: the collective level of knowledge was "*produced* … by statistics as a practice, and the process of quantification implied by the new science" (Barry & Charpentier, 2020, p. 3, emphasis in original). The development of this technology of population statistics produced concrete apparatuses such as surveys and the census (Foucault, 1995) and proceeded through the quantification of the world and the "statistics of the mean" (Hacking, 1990).

The knowledge of the individual as a representative instance of the group (Foucault, 2007) required an assumption of homogeneity that had to be constructed through a decision that the mean is a meaningful representation of the whole (Barry and Charpentier, 2020). The ability to define and measure the mean required the ability to assess and categorize difference, assigning normality relative to deviance (Foucault, 1978). Fixing these two points in a distribution—the normal and the deviant—enabled the assumption of meaningful or operative within-class homogeneity. Techniques of quantification and statistics averaged away within-group variance, the annihilation of difference through the production of knowledge of categories (Deleuze, 1988). Two critical developments had occurred: the production of the collective category as an object of knowledge, and the creation of a vehicle able to bear the new technology that forms the basis of modern insurance; the rise of what Ewald calls the "technology of risk" (1991, p. 197). *Risk* is not an event or category of event, nor is it chance or the operation of fate; it is an understanding of the relationship between events, individuals, and collectives (Ewald, 1991). The "abstract technology" of risk and its techniques of insurance are "first and foremost a schema of rationality, a way of breaking down, rearranging, ordering certain elements of reality" (*ibid*, p. 199); the knowledge that chaos, fate, or chance on the individual level could be considered a calculable and predictable certainty amongst a group.

The synthesis between the collective and the individual embeds contradictory tendencies at the heart of insurance. Insurance functions through the construction of group homogeneity, an arbitrary grouping of *similar* individuals that retroactively assumes that individuals within the group are the *same* (Barry and Charpentier, 2020). However, the actual heterogeneity of any group means this assumption must always be *actually* false yet *statistically* true; the "average individual" never exists, even as all individuals are statistically assumed to be average (McFall, 2011). Increasing the homogeneity of the category—that is, reducing in-class variance by increasing the number of

categories—enables the tighter identification of individuals with the mean, increasing the accuracy of contribution calculations or "actuarial fairness" (Jeanningros & McFall, 2020; Sadowski 2024). At the same time, decreasing the size of risk pools threatens the statistical validity of the category. The class must remain large enough that the probability of incident approaches one; reducing the size of the class threatens to violate this condition, which forms the essentially collective basis of insurance (Tanninen, 2020; Barry & Charpentier, 2020; Sadowski, 2024; Sadowski et al., 2024).

People seeking insurance have long faced economization and quantification from insurance providers (Meyers, 2018) who deploy a variety of calculative devices to predict risk-classes (Zelizer, 1978; McFall, 2011), but until recently these have been contained within the inherited paradigm of population statistics. Utilizing limited census or demographic data, classes constituted from these variables, and assumed homogeneity, insurers faced practical restrictions on data collection which prevented the limits of the solidarity function being reached (Barry & Charpentier, 2020). Despite these limitations, insurance providers face economic imperatives to produce ever-smaller risk categories (Ericson et al., 2003) to improve the functioning of markets (Meyers, 2018) and to increase predictability, price segmentation, and profits (Sadowski, 2024). Orthodox studies of insurance in economics and law inherit strong preferences for rational choice models (Ericson et al., 2003), which maintain a dominant position both in actuarial approaches to risk and insurance and in discussions of insurance policy and regulation (Baker, 2000, p. 567; cited in Meyers, 2018). Insurers are assumed to have population-level information and thus premium prices to accurately reflect real average risk; potential insured people are construed as rational utility maximizers with access to both market and private information and the time, energy, capability, and willingness to calculate their own real risk relative to the population (Mossin, 1968). People who assess themselves as representing above-average risk will therefore be far more likely than those with below-average risk to purchase insurance policies, a process of "adverse selection" (Akerlof, 1970). To avoid financial ruin, insurers must therefore narrow risk pools to more closely align premiums with actual personal risk. On top of this, "moral hazard" posits that insured people's real risk rises after they purchase insurance (Arrow, 1963). As the cost of medical treatments drops to zero, rational individuals will become more willing to engage in immoral, risky behavior as they no longer carry private financial risk. Similarly, consumption of medical services relative to the utility provided by those services will rise as the cost falls. Insurers are compelled to introduce "excess" or "deductible" payments to combat frivolous medical consumption, treat claims and claimants with skepticism, and again reduce risk-category variance. Even if it is the case that insured people are not getting run over for fun or visiting emergency rooms on their day off, insurers are incentivized to "gain an informational advantage over the public," which enables the deployment of refined mechanisms of customer selection, risk prediction, and claim minimization (Sadowski et al. 2024, p. 233), reducing uncertainty and increasing profits.

In addition, a substantial portion of the profitability of modern insurance derives from investment rather than premium income (McFall et al., 2020). However, declining investment returns since the 1990s have rebalanced the profitability model toward premiums (McFall et al. 2020), incentivizing "more sophisticated BDA [Big Data Analytics]-driven pricing models" to drive profits from "new data sources [that enable] a more granular segmentation of risks" (EIOPA, 2019, p. 29; cited in McFall et al., 2020). Together, this creates a set of economic incentives for insurers: attract customers in general and high-value customers specifically; optimize granular segmentation of risk profiles (both across individuals and across time); and govern behavior toward minimizing risk.

Big Data and behavioral health insurance

The economic incentives outlined above point in one direction: the increasing segmentation of risk pools through increasingly granular data collection and the expansion of techniques of governing everyday life. Nothing is better placed, or better suited, to pursue these incentives than Big Data and behavioral statistics.

The term "Big Data" has been used since the 1990s to refer to the creation and analysis of "massive" datasets, initially characterized by the "three Vs": the volume of data collected; the velocity of constant data creation; and the variety of data and forms (Kitchin & McArdle, 2016). Big Data refers to the enormous volume of information provided willingly by us to service providers, obtained from us unwittingly as we use services, and collected and sold through third-party surveillance (Zuboff, 2019), as well as the techniques of analysis and the practices of use. Scholars have since added to the list of characteristics, the most relevant of which are: exhaustivity, or the capture of total systems of information known as *n = all* (Mayer-Schönberger & Cukier, 2013); variability, or the ability of data to shift meaning according to context (McNulty, 2014); and value, the ability to extract insights and repurpose data (Marr, 2014). Uprichard (2013) adds to the "Vs", describing Big Data as "valueless, vampire-like, violating, and very violent". The amount and scope of real-time data created by internet platforms, websites, social media, cellphones, wearable devices, vehicle telematics, retailers, smart home devices, and so on have produced something qualitatively different from the small data of the past (Kitchin, 2013). Where periodic, slow, and limited census or administrative data enabled knowledge production in tightly controlled and limited spheres, Big Data is flexible, scalable, and both requires and enables new forms of analysis and control (Kitchin & McArdle, 2016). Within this new paradigm, data has come to be portrayed, led by private interests, as a means of unleashing "new waves of productivity growth, innovation, and consumer surplus" (McKinsey, 2011); not only a by-product of other services or a means to an end, but a form of capital in itself, incentivising major business or government decisions in the pursuit of the accumulation of data (Sadowski, 2019).

The imperative to accumulate results in a drive to render the world as data. "Datafication" (Mayer-Schönberger & Cukier, 2013, p. 73) is the capture of activity and experience through an array of online trackers and offline sensors and their transformation into something "natively numerical"

(Barry and Charpentier, 2020, p. 4); a supposedly exhaustive and non-representational depiction of the thing at stake (Kitchin, 2014a). This is not a development driven by new technologies; rather, developments in insurance technology have been driven by the interests of insurance companies (Sadowski, 2024). Sadowski (2024) details various practices of increasingly granular segmentation beginning in at least the 1910s and the surprisingly stable imaginary of the future of insurance, aimed at the holy grail of *individualized* risk-making: personalized insurance. The point is not that insurance is on an inexorable march toward total individualization or that the future of insurance and insurance technologies are determined (*ibid*). Rather, these incentives encourage the development of technology in a particular direction, where an interplay of historically contingent forces eventually "selects" concrete technologies or techniques to the exclusion of others (Deleuze, 1988).

These transformations reveal an epistemological shift, raising questions about how knowledge is—and can be—produced within the assemblage of Big Data (Kitchin, 2014b). Knowledge production faces the danger of a "new empiricism," which assumes that data are non-representational total accounts of reality, that statistical correlation obsolesces theoretical causality, and that Big Data techniques can thus reveal the inherent truths of data, enabling them to "speak for themselves free of theory" (Kitchin, 2014a, p. 3). This signals a shift from deductive hypothesis-testing to purely inductive networks of correlation based on four assumptions: Big Data captures an entire system; there is no need for theory or hypothesis; data analytics are agnostic and the relationships they uncover are inherently meaningful and truthful; and these truths transcend context, are field-agnostic, and can be read without interpretation (Kitchin, 2014a, p. 4). McQuillan (2015) sees this epistemological movement manifest in concrete changes in data architecture: the move from structured Structured Query Language (SQL) to unstructured NoSQL databases. The former are structured relational databases with a fixed ontology of data, with properties attached to object variables and certain assumptions about the relationships able to exist between variables. The latter are de-structured databases with loose and shifting relationships decentered from individual objects, where everything is decoded and ontologically flattened, with relationships and queries able to be drawn between any points at any time (McQuillan, 2015).

The techniques of Big Data enable all sorts of predictions to be made based on probabilistic inference. However, the nature of probabilistic algorithms will necessarily deliver false positives "where it essentially makes wrong guesses" (McQuillan, 2015, p. 567). The facticity or assumed objectivity of these data operations makes them self-justifying; outcomes are assumed to be correct based on the method, which retroactively vindicates the specificities of the method itself (Fourcade & Healy, 2017). In short, the practices of Big Data stem from the epistemological shift that allows everything to be known as data: the total surveillance of $n = all$, the triumph of correlation over causation, and statistical predictive inference that enable new forms of capital, governmentality, and subjectification.

The application of the techniques of Big Data to insurance appears at first glance to solve many of the problems facing the insurance industry that we identified earlier: more granular risk segmentation; behavioral governance; and attracting more and better customers. According to McKinsey (2011), insurance and finance have the highest "Big Data value potential" of any sector. While traditional insurance differentiated insured people based on limited, directly collected, static data, the insurers of today are rapidly adopting the "*n = all"* approach. According to the firms themselves, the goal is to build all-encompassing digital landscapes for insured people to inhabit, multiplying the points of contact, and thus data collection, personalization, and control:

> Big Data has the potential to revolutionize the (re)-insurance industry and potentially the economy as a whole. Big Data has the potential to open up new horizons, assessing and pricing risks more accurately. For instance, insurance products can become customized, even individualized. (Michel Liès, Swiss Re, 2014; cited in Meyers, 2018, p. 10)

Behavioral insurance serves the risk-segmentation and pricing-accuracy needs by theoretically allowing the almost total segmentation of insurance markets through the creation of "individual risk scores" (Meyers & Van Hoyweghen, 2018a; McFall, 2019). Through the collection of total and continuous data, the individual can be rendered totally intelligible and thus "actuarial fairness" achieved. As framed by Dutch auto insurance product *Fairzekering*, pooling risk means that those who do not claim end up paying for those who do, and "we don't think that is fair. How badly or, more importantly, how well you drive should make a difference" (Fairzekering, 2014; cited in Meyers and Van Hoyweghen, 2018a). This is the culmination of a long trend in the history of insurance, which has long sought to proliferate risk categories (Sadowski, 2024): as early as 1903, the Actuarial Society of America allocated customers to 98 "classes of risk" (Bouk, 2015, p. 84); by 1981, the "most widely used assessment scheme" for drivers in the US contained 234,360 risk categories, based on the combinatorics of individuals compartmentalized and assigned values across many identity vectors (Austin, 1983, p. 547). O'Malley (1996) identifies a shift from "socialized actuarialism" that created large pools of largely undifferentiated risk, to "privatized actuarialism" which, while as-yet unable to technologically individualize risk, is a technique of neoliberal governmentality that individualizes the *responsibility* for risk through behavioral discipline. The total surveillance products of today are the concrete manifestation of a long development of social technology—not a rupture point between *census* and *behavioral* data, but a trend approaching a threshold.

Behavioral insurance also provides opportunities for risk management through behavioral governance. The most obvious is the imposition of a "bonus-malus" system (Barry & Charpentier, 2020), or material incentives to perform (or avoid) particular behaviors, although the technical and regulatory possibility of behavioral price differentiation is debated among scholars of behavioral insurance, which we will discuss in the following sections. However, there are other forms of behavioral control. Through surveillance-based approaches to preventative health (the "public health surveillant apparatus"; Sanders, 2017) or vehicular telematics (Meyers & Van Hoyweghen, 2018a)

and the articulation and reinforcement of associated normative standards, insured people are made constantly aware of their behaviors and encouraged to self-regulate.

Social scientists argue the intensification of the surveillant assemblage (Haggerty & Ericson, 2000) goes beyond the Foucauldian panopticon, where the few (potentially) perpetually surveil the many (Foucault, 1995). In this "post-panopticon" (Gane, 2012) or "oligopticon" (Latour, 2012), we see a form of distributed panopticism; a network of surveillant devices—self-selected or imposed, known or unknown, online or offline—contributing partial accounts that collaboratively reconstitute the object of surveillance. The multiplication of points of contact intensifies the supervision of the population "through an entire series of interventions and regulatory controls" (Foucault, 1978, p. 139), allowing the biopolitical governance of the health of the population at scale and the anatomopolitical disciplining of the individual body in particular (Foucault, 1978; see also Koopman, 2018). Insurers themselves often refer to this in the language of "nudges" (see Becker et al., 2020, for example); small changes in the "choice architecture"—or the circumstances that structure decisions—which allow state or private actors to shape behavior in predictable and desirable ways (Thaler & Sunstein, 2008). For private insurers, this means the ability to guide insured people toward risk-minimizing (and profit-maximizing) behaviors, while for state insurers, this provides a silver-bullet solution for budgets crushed under neoliberal austerity by "encouraging" people to make choices which cost the state less money (e.g. Halpern & Sanders, 2016).

Behavioral insurance is also used to attract more, and more desirable, customers. As in the earlier example of *Fairzekering*, personalized insurance products present themselves as more "fair" (Meyers & Van Hoyweghen, 2018a). People who perceive themselves as toward the lower end of the risk continuum may be more likely to purchase insurance they perceive as more accurately recognizing and rewarding their risk-averse behaviors; conversely, customers on the high-risk end, demographically, are attracted because they may be able to overcome demographic disadvantages through behavior. Some scholars of insurance argue that, at least for the moment, the primary purpose of behavioral insurance is marketing and market segmentation (Jeanningros & McFall, 2020; Tanninen, 2020), attempting to attract more desirable—younger, healthier, wealthier, lower risk—customers (McFall, 2019; Meyers & Van Hoyweghen, 2018a). However, the marketing of these behavioral products, even when not currently used to price risk, begins to provide the data foundations and experimental spaces for insurers to develop the products, or for "innovative" start-ups to provide proof-of-concept. For our purposes, the discursive articulation of the product is even more important than the actual product itself. The branding of the product depends on maintaining the fantasy; it must appear to be real to the subject (Jeanningros & McFall, 2020) and thus it must produce the same effects of subjectification. This will be discussed in more detail in later sections.

The literature of behavior-based insurance

In this review, we follow Tanninen (2020) in dividing the contemporary scholarship on behavioral health insurance into two broad streams within the social sciences, with different areas of focus informing divergent approaches to the adoption of surveillance technology and digital data in insurance.

The first is the field of critical data studies, often drawing on neo-Marxist (e.g. Zuboff, 2019; Gidaris, 2019; Sadowski, 2024) or Foucauldian analysis (e.g. McQuillan, 2015; Lupton, 2013; 2017; Sanders, 2017; Charitsis et al., 2018). These authors tend to be concerned with the material outcomes of behavioral insurance practices and adopt the perspective of the insured or surveilled as of primary concern.

The second is the sociology of insurance, inspired by Science and Technology Studies (STS), which examines insurance as a contained field with specific operations and logics, tracing the way various actors come together to enact the social practice of insurance. These scholars largely employ analyses theoretically rooted in Ewald's developments of Foucault (e.g. Barry & Charpentier, 2020; Ruckenstein & Schull, 2017), and drawing on Latour's (2005) Actor-Network Theory (e.g. Meyers & Van Hoyweghen, 2018a; 2020; Jeanningros & McFall, 2020). The two streams remain analytically distinct and draw from different theoretical traditions, but they share considerable overlap and are more often in conversation than irreconcilable disagreement.

Critical data studies

The field of critical data studies is primarily concerned with the political economy of data and its effects on subjects in everyday life. Critical data scholars come to insurance along with the emergence of Big Data techniques and approach insurance as a single instance of a larger phenomenon (e.g. Zuboff, 2019; Sanders, 2017; Sadowski, 2024), in the context of digital health more broadly (e.g. Lupton, 2012; 2013; 2015b; Ajana, 2017; Charitsis et al., 2019), or discuss relevant issues—dataveillance, discrimination, datafication—without situating them in the context of insurance (e.g. Van Dijck, 2014; Cheney-Lippold, 2011; McQuillan, 2015; 2018; Charitsis et al., 2018). Critical scholars fall into (or between) two main camps: Marxist analyses of data and digital production focused on exploitation and expropriation (e.g. Sadowski, 2019; Zuboff, 2019; Cinnamon, 2017; Gidaris, 2019); and those drawing on post-structuralist approaches, particularly the works of Foucault (e.g. Ajana, 2017; Sanders, 2017; Hull & Pasquale, 2018; Charitsis et al., 2019) and Deleuze and Guattari (e.g. Cheney-Lippold, 2011; Raley, 2013; Zwick & Bradshaw, 2016).

These big-picture analyses begin with the diffusion of Big Data logics and practices throughout society and their penetration into previously enclosed fields. However, they have been criticized for lacking empirical backing and specific expertise in the field of insurance (Tanninen, 2020; Meyers, 2018), and for focusing on theoretical (sometimes called "speculative"; Tanninen, 2020, p. 5) critiques. A wealth of empirical work exists in fields adjacent to behavioral insurance, such as

Foucauldian or phenomenological studies of self-tracking or datafication (for example Lupton, 2012; 2013; 2014; 2015a; 2015b; 2016a; 2016b; 2017; Ajana, 2017; Charitsis, 2019; Charitsis et al., 2019), but empirical studies of the specific phenomenon of behavioral health insurance remain rare. Recent critical studies have attempted to rectify this, focusing on cases of Insurtech or Health-tech start-ups such as Vitality (Gidaris, 2019; Sadowski, 2024; Sadowski et al., 2024).

This review of the critical literature briefly outlines the discussions of discrimination and expropriation due to their enduring importance and prevalence in the literature, then turns to two topics more immediately relevant to this research: the rules and logics of behavioral health insurance and the issue of subjectification in critical data studies.

Critical scholars are often primarily concerned with the new and myriad ways discrimination is enacted through behavioral insurance, enabling fine-grained distinctions of pricing categories, denial of claims, or even exclusion from coverage (Tanninen, 2020). Doing away with the distinction between correlation and causation allows the molecular segmentation of data sets, providing opportunities for more targeted discrimination (McQuillan, 2015). Note the double meaning here of discrimination: both price discrimination, in the sense of actuarial fairness; and identity-based discrimination, the creation of fixed categories of difference (Sadowski, 2024). Through personalized or micro-segmented premium structures, insurers can implement "discriminations that were not possible previously", enabling risk distinctions where people could formerly "be counted equals" (König, 2017, p. 5) and rewarding people capable of generating desirable data (Charitsis, 2019).

Correlative black-box algorithms allow the bypassing of protected categories—for example, gender—by reconstructing them through behavioral or inferred data (Prince & Schwarcz, 2020; Cheney-Lippold, 2011; McQuillan, 2015; 2018). Rather than producing the grouping 'gender,' algorithms form a new grouping of behaviors with no overarching demographic descriptor; individual data points are grouped due to their proximity and correlation with a particular outcome (McQuillan, 2015). This grouping may loosely correspond to a particular gendered descriptor, but the grouping was produced according to behavior—reproducing all the biases and prejudices inherited from those who define the datafication of behavior, but bypassing regulations aimed at prohibiting the use of certain categories.

Algorithmic discrimination can also lead to total exclusion. This can be structural, through the self-referential mechanisms of algorithmic norm determination—behavioral "optimization" leading to higher normative standards, to higher behavioral performance, and so on (Cheney-Lippold, 2011)—or through self-selection, the pricing out of people who identify themselves as "badly behaved" (Zuboff, 2019). Exclusion can also occur through the creation of "algorithmic states of exception" (McQuillan, 2015); statistical risk profiles—areas of the database—that create uninsurable populations, a process also called "digital redlining" (Taylor & Sadowski, 2015). Although data-dense classification algorithms often perform no more fairly or accurately than random selection, they provide epistemic

and social authority for the pursuit of commercial or political interests (Fourcade & Healy 2024; Sadowski, 2025).

Another major category of concern for critical data scholars is the unwaged labor performed in the production of data, which is extracted and exploited by "data capitalists" (Zuboff, 2019). Insurers accumulate the data generated by surveillance devices and use it to augment profits (Sadowski, 2019), directly through operations and indirectly through data markets, either not compensating users or giving them—through discounts and incentives—a fraction of the value of the product (Charitsis, 2016; 2019; Charitsis et al., 2018). Particularly in the case of employer-provided or workplace insurance and wellness programs, employees produce (extra) surplus value through their use of wearable devices or trackable activities in an extension of the workday (Lupton, 2016a); value that is extracted by the insurer, the employer, or both (Gidaris, 2019; Charitsis, 2016). These data are transformed into a machine for the prediction and management of risk in what Zuboff (2019) calls the extraction of "behavioral surplus": the production and sale of predictive products. Critical analyses of attempts to quantify and internalize this process of extraction and compensate users through the creation of data markets have dismissed them as inconsequential or non-feasible, as the data of average individuals is worth almost nothing—it is only once it is abstracted and placed in a relational field of millions or billions of data that it is of any value (Charitsis et al. 2018). Capitalism based on the extraction and expropriation of data is portrayed as destructive and exploitative (Zuboff, 2019), its attempts at reform nothing more than "biopolitical marketing": the attempt to sell a narrative in order to continue to "valorize and subsume the productive value of life itself" (Zwick & Bradshaw, 2016, p. 94). The promises and incentives of behavioural health insurance are thus understood as a marketers' narrative backing a project of data capture and exploitation rather than a genuine attempt at social distribution (Sadowski et al., 2024).

An emerging topic in critical data studies more directly relevant to this research is the 'rules' and logics underpinning behavioral insurance. Within broad frameworks of discrimination and surveillance capitalism, critical scholars have honed in on the techniques and technologies of Big Data and datafication, increasingly with a specific focus on self-tracking devices (Lupton, 2013; 2016b; 2020; Charitsis, 2019; Charitsis et al., 2019) and behavior-based insurance (Lupton, 2016a; Gidaris, 2019; Bednarz & Manwaring, 2022; Sadowski, 2024; Sadowski et al., 2024). The work of Sadowski (2024), Sadowski et al. (2024), and Bednarz et al. (2025) is particularly relevant to this thesis, drawing from a multi-year study of behavioral insurance focused on Vitality. Sadowski (2024) lays out a "techno-political framework" for understanding the phenomenon of behavioral health insurance, comprising six logics from which its operations of actuarial governance emerge: ubiquitous intermediation, continuous interaction, total integration, hyper-personalization, actuarial discrimination, and dynamic reaction. These describe the process by which behavioral health insurance engages with customers, data, time, and value: increasing the speed and depth of the datafication of insured people; permeating ever more aspects of life and shaping its products around

the points of intervention; and translating these systems of information into monetizable functions like pricing risk or claim disputes, realizing the value generated by the total encoding of the customer (Sadowski, 2024). This framework structures the functioning of behavioral health insurance and mobilizes a behavioral theory of risk, which Sadowski et al. (2024) argue underpins the moral economy of Vitality's "shared value" insurance. Several of these logics were crucial to the construction of our analytical model (see chapter three) and are operationalized there.

Critical studies also track the neoliberal logics embedded in the developments of health insurance. Behavioral insurance is seen as a continuation of the trend toward individualized risk long present in insurance (Sadowski, 2024). The insured is presented as a self-contained, coherent individual making choices about behavior; it is thus "actuarially fair" that they pay for their accurate, individualized risk.

This is understood as a neoliberal technique of responsibilization, redistributing responsibility and accountability for health onto the individual (O'Malley, 1996). Redistribution of responsibility in this way is critiqued for its inability to account for real-world networks of interreliance and structural determinants of health and behavior, instead performing an idealized version of the individual abstracted from social, cultural, or political context (Kitchin, 2014b; Lupton, 2015a; Charitsis, 2016; McQuillan, 2018).

Seeing the individual "like a market" (Fourcade & Healy, 2017) understands them as data to be sorted into categories of risk or "taste" and justifies the collection of as much data as possible (*ibid*). The understanding of the individual as a clearly-bounded and transparent entity leads to attempts to know it and thus shape it (Raley, 2013; Van Dijck, 2014). McQuillan (2015; 2018) argues the logics of data science and the market meet in an attempt to quantify, represent, and render the body exchangeable; the phenomenon of behavioral tracking and personalization is built upon the datafication of the individual for the generation and extraction of surplus value (Mayer-Schönberger & Cukier, 2013; Kitchin, 2014b). These logics demand total knowledge and optimization, but also profit maximization; incentivization of healthy behaviors or claims to social benefit are thus seen as smokescreens for extractive data capitalism, cost optimization, and the further privatization of health (König, 2017; Hull & Pasquale, 2018; Gidaris, 2019).

Subjectification in behavioral health insurance is often analyzed through the lens of responsibilization. Through the individualization of risk, insurance will create self-managed, productive individuals (Lupton, 2015a; 2016; König, 2017; Gidaris, 2019); the production of the insured as "entrepreneurs of the self" (Foucault, 2008). This form of neoliberal governmentality increases normative pressures to self-discipline or self-regulate toward certain kinds of bodies (Sanders, 2017) and directly incentivizes the production of fit, productive, working bodies (Sadowski et al., 2024). Despite insurers' language echoing neoliberal values of choice, critical scholars highlight the often limited or even non-existent ability to opt-out of such systems that limits deliberative autonomy, citing examples such as the Affordable Care Act (Sadowski et al., 2024), welfare systems (König, 2017), and workplace insurance and the criminal justice system (Lupton, 2016a; 2017). In

some cases these may be explicitly imposed, whereas in others their imposition is heavily implied through, for example, discrimination against employees who opt-out of ostensibly "optional" programs (Lupton, 2017).

The emergence of new forms of surveillance and the transformation of old forms also produces new subjects and subjectivities (Cheney-Lippold, 2011; Van Dijck, 2014; Kitchin, 2014b; Lupton, 2012; 2016b; 2017; Sanders, 2017). Raley (2013) describes the monitoring, aggregating, and sorting of data to predict and control the behavior of individuals as "dataveillance." Unlike Foucault's "panopticon" (1995), technologies of dataveillance do not require a centralized site of monitoring and control, instead occurring within a decentralized network of data production and requires only an identifier that is consistent across databases (Raley, 2013). Insurance is seen as an extension of the "surveillant assemblage"—the distributed web of data production, interpretation, and exploitation (Haggerty & Ericson, 2000)—or a third-party beneficiary of technologies of dataveillance; purchasing or otherwise acquiring the spoils of surveillance (Cinnamon, 2017; Maalsen & Sadowski, 2019). Insurance is part of a larger transformation in social institutions; sites and sources of dataveillance multiply both online and offline to render subjects visible in new, institutionally unbound (or at least borderless) ways. The "public health surveillant assemblage," for example, comprises clinics, workplace insurance, public school health programs, fitness apps, state health departments, and self-tracking technologies—anywhere the body is observed and rendered as data (Sanders, 2017, p. 44).

Webs of surveillance produce knowledge of health and the body: what it is, what can be known about it, and standards of normalcy and deviance (Sanders, 2017; boyd & Crawford, 2012). Charitsis (2016) argues that people within these data assemblages are trained to produce a constant flow of data for commercial use, but also the right *kind* of data for the right kind of subject. Cheney-Lippold (2011) describes the unstable "algorithmic identity" of the datafied subject and the destabilization of the image of self as identity becomes an externally defined category. The individual is revealed to the algorithm through the categorization and interpretation of behavior, while identity categories are recursively constructed and estimated based on groupings of observed behaviors. A change in individual behavior can result in recategorization, as can the addition of other behaviors to the dataset as the boundaries of the category are redefined. Cheney-Lippold (2011, pp. 169-170) gives the example of a person who visits a particular website being inferred as 'male' due to observations of past inferred-gendered visitors. As 'female' users join the website or 'male' users engage in inferred-female behaviors elsewhere, the website becomes a less powerful predictor of 'male'-ness; the subject may find their algorithmic gender reassigned—without moving, the borders of the gender cross the user—and the user now finds themselves coached toward the normative definition of female.

Critical scholars have also produced extensive analyses of the effects of subjectification produced by the concrete technologies of dataveillance, particularly wearable fitness devices and related software platforms (referred to as "mHealth" technologies) promoted by medical and health

professionals as a means of advancing public health (Lupton, 2012; 2013; 2014). Lupton (2013) argues that these technologies train the individual to know themselves through the lens of the human-technological assemblage, producing a self-image of the subject as a "digital data assemblage"—the understanding of the self as a collection of data (Lupton & Williamson, 2017). The knowledge of the subject-as-data enables the sorting of populations by behavioral, quantified, or datafied categories and the regulation of populations through statistical norms (Raley, 2013; Van Dijck, 2014).

Wearable fitness devices spread beyond the medical and professional spheres and crossed into the public realm as part of a regime of voluntary self-tracking practices known as "the quantified self", espousing self-knowledge through numbers under the slogan "know thyself" (Wolf, 2010; cited in Sanders, 2017, p. 2; see also Ajana, 2017; Charitsis, 2019). These networks of self-tracking and data-sharing collaboratively produce an immanent regime of normalcy by creating a visible statistical distribution of a self-selected population. This decentralised datafication has also been studied in the case of running apps that allow the sharing of routes, times, speeds, etc. (Charitsis et al., 2019). These scholars highlight the engagement of users in the production of the biopolitical environment that enables the extraction of value from user data, problematizing the supposed voluntarism of these practices (Charitsis 2019; Charitsis et al., 2019).

Self-tracking technologies operationalize population-level regulation and re-categorization around a shifting, internally-derived mean rather than external ideals (Foucault, 2008). The categorization and knowledge of the self through data privileges the visual and the metric in the representation of the body (Lupton, 2013), reproducing a belief in the superior objectivity of the quantitative and the datafied (McQuillan, 2018). The management of variance through the cybernetic functions of feedback and control is what Koopman (2018) terms "infopolitics," or rule by data. Ajana (2017) sees self-tracking regimes of knowledge production as a "biopolitics of the self" that renders the body amenable to management and monitoring techniques (p. 1). However, critical studies of self-tracking have largely focused on so-called voluntary—or at least materially unenforceable—modes of engagement, with empirical studies of behavioral insurance rarely coinciding with analyses of subjectification. Sanders (2017) situates the quantified self between the coercive authority of public health and the aspirational authority of beauty/fashion; a process of subjectification that functions as a mechanism of gender enforcement through the co-production of the fat and healthy subject, but one still lacking the financial enforcement mechanisms of insurance.

In summary, the focus of critical scholarship is on the exploitation of personal health data, the commodification and normative disciplining of individual bodies, mechanisms of neoliberal subjectification, and the biopolitical regulation of the popular body. Many studies are concerned with the material effects of discrimination and exclusion produced by black-box algorithmic systems, bypassing legal protections or social accountability (McQuillan, 2015; Cinnamon, 2017; König, 2017; Charitsis, 2019; Prince & Schwarz, 2020). Others take aim at the hidden labor we perform as the

inhabitants of digital systems, and the forms of expropriation and value extraction deployed by data capitalists (Charitsis, 2016; Sadowski, 2019; Zuboff, 2019; Gidaris, 2019). A smaller stream within the literature, although one more pertinent to our research questions, is interested in the logics of behavioral health insurance and the effects and mechanisms of subjectification they imply. First, and most prevalent within critical studies, is the neoliberalization of insurance and the insured subject; the privatization, individualization, responsibilization, and marketization of health and health insurance interactions (Lupton, 2015a; 2016; König, 2017; Gidaris, 2019). Second, and more often examined outside the field of insurance, are the Big Data logics of quantification and datafication shaping the understanding of the self (Lupton, 2013; Charitsis, 2019; Lupton & Williamson, 2017); the destabilization of the subject in systems of algorithmic identification (Cheney-Lippold, 2011; McQuillan, 2016; Sanders, 2017); and the proliferation of systems of total intelligibility, surveillance, and control (McQuillan, 2015; 2018; Ajana, 2017; Koopman, 2018; Sadowski, 2024).

In a systemic review, Tanninen (2020) levels several criticisms of the critical data studies approach to behavioral insurance: the focus on particular geographic regions, primarily the US; a lack of empirical studies; and a lack of specific knowledge and focus on the particularities of the health insurance industry—critical scholars are often "not empirically well informed about Big-Data-enabled personalisation in insurance" (Tanninen, 2020, p. 5). Meyers (2018) contends that "Critique-with-a-capital-C" assumes too much of Big Data practices: it buys into the industry's narrative of technological inevitability and adopts a narrow perspective of insurance, reducing it to premiums, data, and calculative mechanisms. It may also disregard non-compliant practices, eliminating or overlooking the agency of insured people in generating the practice of insurance (Tanninen, 2020). Both authors lament the lack of attention to the sociological aspects of insurance, advocating for a "realist" or "pragmatist" approach with a focus on the experiences and practices of actors in the production of insurance and "how values are enacted in specific practices" (Tanninen, 2020, p. 6). Conveniently, these are problems that STS-inspired research is well positioned to solve.

Sociology of insurance

The second stream of scholarship comes from the sociology of insurance and focuses on empirical analyses of the practice of "doing" insurance. Sociology of insurance originates within STS, which aims to examine the associations between networks of actors that produce the social phenomenon (Latour, 2005). These researchers favor realist, meso-level accounts of how human and non-human actors (insurers, insureds, states, technologies, etc.) participate in the "doing" of insurance in the real world (Tanninen, 2020; Meyers & Van Hoyweghen, 2018a); the study of how people and objects are classified and arranged in the emergent and collaborative practice of insurance (McFall & Moor, 2018).

As opposed to the more speculative warnings by critical scholars of the subsumption of insurance by the techniques and logics of surveillance or communicative capitalism (Zuboff, 2019; Dean, 2009),

the sociology of insurance comes to behavioral insurance from an already-existing field of study and assumes some consistency of structure and continuity of practice. It thus examines the extent of the actually existing implementation of behavioral pricing practices by insurers and insurance institutions and extrapolates the possibilities according to these continuities (e.g. McFall & Moor, 2018; Meyers & Van Hoyweghen, 2018; Jeanningros & McFall, 2020) and the norms, rules, and actors that constitute the field (Van Hoyweghen, 2007; McFall, 2014). From here, it asks how people live with and within this social practice: asking questions of "living with data" and "data-human mediations" (Ruckenstein and Schull, 2017) or "distributed autonomy" (Tanninen et al., 2022).

STS-inspired work approaches insurance as a specific social phenomenon and thus an object that must be explained (Latour, 2005). Following Ewald (1988; 1991), insurance is variously defined across several functions—an organized social practice of solidarity co-produced by multiple actors; a legal or contractual method of alleviating and compensating individual catastrophe; a political or governmental rationality—but "at the most basic level insurance is a technology … for doing risk" (McFall & Moor, 2018, p. 6). Meyers (2018) advocates for a pragmatist approach to the study of insurance, going "beyond naive optimism and large Critiques" (p. 18; c.f. Tanninen 2020) and drawing on three theoretical traditions.

First is the Actor-Network Theory-based sociology of markets, the "new, new Economic Sociology" (McFall, 2009). This approach sees 'the social' as the result of hybrid associations between human and non-human actors (Latour, 2005); technology is not a driving force nor is society an explanatory variable, rather phenomena are the emergent result of shifting networks of association that join, rejoin, fail, etc. Knowledge is 'performative': concepts, objects, and subjects are constantly enacted into being (Meyers, 2018); if something is real it is because it is part of a practice (Mol, 2002). The Market and *homo economicus* are not simply ideas, they are enacted into being through economic markets (Callon, 2007; Meyers & Van Hoyweghen, 2018a).

Second is the sociology of expectations, or the generation of expectations of the future of insurance, Big Data technologies, and their articulation. Particularly in future-facing fields, expectations of the future and the process of expectation generation play a vital role in defining what insurance *is* and *should be*, and thus in the construction of markets (Meyers, 2018). In this pragmatist approach, the "fictional expectations" of actors in the present are constitutive of the markets of the future: "imagining future states of the world is a part of the decision making process in the present" (Beckert, 2016, p. 54; cited in Meyers, 2018, p. 24). The articulation of discursive futures thus constructs the trajectory of science and technology in the present, and these processes of construction have been empirically studied within STS (e.g. Pollock & Williams, 2010; 2015).

The final approach is Foucauldian governmentality studies, particularly the developments of Ewald (1988; 1991) concerning insurance. Ewald (1991) considers four aspects of insurance: concrete institutions, abstract technologies, forms, and insurantial imaginaries (pp. 197-198). *Institutions* are the heterogeneous set of actors, policies, laws, etc. that come together to produce the concrete

products of insurance that we experience in the world. The *abstract technology* of insurance is the technology of risk, as discussed earlier, which holds together and makes possible the concrete institutions. *Form* refers to the combination of these two things, concrete institutions and abstract technologies, which can be articulated differently at different times; particular forms manifest depending on conditions and context. Finally, the form an abstract technology takes in a given institution at a given moment depends on the *insurantial imaginary*, much as in the sociology of expectations; hence the focus by scholars on "forging markets" (Tanninen et al., 2021), "not-yet markets" (Meyers, 2018), or building digital worlds (Jeanningros & McFall, 2020).

This realist, pragmatist, three-pronged approach to the sociology of insurance focuses on particular questions to address the problem of behavioral insurance: how uncertainty is turned into calculable risk (Lehtonen & Van Hoyweghen, 2014); how these calculative practices produce categories and categorize people (Liukko, 2010; McFall, 2011); how insurance redistributes responsibility (McFall & Moor, 2018; Meyers & Van Hoyweghen, 2018a); and how different forms of solidarity are produced through different manifestations of insurance functions (Lehtonen & Liukko, 2011; 2015; Van Hoyweghen, 2010). This approach has produced many empirical studies of experiments with personalized premium pricing, bonus-malus systems, or other incentivized behavioral models. These include behavioral monitoring and vehicle telematics experiments in car insurance (Meyers, 2018; Meyers & Van Hoyweghen, 2018a; 2020), behavior-based health insurance products in Affordable Care Act (ACA) marketplaces (McFall & Moor, 2018; McFall, 2019), life insurance companies utilizing self-tracked behavioral data in Finland (Tanninen et al., 2021; 2022), Big Data techniques in home and renters insurance (Meyers, 2018; Barry & Charpentier, 2023), and Vitality (Jeanningros & McFall, 2020; Barry & Charpentier, 2020). These investigations, while acknowledging the potential for new forms of discrimination or exclusion, have led to the consensus within STS that the "epistemological leap" from risk mutualization or "subsidiary solidarity" to risk individualization or "chance solidarity" (Lehtonen & Liukko, 2011) has not yet been realized (Barry & Charpentier, 2020; Jeanningros & McFall, 2020; Barry & Charpentier, 2023). While these experiments continue, the utopian insurantial imaginary of perfectly personalized behavioral products has not yet been stabilized into an actually-existing market practice (Meyers, 2018).

Skepticism about the actualization of behavior-based personalization stems from several sources: technical or logistical shortcomings, restrictive regulatory environments, and an incompatibility with the mutualizing function of insurance. Several authors are concerned with the impracticality or implausibility of personalized pricing. Barry & Charpentier (2020; 2023) highlight the practical limitations of behavioral data collection that currently, and may always, prevents truly accurate personalized predictions—both the inadequacies of measurement-by-proxy and the difficulty of "getting people to use the damn thing" when it comes to data-collecting devices (Schull, 2016, p. 7). As risk pools shrink, the costs of miscalculation rise; even a small error in measurement or an outlier of chance have outsized effects in a risk-pool of one (Charpentier & Vamparys, 2025). Insurers also

face difficulties adopting these practices on a large scale: a 'stickiness' inside insurance institutions and a reluctance to implement new techniques (McFall & Moor, 2018), with fitness wearables largely seen as "gimmicks" (Sadowski et al., 2024). Technical data capabilities, while still limited, are outpacing actuarial instruments (Barry & Charpentier, 2020), in part because of an inherent conservatism in insurance companies (McFall & Moor, 2018; Charpentier & Vamparys, 2025). It is argued that behavioral pricing will likely be used to align with traditional actuarial practices (McFall & Moor, 2018) and take place "on top" of current insurance products (Meyers & Van Hoyweghen, 2018a). Behavioral data are thus "signals" used to extend and refine, rather than transform, existing practices (Barry & Charpentier, 2020), resulting in a "tension between the imaginaries of personalization, and the calculative devices used to assess risks" (p. 9). On the other hand, critical scholars point out that—despite these analyses—behavioral health insurance does not appear to be slowing; its "trajectory, and the ambitions driving it forward, are quite clear" as it continues its adoption of Big Data practices (Sadowski, 2024, p. 234).

STS scholars also point to regulatory restrictions as a limiting factor, claiming legal barriers and protections around pricing mechanisms and the types of data that can be used prevent the adoption of behavior-based personalization (e.g. McFall & Moor, 2018; Tanninen, 2020; Tanninen et al., 2021). Many of these empirical studies take place in the EU—Finland (Tanninen et al., 2021; 2022), Belgium and the Netherlands (Meyers & Van Hoyweghen, 2018a; 2020)—an environment with relatively strong data protection laws and public or decommodified health insurance. However, others argue that these very restrictions—the protection of categories such as ethnicity or gender, which may not be used in actuarial calculations, for example—are driving the turn toward behavioral data (Meyers & Van Hoyweghen, 2018a). Protected categories correlated with the phenomena in question (causal variables) can be discriminated against where the variable is excluded but the impacts are observed *ex post* or where "facially neutral" variables correlated with protected categories are included, allowing the protected characteristics to be inferred by algorithmic models (Barry & Charpentier, 2020; 2023; c.f. Prince & Schwarcz, 2020; McQuillan, 2015). Indeed, in the European 2011 gender directive (which prohibited the use of gender in pricing calculations) the judge supported insurers using behavioral data in place of "mere statistics" (Meyers, 2018). This highlights a problem with relying on statutory barriers as a predictor of non-adoption, and the gaps in regulation around "non-personal" (anonymized) data (Bednarz et al., 2025). Regulations and legal interpretations are by nature re-regulatable and the entrenchment of public protections or social programs should not be taken for granted, as seen in the rise and fall of the ACA in the US (Scheffler, 2023). Data regulations are more uncertain than ever in the midst of AI hype, which insurers claim to be the future of insurance (Henly, 2024; Malhotra, 2024), despite studies showing limited success in existing AI experiments in behavioral insurance (Francois & Voldoire, 2022; Charpentier & Vamparys, 2025). AI is still touted by the industry to be the future of economic growth, human prosperity, and everything else, meaning that relying on stable regulatory environments to protect everyday people is unwise at best:

> "When it comes to [AI] regulation – we will be pro-growth and pro-innovation. And on regulation [...] we are now in control of our regulatory regime… So we will go our own way on this." (Keir Starmer, UK Prime Minister, 2025).

Public or statutory insurance is also no guarantee of protection, with recent trends toward the adoption of preventative health in the public sector; "individual-level programmes targeting behavioural change" (Briggs et al., 2020, p. 4; see also Neuhaus & Curley, 2022). National insurance programs are also vulnerable to institutional drift or outright privatization under the weight of continuous neoliberal austerity (Maarse, 2006; Taylor-Gooby et al., 2017): for example in Ireland (Mercille, 2017), Spain (Pons-Pons & Vilar-Rodriguez, 2022), and Sweden (Lapidus, 2022). We should proceed with caution, however. The aim here is not to argue that behavior-based personalization is conquering the insurance sector or even that it has been actualized by insurance providers; rather, simply to problematize easy dismissals of it as something impossible, inconsequential, marginal, or only applicable to fully-privatized health insurance markets.

Finally, and most stridently, the sociology of insurance maintains that behavior-based personalization is incompatible with the solidarity function of insurance. The basis for the institution of insurance and thus the modern welfare state is the technology of risk; the knowledge of aleatory effects that occur randomly in a group of people but display calculable regularities at the aggregate level (Ewald, 1991). Risk is only visible at the population level, and is thus inherently collective (Ewald, 1990). Insurance is a mechanism, based on this technology, whereby a group of people facing similar virtual risk mutualize and cover the actual or specific occurrence of that risk for the "pool as a whole" (Lehtonen & Liukko, 2015, p. 158). All insurance contains an "inherent practical solidarity" (Lehtonen & Liukko, 2011, p. 33) that is incongruous with the ever-narrower division of risk pools, let alone the personalization of risk calculated at an individual level (McFall & Moor, 2018; McFall, 2019; Barry & Charpentier, 2020). The utopian horizon of perfectly estimated individual risk would entirely obsolesce the solidarity function of insurance, shifting from a mutualization of risk that insures against "bad luck" to an enactment of risk in which the individual is in control of, and therefore responsible for, their *personal* risk at all times and the insurer is obligated to reward or punish them accordingly (Meyers & Van Hoyweghen, 2018a). This is no longer insurance-as-we-know-it, but a new imaginary of self-selection and collaborative control in which all behaviors are optimized to fit a perfectly accurate predictive model; one in which uncertainty disappears and mutualization is obsolete—that is to say, one in which existing insurance models cease to function. This is the revolutionary promise of Big Data—notably, many of the start-ups pursuing these experiments, such as Lemonade, come from the world of venture-capital-funded 'disruptors' (McFall et al., 2020)—although they have so far seen limited success (Meyers & Van Hoyweghen, 2020; Francois & Voldoire, 2022). However, questions arise about not only the technical feasibility of this absolute personalization of risk, but also its conceptual possibility (Barry & Charpentier, 2020; 2023; McFall & Moor, 2018; McFall, 2019; Cevolini & Esposito, 2020). Instead, agreement seems to

be reached that behavioral data is a supplement to traditional actuarial practices of demographic categorization.

This leads to the conclusion that behavior-based personalization in insurance is—for now, at least—primarily marketing. Rather than personalizing risk, insurance providers are personalizing their image, their product, and their user experience (McFall & Moor, 2018; McFall, 2019; Charpentier & Vamparys, 2025). This marketing strategy is deployed to target preferred customers at the low-risk end of the spectrum, create brand loyalty in the infamously cold and impersonal insurance market, and offer perceived value (Jeanningros & McFall, 2020); insurers consider more than actuarial calculations when determining prices and product offerings (Van Hoyweghen, 2014). There remain too many barriers to adoption: the particularities of institutional and professional practices; diverse regulatory environments; the epistemological limits of solidarity; and the differing strategies of insurers and tech companies. Given these obstacles to realization, STS scholars argue that behavioral insurance should be studied as it is enacted in the real world; a specific technology and set of practices, situated within particular regulatory and institutional contexts (Meyers, 2018; McFall et al. 2020; Tanninen, 2020). Attention should be paid to the practice of "doing insurance" within these contexts, and empirical cases of insurance being "done".

Discussion

The division between critical data studies and STS-inspired approaches should not be overstated. There is significant cross-pollination, alignment on empirical results, and analytical agreement between the two schools of thought. Similarly, both schools emphasize the emergence of insurance as an institution from the abstract technology of risk and the techniques of disciplinary governmentality. There is an increasing convergence on the existing extent of implementation and the current state of things; the basic facts are not contested. Investigations reveal that behavioral insurance as we know it is an experimental innovation by disruptive start-ups (Meyers & Van Hoyweghen, 2020), a supplementary practice "grafted onto" traditional models (Meyers & Van Hoyweghen, 2018a; Barry & Charpentier, 2020), and a discursive offering by marketing departments seeking to attract customers (McFall & Moor, 2018; Jeanningros & McFall, 2020; Sadowski et al., 2024).

The sociology of insurance literature focuses on tracking developments in the industry as-it-is, seeking to identify how insurance is currently being "done" (Meyers, 2018; Tanninen, 2020). Critical data studies views behavioral insurance as a conjunction of insurance, technology, and normative governance, focusing on trajectories within and beyond the industry identified through a mix of empirical work and analysis of the interests and power relations within the field (Lupton, 2014; 2015a; Sanders, 2017; Sadowski, 2024; Sadowski et al., 2024). Sociology of insurance and critical data studies both recognize the same concerns around discrimination and exclusion and the continued proliferation of behavioral practices (Meyers & Van Hoyweghen, 2018a; McFall et al., 2020; Barry & Charpentier, 2020; 2023; Jeanningros & McFall, 2020).

However, the question of what it means to understand our behaviors and bodies as data has received relatively little attention within studies of behavioral insurance. Scholars largely focus on the production of "neoliberal subjectivities" (Tanninen, 2020): creating subjects as entrepreneurs of the self (Foucault, 2008) through the individualization and responsibilization of health (Charitsis, 2016; Ajana, 2017; Lupton, 2015a; 2016; König, 2017; Gidaris, 2019); the incentivization and normalization of particular, productive bodies (Sanders, 2017; Sadowski et al., 2024); and the enactment of agency and solidarity produced by new forms of insurance (McFall & Moor, 2018; Meyers & Van Hoyweghen, 2018a; Tanninen et al., 2022; Barry & Charpentier, 2023). Scholars in other fields are more attuned to the question of the image of self in a world of data and the construction of self-as-subject: advertising and marketing (Cheney-Lippold, 2011; 2017; Zwick & Bradshaw, 2016); Big Data (Mayer-Schönberger & Cukier, 2013; Kitchin, 2014b; König, 2017; McQuillan, 2015; 2018); product design (McQuillan, 2016; Kaiser, 2023); education (Lupton & Williamson, 2017); and health self-tracking and the "quantified self" (Lupton, 2012; 2013; 2016a; 2017; Charitsis, 2019; Charitsis et al., 2019; Barry, 2020). This lack of attention to the effects of subjectification highlights the importance of our research.

There are three main takeaways from this survey of the literature that are relevant to our study of behavioral health insurance as an apparatus of subjectification: the disagreement over the limits of the field of study; the question of actual implementation and marketing rhetoric; and the contradiction between personalization and mutualized solidarity.

First, STS-inspired approaches view health insurance as a bounded practice, with its possibilities and consequences constrained within institutional and regulatory boundaries at the level of practice, and theoretical or logical commitments at the level of function. This seems straightforward when investigating, say, how the specific practice of pricing occurs within a firm, but the boundaries are not always so easy to parse. The metrics by which we assume the unity of some discursive object called "insurance" surely depend on how we view its function; any analytical delineation will be arbitrary and retrospectively applied according to our current concerns (Foucault, 1989). To isolate the study of insurance to a specific set of actors or institutions is to inherit all of the assumptions that define that field of "insurance" in the first place. The importance of approaching insurance as a social phenomenon to be explained by the connections, conjunctions, and disjunctions of heterogeneous flows of labor, knowledge, capital, etc. is clear; to arbitrarily limit our field of view to only those already described as "insurance" is folly. To analyze insurance as a process of subjectification it must be placed in a collectivity with other discourses of governance, regulation, conduct, etc. and treated as a site of production of knowledge of the self (Foucault, 2007). More concretely, we must ask what behavior-based insurance reveals about relations of power and consider what knowledge is reproduced in the practices of behavioral health insurance.

Second, while there is a growing consensus around behavioral-insurance-as-marketing, little attention has been paid to this marketing itself as a site of the construction of insurantial imaginaries.

Marketing is the production of knowledge of both the product and the consumer; the articulation of role, substance, and function. McFall (2011) highlights the historical role of the discursive production of the "average man," a norm from which to define the case at hand, who was performed directly to consumers by sales agents. Barry & Charpentier (2020) discuss the personalization of risk as *conveying an imaginary* of being able to predict the chance of individual events; a move from an era where uncertainty was defined by the collective technology of *risk*, to an individualized era based on the predictive technology of *data* (Ewald, 2014; cited in Barry & Charpentier, 2020). The mythology of the actuary—where decisions are made to appear objective but are in fact highly interpretive and subjective—becomes the myth of the algorithm (Barry & Charpentier, 2023, p. 48), where the fallibility of the human subject is replaced by the cold objective logic of the machine. McFall & Moor (2018; see also Jeanningros & McFall, 2020) identify behavioral insurance as a marketing practice, personalizing the brand rather than the product. However, Charitsis et al. (2018) examine this function more closely; to produce particular knowledge about the roles of insurer and insured and the function of insurance—a form of biopolitical marketing. The production of these socio-technical imaginaries *is* our collective understanding of these technologies and the forms of social life which accompany them, based on a shared view of the world and image of a desirable future (Jasanoff, 2015).

The question then is: what is the view of the world revealed by these imaginaries? While Meyers (2018) and Meyers and Van Hoyweghen (2018b) investigate this question, they do so among industry actors: at conferences and on blogs. This thesis argues that if we want to see the world that is being constructed, we should look for it out in public: in the hyper-visible discourses of marketing. Marketing structures our desires and produces our objects of consumption, but it must also operate within an acceptable articulation of the world; it requires both novelty and an established ground. Marketing discourses operate at the frontiers of the imaginary, pushing the boundaries of acceptability while defining acceptable forms of newness; reproducing and reify hegemonic discourses by rearticulating dominant ideologies as new statements, new concepts (Deleuze & Guattari, 1994). The imaginaries of insurance revealed by the marketing of behavioral health insurance companies are key not only to discerning the forms of insurance that might emerge in the future; but also how these imaginaries are already structuring the subjectivities of insured people in the present. Accordingly, this project aims to analyze the marketing discourse of insurance providers, specifically Vitality, to see what forms of knowledge are being created and how users are being trained to understand themselves, their bodies, and their health.

Finally, almost every analysis of behavioral insurance highlights the contradiction between the individualization of behavior and the collectivization of risk. On one hand, actuarial fairness—the idea that each should pay only for their own risk (Meyers & Van Hoyweghen, 2018a)—on the other, insurance as fundamentally a product of risk-mutualization (Ewald, 1991). Scholars argue that risk, in the traditional sense, *must* be collective; it is therefore impossible, or at least suicidal, for institutions of insurance to undermine this solidarity function through personalization (Barry & Charpentier,

2020; Jeanningros & McFall, 2020). However, behavioral practices are proliferating within insurance, regardless of theoretical objections. This suggests that the understanding of risk as the production of collective regularities and their distribution across a population is no longer adequate to interpreting the functioning of behavioral insurance. A behavioral theory of risk must be investigated (Sadowski et al., 2024). This would require that the product of insurance be rearticulated along with risk; a new value offering for a new understanding of the world. The emergence of proto-behavioral insurance is a matter of fact in the literature: the paradigm shift seems already underway with examples from vehicle telematics (Barry & Charpentier, 2020), usage-based insurance (UBI) (Meyers & Van Hoyweghen, 2018a), Affordable Care Act (ACA) marketplaces (McFall, 2019), and in health and life insurance (Jeanningros & McFall, 2020; Sadowski, 2024; Sadowski et al. 2024). If the product is theoretically illogical and yet it appears anyway, we are not understanding the logic: behavioral insurance providers are changing the product.

This emerges as an additional research question of the thesis: if behavioral insurance providers are no longer selling protection against uncertainty, what is the discursive imaginary of the new product of behavioral insurance?

These gaps in the literature guide the direction of this research and frame our approach to the question of subjectification. We will analyze the marketing discourse, taking it seriously as a site of subjectification. In doing so, we will seek to describe the limits of the discursive field and thus situate the activities of Vitality. We will pay attention to the rearticulation of the product of behavioral health insurance to understand what is being sold—what imaginary of the product (and therefore the consumer) is being produced. This will allow us to focus on the effects of subjectification in the discourses of behavioral health insurance and answer our major question: how does behavioral health insurance shape our understanding of our bodies and our health?

Chapter two: Theoretical framework

This chapter lays out the theoretical background adopted in this research by discussing a set of key concepts. Our analysis is rooted in a poststructuralist paradigm, particularly the works of Foucault (1978; 1988; 1989; 1995), Deleuze & Guattari (1983; 1994; 2013), and Deleuze (1988; 1992; 2001). During the process of research and analysis, the work of Baudrillard (1994; 2010) also became relevant and provided useful tools.

This paradigm seeks to take "whatever was still pyramidal in the Marxist image and replace it with a strict immanence" (Deleuze, 1988, p. 27). Processes or events are not reducible to technological or economic determinism "even in the last instance" (*ibid*). Cause and effect presuppose one another; the abstract diagram of power relations in a society is the cause of the concrete assemblages that, in turn, constitute a particular topology of power. This is a philosophy of immanence: not simply the opposite of transcendence, the plane of immanence is a field of pure difference and potentiality where forces, events, and relations unfold, interconnected and constantly in flux (Deleuze & Guattari, 2013). The cause is thus immanent and co-extensive with the entire social field: power and knowledge produce and reproduce one another; desire and knowledge enter the infrastructure; and subjectivity, myth, and imagination move beside production and ownership in a horizontal relation of causation. It has been described as "ontological anarchism" in the sense that it is *an arche*—without origin or ordering principles, with no primary cause or transcendent logic (Malabou, 2024). We will take this approach, understanding behavioral insurance as the product of a conjunction of forces, but also a vector through which those forces pass and a (re)producer of those same forces. This helps position our approach to marketing: as described by McFall and Moor (2018), behavioral health insurance may be the manifestation of economic imperatives expressed as an exercise in marketing, but marketing is also a structure that shapes economic imperatives, that produces subjectivities, that is produced by subjects, who are the product of other forces, and so on.

Some of the concepts discussed are explicitly operationalized in the text, while others ground an epistemological or ontological orientation and approach to the analysis. This 'conceptual toolbox' will frame much of the discussion going forward and is taken up in the next chapter, in conjunction with the existing literature on behavioral health insurance discussed in the previous chapter, to construct an analytical model within which to situate Vitality's discourse and answer our research questions.

Power-knowledge

Foucault (1995) uses the term power-knowledge (*pouvoir-savoir*) to illustrate the entanglement of power and knowledge; the two are mutually constitutive and "directly imply one another" (p. 27). Power is not only repressive but also productive of norms, knowledge, and subjectivities; constituted by and exercised through the production and reproduction of knowledge. Knowledge is the process of joining the things we can see to the things we can say; the linking of non-discursive elements or

visibilities and discursive elements or *articulabilities* (Deleuze, 1988). Knowledge is always and only the mechanism by which the articulable and the visible are linked; particular formations of relation between statements and irreducible objects at particular times (Foucault, 1989). These never fully coincide or form enduring or stable regimes of truth; any particular joining is the product of a contingent historical strata. Knowledge—including scientific 'truth'—is thus never neutral or objective; every system of knowledge is embedded in and formed by power relations, and exercises of power operate through and on forms of knowledge (Foucault, 1995). This knowledge—the way it is constructed, organized, the relations it enters into—produces us as subjects: what we know and how we know it (*connaissance*) and our understanding of social roles, norms, and behaviors (*savoir*) are all the product of power (Foucault, 1989). Power itself cannot be held or accumulated, only exercised; a practice or a strategy rather than a property or characteristic. It is purely operational; a power-relation between forces, local in that it is never totalizing or global but also decentralized and diffuse, flowing through every point in society and every social relation, dominated as well as dominator (Deleuze, 1988).

Discourse

Discourse is a historically embedded and specific set of statements, concepts, and practices that define what can be thought, said, and considered true in any given field (Foucault, 1989). Discourses are not reflective of reality but constitutive, creating the objects they describe by dictating limits, attributes, divisions, and relations (*ibid*). The objects and categories through which we understand the world are produced discursively: the sane and the insane; the homosexual and the heterosexual; the criminal and the citizen; the healthy and the unhealthy; the normal and the deviant (Foucault, 1978; 1995). Discourses are formed and sustained by arrangements of power; exercised in institutions (such as economics, medicine, education) that define the limits and rules of the discourse (Foucault, 1989). In turn, they maintain these power relations by legitimizing forms of knowledge and ways of knowing (Foucault, 1989); the rules, norms, and assumptions that shape how knowledge is produced, organized, and understood (Deleuze, 1988). These grids of intelligibility regulate not only what can be said, but also who can speak, the acceptable modes of speech, what can be spoken of, and what may not: what is visible and intelligible versus what is subjugated and concealed (Foucault, 1989). Knowledge produces and is produced by power; power produces discourses and categories of knowledge, which create subjectivities and categories of subjects (Foucault, 1989).

Subjectification

Subjectification is the process through which individuals are produced as *subjects*—both subject *to* the operations of power, and *a* subject or a self-conscious being with the capacity for experience and action. Subjectivities are thus the frames the individual has access to for understanding the world and their place in it; their role, behaviors, concept of self, relationship to other entities, etc. The individual

is subjected to identification, diagnosis, definition, and categorization that make subjects, objects, concepts, or practices intelligible; operations of power which produce systems of knowledge (Foucault, 1978; 1982). This creates norms within which the subject self-regulates and toward which the subject performs, operating within a coercive framework of discipline, regulation, and control (Foucault, 1995). However, subjectification is not purely oppressive; it enables agency as individuals operate within and against these forces to fashion themselves into a particular type of subject through self-reflection and self-regulation, albeit structured by the historical norms and discourses available (Foucault, 1978; 1988).

Technologies of the self

Technologies of the self are the concrete practices of self-reflection and care by which the self constitutes itself as a subject, allowing individuals to act on their "bodies and souls, thoughts, conduct, and way of being" to transform themselves and reach some level of perfection or happiness (Foucault, 1988, p. 4). Foucault describes these as one of three key modes of objectification by which subjects are produced (1982); the voluntary and self-enacted ways human beings turn themselves into subjects. These techniques are a key site of subjectification, involving the internalization of norms and discourses and the active production of the self as a certain kind of self: a dual practice of acquiescence and resistance; forming and being formed (Foucault, 1986). As discussed above, the self can never step entirely outside relations of power; it is not a pre-existing essence but a subject produced within and by the operations of power. Technologies of the self are thus shaped by and practiced within prevailing norms and discourses; practices of reflection, care, and development that enable self-directed development within pre-defined systems of knowledge and normative frameworks (Foucault, 1986; 1988).

Deterritorialization

Deterritorialization is the process of breaking free or abstracting from physical, conceptual, or social contexts or territories (Deleuze & Guattari, 1983; 2013). It is a movement away from fixed structures, meanings, and identities; a decoding of social codes and a smoothing of spaces striated by historical sediment. Deterritorialization is always bound up with movements of reterritorialization; not return to the territory, but the integration of deterritorialized flows into other territories or the formation of new territories from the connection or conjunction of deterritorialized elements. Every line of escape must land somewhere; flows which break free are captured and recoded—for example, a stick is a deterritorialized branch, reterritorialized as a walking cane (Deleuze & Guattari, 1994, p. 63).

Capitalist axiomatic

To Deleuze and Guattari (1983; 2013), capitalism proceeds primarily by way of deterritorialization. Previous social bodies organized production through intricate networks of social codes which mapped

onto productive flows: the rules, rituals, and relations that governed specific forms of production—familial, feudal, ecclesiastical, fraternal, etc. Capitalism breaks down structures of tradition, community, and symbolism, decoding the codes and freeing the flows of production and desire. But what it deterritorializes it must reterritorialize; decoded flows escape the old codes and are reinscribed in the language of commodities, accumulation, and profit: "all that is solid melts into air, all that is holy is profaned" (Marx & Engels, 1848, p. 16).

Capitalism functions not by localized code but by generalized axiom; abstract rules that functionally relate flows of production purely in terms of exchange and equivalence (Deleuze & Guattari, 1983). These axioms form a rule-set that allows the emergence of a system of social production: thus money is no longer a tithe, or a bride-price, but becomes the universal equivalent; labor is deterritorialized from the body, made abstract labor, and reterritorialized in the wage (Deleuze & Guattari, 1994). Axioms are given as absolute, pre-existing the concept of truth or falsity; they cannot be contested, only added to or subtracted from as required to account for flows, deterritorializations, or new assemblages that form and cannot be contained within the existing axiomatic (Deleuze & Guattari, 1983).

Societies of control

In *Societies of control*, Deleuze (1992) outlines the transition of post-war societies from Foucault's (1995) *disciplinary society* to a new form; a project of total surveillance and intelligibility based on "ultra-rapid forms of free-floating control" (p. 4). The enclosures of the disciplinary society were distinct, rigid formations—the school, the hospital, etc.—operating according to their own rules, regulatory functions, and codes. The society of control deterritorializes the subject from the enclosed spaces of discipline and reterritorializes them in the borderless axiomatic logic of informatic flows (Deleuze, 1992). The disciplines molded the individual into a fixed, categorizeable identity, guided by a set of discursive practices and static norms to which the individual continually shaped themselves (Foucault, 1995). The control society is modular, adding to the body and identity over time, accepting and incorporating the plasticity of the subject (Deleuze, 1992). Rather than moving from one site to another—school, factory, prison—the barriers between the enclosures blur and their logics intertwine: the subject is never completely trained, but it perpetually training; never completely a worker, but an entrepreneur of the self; never completely healthy, but must be constantly assessed and inscribed with health (Deleuze, 1992). The function of control is not discipline but *prediction*; not the constraint of desire, but the monitoring, channeling, and production of predictable desires (Deleuze & Guattari, 1983). Discipline governed subjects by *norm*; control governs by *market*, by *debt*, by *algorithm*, and by the cybernetic apprehension of *risk* (Deleuze, 1992).

Deleuze's analysis of the society of control is built on his reading of Foucault (Deleuze, 1988). Particular formations of power-knowledge produce particular social codes or society-wide subjectivities, which produce specific power relations and manifest in abstract social machines and

concrete technologies (Deleuze, 1988). Deleuze and Guattari (1983) see not a rupture between the formations of discipline and control, but changes of pace or intensity, shifts in the speed of the dual processes of deterritorialization and reterritorialization. This manifests as institutional and technological transformation driven by assemblages that come together and collapse, class formations that constitute themselves or dissolve, intensities of power that gather or disperse (Deleuze, 1992).

Foucault himself was attuned to these developments, moving beyond his analysis of the disciplinary society and toward what he called the "security society" (Foucault, 2007), shifting his focus from the techniques of objectification imposed by discipline to the practices of self-subjectification pursued by subjects within a system of biopolitical regulation (1982; 1988; 2007; 2008). In this formation, regulation allows for the remote operation of power upon the subject (Foucault, 2008), determining the conditions of possibility within and upon which subjects create their lives, rather than solely constructing subjectivities through the encoded rules of disciplinary norms (Cheney-Lippold, 2011). The norms of the security society are "culled from the population rather than grafted upon it" (Foucault, 2007, p. 65); regulation no longer begins with individuals and shapes them to an external mold; it starts with the mass and classifies and differentiates it against its own normality. Instead of defining and disciplining the deviant, it monitors and controls variance in the collectivity (Foucault, 2007). For Foucault (2008), the regulatory operations of biopolitics were a process of the abolition or abrogation of disciplinary norms and institutional codes in favor of the regulation of life by determining its conditions of possibility; the ground upon which thought and action occur. This echoes the process of deterritorialization described in Deleuze (1992), where the codes are abolished before being resurrected as immanent and self-regulating mechanisms of continuous surveillance and control.

Dividuals

The society of control understands the body not as subject, but as data. The individual becomes the *dividual* (Deleuze, 1992), no longer indivisible, but a creature of endlessly subdividable information; the subject-body stripped down to pure flows of data. This is no longer limited to the static, statistical data of the disciplinary society, but increasingly the dynamic, vital data of speech, affect, movement, desire, action. The individual of discipline was constituted at the intersection of static vectors of identity; the dividual of control becomes the momentary point of intersection of differentiated flows. The individual is no longer identified as a numerical position within a mass, but is a multiplicity of fragmentary data-points that flow across surfaces of surveillance and recording. The mass/individual pair is decomposed into dividual data situated in samples, markets, data centers, or data sets (Deleuze, 1992). What the census was to the subject of discipline, so is the cookie to the dividual subject of control.

Becoming

To Deleuze and Guattari, *becoming* is "to emit particles that take on certain relations of movement and rest because they enter into a particular zone of proximity" (2013, p. 318). Becoming is not imitation or identification, nor is it to take on a particular form; one thing never *becomes* the other. Becoming is not a state but a continuous process; a partial, contingent, precarious movement away from stable states and dominant forms of being. It begins with understanding the subject as a multiplicity, a dynamic constellation of relations—the functions of the parts, the shape of the whole—which enters into an alliance or symbiosis that puts it in connection with the affects, movements, behaviors of the thing the multiplicity is becoming. Becomings do not occur at the level of the subject: "all becomings are already molecular" (Deleuze & Guattari, 2013, p. 318). One gives off signals that themselves behave in the same way as those transmitted by what one is becoming.

Absolute advertising

Baudrillard (1994) describes the concept of absolute advertising in *Simulacra and simulation* as a societal context in which all modes of communication are subsumed into the form of advertising: shallow, decontextualized, instantaneous, and utterly exchangeable statements that operate at "degree zero" of meaning. In this formation, "all current forms of activity tend toward advertising" (*ibid*, p. 87); not necessarily advertising as such—the public touting of a product—but the facile, fascinating communicative mode. Statements lose connection with content, becoming neutral and equivalent as all meaning becomes exchangeable and discourses are dissolved into one another. The language of the social, the political, and the scientific tend toward the simplified siren's song that is the agitated expression of advertising: the trademark image, the political brand, the scientific persona or the citation metric.

In the same breath, Baudrillard (1994) contends that, by the time of writing, advertising was already losing its power, being displaced by the more simplistic and thus more functional language of computer science. These "cybernetic languages" accelerate the absolute reduction of language toward the "lowest common denominator of signification" (p. 87); the seductive depthlessness of advertising is displaced on to the computer and the computation of everyday life.

With the benefit of hindsight, it seems that rather than replacing advertising, cybernetics simply subsumed or was subsumed by it; absolute advertising took on a cybernetic form. In *What is philosophy?* Deleuze and Guattari (1994) point us in this direction:

> The most shameful moment came when computer science, marketing, design, and advertising, all the disciplines of communication, seized hold of the word concept itself and said: "This is our concern, we are the creative ones, we are the ideas men! We are the friends of the concept, we put it in our computers. (p. 18)

Concept comes to refer to the product display and the store layout and critique subsides into sales promotion. The "simulacrum, the simulation" of the product displaces the concept (Deleuze & Guattari, 1994, p. 18), not as a product to be consumed, but in its semiotic existence within networks of exchange and its digital representation in a simulated political economy.

This concept was recognized as necessary during the coding process to capture the movement of Vitality's project. While as a *code* it was amalgamated into a broader theme to reflect the role it played within the text (discussed in chapter five), as a *concept* it plays a key role in describing the structure of the discursive strategy. In this research, *absolute advertising* is treated as the generalization of advertising as the default mode of communication, but an advertising adapted to a medium structured by cybernetic logics. Not the TV advertising of the local car dealer, but the digital advertising of Facebook and Google: communication driven by the goals and tactics of advertising but underpinned by the metrics, monitoring, and adaptation of the data scientist. It is the computational revelation of the perfect message, place, time, and tactic and the total system of advertising that orients an entire communication ecosystem toward attention, competition, simplicity, and *selling*.

Conclusion

This section has been about creating a 'conceptual toolbox' with which to approach the discourse of Vitality and think about the project of behavioral health insurance in general. The application of some concepts may be immediately obvious, while others are operating more quietly in the background of the analysis—similarly, some will be used directly within the text, while others simply provide tools for tackling the problems presented by the research questions. These concepts will now be deployed alongside existing literature to create an analytical model within which to analyze the discourse of Vitality.

Chapter three: Analytical model

Building on the discussions put forward in the first two chapters, this chapter proposes an analytical model to frame the research and enable us to answer the research questions. The aim of this section is to combine existing scholarship on insurance with our conceptual toolbox, to articulate a perspective from which to situate our analysis and orient our approach to the data (Wodak & Meyer, 2009; Terry et al., 2017). Drawing on the insights from both critical data studies and the sociology of insurance, particularly the logics identified by Sadowski (2024), we can identify five relevant analytical dimensions: *individuation*, *representation*, *personalization*, *total control*, and *autonomy and choice*. These dimensions are not confined to concepts internal to the field of insurance, but stem from the convergence of finance, technology, marketing, and insurance. The question we are asking here is: in each of these dimensions, what are the rules and logics—what is the necessary understanding of the world—that allow the techniques of behavioral health insurance to emerge? What must be true about the way we understand the world for the description, marketing, and even the product of behavioral health insurance to make sense?

Individuation

Individuation is the decoding and abstraction of the individual from social context and solidarity. It is the transformation of collective social relations into private relations between individuals (Charitsis et al., 2018), including both an epistemological shift and its discursive articulation. The individual is identified and delimited within the mass of the population, a newly-constituted entity assigned agency and responsibility of action. This takes place at a general, abstract level; the production of the concept of the individual, not specific individuals. This shifting understanding of the relationship between individual and population mirrors a change in the understanding of solidarity and fairness in insurance (Barry & Charpentier, 2023). As discussed earlier, insurance produces solidarity in two ways: either by creating large pools where heterogeneous risk is subsidized across the population; or by identifying and dividing the population into small, relatively-homogeneous risk pools with similar chance of incident (Lehtonen & Liukko, 2011). While the "technology of risk" Ewald (1991) describes—the basis of the modern welfare state—operates according to the former, profit-seeking insurers have long tended toward the latter (Sadowski, 2024). This is driven not only by economic imperatives but by a particular moral understanding of actuarial fairness, which understands each individual as a bundle of characteristics with associated risks who should thus be financially responsible for their own—and only their own—risk, with minimal within-pool subsidies (Sadowski, 2024). Behavior-based insurance extends this logic to the extreme, where risk is no longer pooled uncertainty among *a priori* similar cases, but the evolving prediction of an individual case across time according to individual behaviors (Barry & Charpentier, 2023). Risky or risk-averse behavior should determine premiums,

rather than census or demographic data; premiums are “fair” when individuals pay according to their behavior (Meyers & Van Hoyweghen, 2018).

This echoes broader themes of individuation and responsibilization as forms of neoliberal subjectification, which individuates causality and abstracts from structural forces or social context, attributing responsibility for the self firmly to the self. As described by Foucault (2007), this necessitates a form of constant self-discipline within the regulatory apparatus, enforcing a process of constant stock-taking of internally-generated norms and the regulation of statistical extremes or deviant behaviors. The individual and their behaviors are conceptualized as a self-contained package, autonomous, undetermined by social structures, and wholly responsible. The discourse of behavioral insurance marketing is situated somewhere along this axis, reflecting a particular positioning of the individual relative to the collective mass, the production of solidarity, and fairness; a particular relationship between the individual, the collective, and the insurer. These are the questions in which we will place the discourse: is there a relationship between the insurer and the collective, of which the insured is part—does insurance fulfill some social function—or is it purely private and personal? To what extent is the self responsible, exercising undetermined agency, and where does the insurer sit between a position of passive observation, preventative prediction, and active regulation?

Representation

Representation is the recording and rendering intelligible of action; the encoding of behavior and experience as data. It includes practical questions of the limits of proxy formation and measurement, the technical limits of surveillance, and the conflation of correlation and causation, as well as epistemological questions of the quantification of phenomenal experience and its representation and supersession in data. Representation is the logic that enables individuation: the doubling of experience, the re-coding of behavior as something natively numerical (Barry & Charpentier, 2020), and the identification of action with data that supposedly delivers an exhaustive account of the individual (Kitchin, 2014a).

The representation of action as data presents a set of immediate practical problems: the real-world stickiness and resistance of proxying life as data. If action is to be datafied, it must be decided what is to be measured, how it is to be quantified, how the information will be collected, how surveillance devices will be distributed, how people will be made to use them, how the veracity of data can be verified, and how it can be transformed into meaningful prediction. These are all *choices* that establish distance between the measurement and the thing being measured—between action and data. Step-count fails to capture the qualitative aspect of movement; heart-rate monitors fail to distinguish between exercise, fear, and arousal; and “gym visit” says nothing about its effects on health.

Tanninen et al. (2021) found that insured people were routinely frustrated by the inability of self-tracking devices to comprehend activity as a social practice and the social situatedness of the concept of health: failing to recognize relaxation and socialization as necessary and healthy practices

and so interrupting, for example, children's bed-time rituals with beeping reminders to exercise. This is the real-world problem of representation; its incommensurability with the displaced represented. The representation of health as specific digital artifacts—the problem of proxies—necessitates the flattening of human experience to something intelligible to a computer, rendered numerical, equivalent, and thus calculable. It also requires the invasion of quantification and optimization into spaces we instinctively "know" as healthy (*ibid*), but which cannot be quantitatively justified or indeed easily represented for interpretation by the algorithm. This incongruence is also visible to insured people, who are liable to respond with conscious or unconscious resistance: forgetting or neglecting to track themselves or even fabricating data to appease the requirements of the algorithm (Schull, 2016).

The practical difficulties reveal an epistemological problem. The techniques of data or actuarial science rely on a worldview in which the individual can be chopped up and broken down into its constituent flows of representative data—dissolved into a *dividual* (Schull, 2016). McQuillan (2018) describes data science as not simply a set of techniques, but an organizing principle or paradigm he terms "machinic neoplatonism." Data science distrusts and rejects the fallibility of subjective knowledge; only through the analysis of objective data can we study reality, revealing a "hidden mathematical order" that is metaphysically superior to our direct experience of the world (*ibid*, p. 1). This has obvious echoes in the strategies of insurers, who are hesitant to trust self-reporting from insured people who may have an interest in misrepresenting themselves in data. Insurers thus see behavioral or observational data as more trustworthy, allowing them to mathematically reconstruct the markers of health (Sadowski, 2024). Through the capture and analysis of the datafied "traces" left behind as individuals move through the world, digital or rendered digital through machines of tracking and surveillance, the mathematical truth of health and the body can be revealed. The individual is rendered intelligible not as an essential identity, static and based on census data; nor as a performative identity, intentional and susceptible to manipulation by the subject; but as a revealed identity, behavioral and algorithmic (Cheney-Lippold, 2011; 2017).

The fallible, interpretative knowledge of the subject is rejected in favor of the machine, which becomes more trustworthy in the determination of health than the self; a machinic observer imbued with the omniscience of algorithmic objectivity by the all-seeing "god's-eye view" of Big Data (Haraway, 1991). This may sound hyperbolic but consider the words of the head of one of Japan's largest insurers: "We can now reveal things that, in the past, only god knew about, thanks to technology, including AI" (Mikio Okumura; quoted in Sugiura & Lewis, 2022).

The identification of data with action is the core of the problem. The representational thought of (neo)platonism works by analogy; it establishes an identity and "correspondence between these symmetrically structured domains" (Massumi, 2013, p. x). Data are not natively representative of action: there is work in identifying the produced narrative flow that is data with the phenomenal experience that is action. "The world does not contain any information" (Illich, 2009, p. 100); data is

produced by the observer in their engagement with the world. Data do not come spontaneously into being but are created, and as such are always created within a particular assemblage and thus shaped by it (Kitchin, 2014a). The thing we are calling here "data" is specifically produced within a distributed "surveillant assemblage" (Haggerty & Ericson, 2000); a decentralized network of points of observation, recording, collation, and production, the connection and conjunction of what were once discrete surveillance systems. To be concrete: in our case, this means an assemblage which may include the sleep tracking or meal-plan app on your phone; the step-counter and heart-rate-monitor on your smart watch; the purchase history from your grocery loyalty scheme; the door-card record of your local gym; your web browsing history; self-administered or independent biochemical or biometric measurements; and so on—whatever insurers may acquire through partnerships, direct reporting, volunteered information, data markets, telematics, and other "extrinsic" data sources (Bednarz & Manwaring, 2022).

While these observers are largely disinterested and may be human or non-human, the tools that produce these accounts are not themselves impartial; the values and assumptions of the builder (whether systemic or individual) are baked into the design of the machine (Kaiser, 2023; Illich, 2009). As these observers become increasingly automated and mechanical, data is presented as an unmediated account of the world. As in Foucault's (1995) panopticon, Fourcade & Healy (2017) point out that as the network of observation brings the "recorded individual … into full view, the recording individual has faded into the background, arguably to the point of extinction" (p. 11). This increasingly becomes the domain of black-box deep learning algorithms capable of experimenting and updating their own models and metrics without the active input of a human controller (*ibid*). However, the objectivity of the machine is a myth (boyd & Crawford, 2012). The recording individual may have faded from our sight, but they are still very much present in the choices of what to measure and how; in interpretation; in the design of machines and programs; and in the incentives built into the system. Data are a mediated, constructed, partial (in both senses), flattened, and interpretative account of the object of observation; the observer—whether mechanical or biological—tells a story about the observed. Each observer has a different, partial story of *you*; and each reconstitution of *you* will produce a different identity based on the accounts that are included or excluded (Cheney-Lippold, 2011). This philosophy (or ideology) of data science is not merely an abstract concern, but actively reorganizes human activity in the world with algorithmic force (McQuillan, 2018). These beliefs are enacted into the world in the structures, technological forms, decision architectures, and outcomes of institutions such as behavioral insurance.

The analysis of Vitality's discourse will consider how Vitality positions itself in these problems and how it attempts to navigate or negotiate solutions; whether it recognizes and articulates these as problems, and how insured people are encouraged to both engage with and think about their engagement with self-tracking and surveillance devices. The point of interest here is how Vitality understands its products, users, and practices within this discussion, and what knowledge of the self

(and knowledge of knowledge of the self, both what we are and how we can access knowledge of ourselves) is being reproduced in Vitality's discourse.

Personalization

Personalization is the reconstruction of the individual from the flows of data: the production of "data doubles" based on representation and interpretation (Haggerty & Ericson, 2000) and the differentiation of data doubles for each observer (Cheney-Lippold, 2011). It includes questions of discrimination and exclusion, as well as positive selection bias, and the inferral of identities from behavioral data to bypass protected characteristics. However, the concept of algorithmic personalization presents a paradox. Personalization requires a deep knowledge of the individual and the specification of a product to their particularities; but the functioning of data science prohibits *any* knowledge of the individual in the absence of other data (Charitsis et al., 2018). The computational power of Big Data relies on an ignorance of the qualitative existence of the individual in their specificity and instead requires an "abstraction of data from the person" on a massive scale and the construction of a network of relations and connections (Charitsis et al., 2018, p. 827): a database.

The individual is only useful as a position in this database; not how they exist in the world, but how they are related in "abstract data space" (Arvidsson, 2016, p. 9). In statistical terms, the health function of the individual is overdetermined with respect to their own data—they provide only one observation—and as such is meaningless without the population. Definition of the individual cannot be achieved through identity, but only through difference.

The data of any specific individual is almost entirely worthless even while being highly sought-after in aggregate (Charitsis et al., 2018). The actual person that insurance observes only exists after being algorithmically abstracted and turned into one data point among many (Jeanningros & McFall, 2020). The logic of personalization practiced by data platforms works exactly by *depersonalizing* data flows; not by deeply understanding an individual, but by deconstructing millions of individuals into dividuals, creating mass data flows, and reconstructing the individual as a statistical position at the intersection of dividuated data vectors. The "personalization" of a product based on a unique intersection of vectors of information requires an understanding of the individual as simply a relative position within the flows of data. It is the conflation of something tailored to a unique individual that is *you* and something tailored to a unique position in data space; the conflation of being and representation. Deleuze (1992) comes to a similar conclusion about the trajectory of "new" medical practice in control societies: predictive medicine that isolates individuals as at risk of sickness "in no way attests to individuation" or a particular knowledge of the person but "substitutes for the individual or numerical body the code of a 'dividual' material to be controlled" (p. 7).

Haggerty & Ericson (2000) capture this movement toward the depersonalized dividual in their concept of the "data double". As described by Deleuze (1992; c.f. Deleuze & Guattari, 1983; 2013), the recorded individual is abstracted from its contextual territory and broken down into constituent

parts. These parts, decoded from their qualitative settings, re-coded and made intelligible as data, are then reassembled as a virtual individual; a "decorporealized body, a 'data double' of pure virtuality" (Haggerty & Ericson, 2000, p. 611). While this data double claims a referent in the actual person, as discussed above it is not a simple accurate or inaccurate representation. Instead, data doubles are produced to fulfil functions, within a pragmatic calculus that meets the needs of institutions to discriminate among particular populations in particular ways (p. 613). This data double thus becomes the displaced, partial object of personalization. It is the representation of the actual person in data space as a digital avatar—or more accurately, a series of digital avatars, each assembled according to the particular virtual form of the entity required by each observer.

Cheney-Lippold (2011) goes one step further—in part because of concrete advances in technology—in recognizing the role of the algorithm in further destabilizing this relationship. Where the data double is displaced from the person it apparently represents, the "algorithmic identity" is unmoored from both the represented individual and the representative identity (*ibid*). Algorithms simultaneously construct the identity of individuals according to statistical groupings and redraw the boundaries of the groupings themselves as the algorithm adds or subtracts information. Algorithms do not necessarily receive identity or "census" data—gender, age, location, etc.—but predict it based on behavior. The algorithmic identity is thus produced as an inferred and relative position in data space. However, the behaviors according to which these categories are constructed are themselves continuously reassessed. Users who are assigned the category "fit" or "active" based on their observed behaviors may find themselves becoming "unfit"—even while maintaining the same level of activity—as incoming flows of activity data redefine the meaning of "fitness" (Cheney-Lippold, 2011; c.f. Sanders, 2017). Given a material incentive structure that drives users to follow this shifting determination, as in behavior-based insurance, it is theoretically possible to find fitness entering an escalating competitive cycle to the point of absurdity. Where identities are not fixed and all identity categories are fair game, individual performance of categorical norms becomes the only predictor of membership in a category and the material outcomes that entails; a potential mechanism of mechanical regulation and algorithmic discrimination.

Personalization is not just the reconstitution of the individual from the frozen snapshot of dividualized data, but the production of a parallel entity and identity. The object of personalization is the displacing digital representative, constantly positioned and repositioned relative to the identity vectors that define it, even as they are reformed and redefined according to the data doubles they include. We end up with a split cyborgian subject, an experienced identity and an algorithmic identity that may or may not align. Just as the body performs an identity in the social world, so the data double performs an algorithmic identity in the digital world—and, just as in the social world, with plenty of slippage in between. Finally, personalization understood in this sense is the process of discrimination-by-proxy, both the "actuarially fair" price discrimination that lies at the heart of insurance and discrimination based on inferred identity (Sadowski, 2024). The enabling condition of

this discrimination-by-proxy is the creation of behavioral representations that stand as proxies; representations that thus enable discrimination against protected categories and act as a mechanism of normative discipline.

Total control

Total control is the intensification of this process within time and its extension across time: the continuous updating, decoding, recoding; the total surveillance that animates the data double, breathes life into it and makes it productive. *Control* here is used in a double sense: both the biopolitical regulation of the population (Foucault, 2008) and the cybernetic process of monitoring, feedback, adjustment, and iteration to guide a system toward its goals (Beer, 1972). Total control is thus the multiplication of the surfaces of surveillance, inscription, and control; both the proliferation of touch-points for disciplinary enforcement, and the enabling condition of cybernetic control—technocratic regulation in the service of relentless optimization.

While the representation of action by data renders the dividual body intelligible to insurers, it still faces a practical problem. The body is by necessity a process in motion; a continuously evolving, changing, moving multiplicity. To be rendered as data, however, it must be frozen, snapshotted in time to allow for the transmission and calculation of its position in data space. To overcome this problem, observation and inscription become continuous; the extension of the process in time and across space. Surveillance comes to involve all the surfaces of contact between the biological and the mechanical, every interaction between life and webs of information (Haggerty & Ericson, 2000).

Cybernetic control is concerned with managing systems through feedback loops to allow monitoring and adaptation (Beer, 1972). The system, in our case, is the object of insurance: the insured population or individual. Control, for Beer, is not simply the ability of a system to maintain itself but to actively direct a system toward strategic goals while maintaining its viability. To repeat, behavior-based personalization benefits insurers in two ways: by allowing the more accurate calculation of "actuarially fair," individualized risk; and by shaping individuals' behaviors to manage risk and prevent losses (Sadowski, 2024). Insurance becomes not only about determining and discriminating among risk groups, but also actively intervening to "improve" the behavior of individuals. Control in this sense is the ability to monitor, regulate, intervene, and thus alter the outcome of the system. Behavior-based health insurance is not only about managing risk, but actively managing and optimizing health: to do so, monitoring and feedback must become ubiquitous to enable the total intelligibility of the system. Behavior-based insurance is the conjunction of actuarial science and cybernetics, the logic of "continuous interaction" that produces data on every action or interaction in the system (Sadowski, 2024). Total surveillance allows total intelligibility, and total knowledge enables total control.

Biopolitical control is the institutional or normative regulation of the life, health, and body of the population (Foucault, 2008). Total control in this sense is the multiplication and intensification of

points of contact and thus regulatory control. The logic of "ubiquitous intermediation" describes the attempts of insurers to insert "protection plans" into all consumer interactions through the embedding of insurance coverage into purchase processes, such as warranties, travel insurance, or car hire coverage (Sadowski, 2024). There are 700 billion economic incentives for this financialization of consumer purchases—the estimated dollar value of gross written premiums in this market by 2030 (Torrance, 2020; cited in Sadowski, 2024). Insurers aim to transform insurance from something used to protect the major investments in our lives (cars, houses, etc.) to an everyday product integrated into every purchase decision—much as with the expansion of consumer micro-credit—and to siphon off value from every exchange.

Behavioral insurers specifically have also sought the proliferation of insurer-insured interaction by encouraging high levels of engagement between their customers and their products as an opportunity for branding (Jeanningros & McFall, 2020). Insurance is a traditionally uninteresting product; for marketing to function, it must be made visible. McFall and Moor (2018) argue that the behavior-based personalization of insurance is in fact the personalization of insurance companies, the production and branding of the product of insurance through continuous engagement. In both cases—the sale of micro-insurance products or the interaction with existing policies—insurance is becoming increasingly present and visible in everyday life.

This is not only the multiplication of sales opportunities and brand recognition. The insertion of insurance into all relationships at all times creates more touch points for sales and branding, but also for the collection of data and for regulatory control. The product of insurance is made increasingly visible and prominent in insured minds (Tanninen et al., 2022); even if primarily a marketing ploy, each interaction with insurance highlights that decision as an inflection point in the always-ongoing project of health. Behavioral insurance thus acts as a form of "biopolitical marketing", which aims to "extract value from the production of consumer communication, lifestyles, and subjectivities" (Zwick & Bradshaw, 2016, p. 93).

Rather than discipline consumers, biopolitical marketing blurs the lines between marketer and consumer and emphasizes collaborative projects of social production, making marketing an embedded and natural part of everyday life. In the case of behavioral health insurance, marketing is the communication of a collaborative project of becoming healthy, where we perform a certain lifestyle and, in the process, create value for the insurer. The continuous conscious engagement with insurance—and thus the constant paranoid consideration of health—dissolves the boundaries of the demographic determinants of health previously understood in insurance. No longer limited by the discipline of insurance, as the correlative techniques of Big Data supersede causal inference in the statistical determination of individual risk, the bounded demographic dataset of the markers of health becomes the $n = all$ dataset of activity itself. Every site of data collection is subsumed into the biopolitical marketing of health. Removed from the codes of disciplinary control, any decision or action can now contribute to the determination of probability and shape the future of health. If

anything can affect it, we must assume that *everything* does. The technology of the panopticon becomes generalized. The activity of life itself is deterritorialized onto a continuous plane of regulation and control (Deleuze, 1992); every decision and action is interpellated by the axiomatic, every decision becomes a decision about health. Insured people must produce not only a record of their movements but the correct digital artifacts of health, according to an imposed definition of health, represented in ways that render it intelligible to data capital.

Autonomy and choice

Autonomy and choice is the flip-side of subjectification; the outcome of the previous dimensions which structure individuals' "choice architecture" and "nudge" them toward health (Thaler & Sunstein, 2008). It is about the production of the subject's understanding of themselves and their health through the techniques of insurance described above, the choices embedded in design (Kaiser, 2023), and autonomy within hard mechanical limits (McQuillan, 2022). Subjectivity is the necessary correlative of choice, and thus the exploration of choice must be the exploration of the production of subjectivities and the assembling of desire. Autonomy and choice are shaped by technologies, both social and mechanical, and structured by the incentives and imperatives of insurance. The questions we must ask are: how is our autonomy extended, restricted, captured, and guided by behavioral insurance? How does behavioral insurance understand choice, and how does this frame our understanding? What subjectivities are produced by behavior-based personalization in health insurance? This analytical dimension is an attempt to help us think about these key questions.

Behavior-based insurance speaks of itself in the language of "nudges." Nudge theory and libertarian paternalism involve the restructuring of the environment in which choices are made—the "choice architecture"—to influence outcomes without interfering with the autonomy of the chooser (Sunstein & Thaler, 2003; Thaler & Sunstein, 2008). Private and public institutions can construct their physical or conceptual environments in such a way as to influence the behavior of people engaging with those institutions; for example, reorganizing cafeteria layouts to promote healthier food choices, or making retirement plans opt-out rather than opt-in to increase uptake (Thaler & Sunstein, 2008). These changes may not shift the behaviors of any given individual, but will supposedly cause noticeable effects on a macro level; similar to the aleatory concept of risk in insurance. However, the adoption of these techniques by health insurance or wellness programs that offer financial or other incentives has been viewed as an intrusion on autonomy that interferes with the ability to make private decisions (Tanninen, 2020). Particularly in the context of employer-provided insurance or workplace wellness schemes, people may have little ability to opt-out of being "nudged" (Lupton, 2016a) and less-than-total participation may result in being viewed as an inadequate employee (Lupton, 2017), or become a form of coercion through higher premiums (Lupton, 2017; Zuboff, 2019). "Nudging" is an explicitly top-down imposition of social control that relies on particular, technocratic determinations of "better" behavior; a regulatory technique selected by and in the service of existing relations of

power. Rather than an active neoliberal self capable of making and being responsible for their own decisions (Lupton, 2016a), these techniques position the ideal user as a "passive, choosing self" (Schull, 2016, p. 14) who surrenders the difficult choices of goals and directions to the objectivity of the machine, and instead makes near-instinctive behavioral choices guided by devices which keep them "on track" (*ibid*).

In a study of insured people in Finland, Tanninen et al. (2022) discuss the desire of focus group participants to maintain autonomy in their interactions with behavioral monitoring devices. People saw the forceful imposition (mandatory use) of the devices as an unacceptable limit on their ability to "do" autonomy but were willing to accept the "help" of devices in pursuing their own goals, creating a tension between the desire for self-determination and the desire for outside help in the difficult project of the self-management of health. Participants expressed a wish to be able to choose which goals to follow, how to interact with these goals (reminders, actionable suggestions, mini-goals), and the ability to set their own goals rather than selecting from pre-determined values set by the insurer. They also expressed considerable consternation at the possibility of AI algorithms determining their goals and levels of interactivity. Tanninen et al. (2022) argue for an understanding of autonomy as a value which is performed within a particular socio-technological landscape, with a particular set of tools, and which varies between contexts and over time. Autonomy understood this way is a form of "distributed autonomy" that is enacted in collaboration with technologies (*ibid*); the autonomy of Haraway's (1991) cyborg: an augmented, constrained, reshaped autonomy of an assemblage of human and machine that both closes off some avenues of choice and opens others.

Viewed as a machinic assemblage that both enhances and channels our exercise of autonomy, behavioral health insurance can be thought of as a technology of the self. For Foucault (1988), technologies of the self are methods and techniques that allow the self to produce itself as a subject; tools to improve or actualize the self. The "quantified self" enacted through self-tracking and behavioral monitoring is presented as a rationalized technique of the self, allowing us to set ourselves goals and achieve them (Barry, 2020). However, the self that is being optimized and managed here is not the embodied self of the subject, but a digital representation of the self in which all knowledge and behavior is transformed into something numerical and given meaning by the algorithm (*ibid*). While Tanninen et al.'s (2022) participants had concerns with the practicality and accuracy of measurement and the external determination of behavioral goals, none contested the intelligibility of health as such; as something which could be quantified and tracked through these statistical vectors of quantified representation. The boundaries of health were predetermined; autonomy in this case was "done" within a framework handed down by the insurers.

This conception of autonomy—a constructed space of contestation rather than an exogenous or self-contained practice—brings us back to the question of subjectification. Behavior-based personalization enacts this knowledge and understanding upon the subject through categorization and gamification (Sanders, 2017). The datafication of life itself establishes the subject as a set of data

markers scattered around their own regulatory norms: you are running 12 percent less than the average 29-34 year old in your area; you are in the top 20 percent of calorie-burning Australian females, you sleep like a literal baby. Behavioral self-tracking thus produces the permanently visible dividual, a relation to the self of total vigilance that renders the functioning of biopower automatic through the monitoring and regulation of the self (Sanders, 2017; c.f. Foucault, 1978).

This is reinforced in practice through processes of mechanical subjectification baked into technological design. Autonomy is performed in material environments created by and for the functioning of machines—ubiquitous surveillance, the imperatives of finance, the necessity of data—but also within machinic boundaries. The soft subjectification of algorithmic control influences our goal-setting through the construction of the identity categories through which we understand the self and the ways in which we are permitted to access knowledge of our health (Cheney-Lippold, 2011; McQuillan, 2018). Digital design also presents mechanisms of hard subjectification encoded into menu options, drop-down categories, and goal choices (McQuillan, 2022): if certain metrics are known as the markers of health they become the determinants of health, and thus the object of becoming-healthy. By circumscribing the options available, design places hard limits on self-determination (Kaiser, 2023).

While the subject of behavioral insurance may be produced *subjectively*—a project of transformation undertaken through technologies of the self—they are also and overwhelmingly produced *objectively*—that is, as *object*—designated and delimited, constructed and produced by others (Foucault, 1982; 1988). The subject thus emerges from an understanding of the body as numerical, optimizable, technological, and financial. Autonomy is enacted within the axioms of intelligibility and choice is circumscribed to the method of producing the digital artifacts of health. The analytical task is to examine the discourse of Vitality and determine the structures within which we find agency.

Conclusion

The analytical dimensions articulated here provide us with an understanding of the questions at stake and an initial orientation to the discourse of Vitality. In this model, the five dimensions correspond loosely to functions in the process of behavioral insurance. *Individuation* is the production of the abstract private individual as an autonomous rational entity responsible for its actions and choices. *Representation* operationalizes the individual as something that can be tracked, measured, and known as data; the breaking down of the individual into quantifiable flows and the identification of this representative data with the phenomenal experience of life-in-itself. *Personalization* reconstructs the specific individual from the flows of data, producing a narrative statistical account that uniquely represents *you*. *Total control* intensifies this process within time and extends it across time; the proliferation of touch-points for data exchange and feedback. Finally, *autonomy and choice* is the structuring of agency within the technological assemblage and the realization of the process of

subjectification. Note that while these are presented as analytically distinct, the boundaries are porous and overlapping, each dimension intersecting and transversing the others.

While not an attempt to pre-define a coding schema or impose an analytical modality, this model provides something of a framework, unpacking the dimensions of behavioral health insurance and establishing the surfaces of our investigation. The next chapter lays out the specific methodologies and methods used to conduct the empirical analysis of Vitality's discourse.

Chapter four: Methodology

This thesis adopts a single-case interpretative-heuristic case study methodology (Vennesson, 2008). Starting with a theoretical framework, we take an initial orientation and allow hypotheses to form as we gain familiarity with the data and proceed through the analysis (*ibid*). Case study methodologies are well-suited to overdetermined, narrative descriptions of large social processes over time, aiming at complex, detailed accounts with strong causal inference (Gerring, 2006). The focus of this research is a specific transformation or evolution in a long societal process: changes in the concrete manifestations of an abstract social technology (Deleuze, 1988).

We take a single instance of this phenomenon—one particular company, operating in one particular industry, during one particular transformation—and presenting it as an exemplary case of our object of investigation. The case is not given *a priori*, rather it must be produced through "casing" (Vennesson, 2008): defining the boundaries of our case in space and time, creating a focus for our analysis, giving a specific set of practices and statements from which to build a dataset, and producing it *as a case* of the larger phenomenon.

The specific phenomenon we wish to analyze is the introduction of Big Data techniques of behavior-based personalization into health insurance—the tracking and surveillance of bodies and behavior through the direct and indirect application of Big Data techniques in order to more accurately depict and assign individual-level risk. The nature of this "event" in the ongoing practice of insurance is contested (Tanninen, 2020): is it a break, a divergence, or even a logical impossibility; is it a transformation; or is it a continuity? Must we situate this event within existing enactments of insurance; or does the discontinuity reveal the false unity of the field, and perhaps place it in connection with others? Moreover, the event itself is difficult to spatially and temporally delimit: to assign its beginning to the advent of a particular technology or technique is to risk running afoul of technological determinism and to ignore the role of the material interests of insurers in driving technological development (Sadowski, 2024). To overcome these limitations, we restrict our investigation to the activities of Vitality. Through an analysis of public statements by Vitality, we will attempt to reconstruct the relations of knowledge and power being reproduced in the discourse, the mechanisms of subjectification at work, and the possible outcomes in terms of produced subjectivities.

The aim of this project is to provide a detailed analysis of the discourse and a thick, highly contextual, narrative description of the processes at work in this social phenomenon. The complexity of the event requires an analytical restriction of the descriptive task to a single case, to provide a clearly bounded field of study in which to explore and evaluate the theoretical approach. It also necessitates a deductive-inductive framework that begins with a deductive analytical model but seeks to interpret and construct themes and variables during engagement with the data. Thus we have a single case, a non-limited set of variables, and a non-defined set of empirical indicators.

A key aspect of the analysis is the ideological commitment to quantification—the obfuscation by quantitative objectivity of the necessary work of interpretation of facts and measures (Kratochwil, 2008) and the identification of quantitative measures with the things they represent (Deleuze & Guattari, 1983). This requires a flexible, exploratory qualitative methodology: one that is rigorously defined in its construction but leaves room for imagination in its application; that seeks to generate qualitative insight; and that allows us to some extent to proceed "as if by guess and by God" (Waller, 1934; cited in Gerring, 2006, p. 7). For these reasons, and for coherency between theory and methods, this project adopts the methodological framework outlined by Foucault in *The Archaeology of Knowledge* (1989), takes its methodological orientation from Critical Discourse Analysis—of which Foucault is a "theoretical godfather" (Wodak & Meyer, 2009, p. 10)—and uses the methods and techniques of reflexive Thematic Analysis (Braun & Clarke, 2006).

Casing and data selection

As the largest actor in the field of behavior-based personalization in health and life insurance and a leader in the proliferation of the statements of behavioral insurance, Vitality provides a critical case from which to view the field. Vitality is a wholly-owned subsidiary of Discovery Limited, a South African financial group whose primary product is insurance. Discovery was formed in 1992 in a context of poor public health services and limited, expensive private provision. Vitality was born soon after and marketed as a way to incentivise healthier behavior and thus lower the need for healthcare interventions, allowing the company to lower the price of coverage and offer various behavioral incentives and rewards (Jeanningros & McFall, 2020). In 2004 Vitality expanded its behavioral product to the United Kingdom (UK) through a partnership with Prudential Assurance, and its international expansion grew from there (*ibid*). Today, Vitality operates in 41 countries and claims 42 million customers directly or through strategic partnerships, who perform an average of 15+ exercises per second and log 12.9 billion steps per day (Vitality, n.d.). Vitality has variously described itself as "the longest-running and largest incentive-based engagement program in the world," "the world's largest behavioral platform," or simply "a global behavioral change platform" (Sadowski et al., 2024, p. 230).

The data set analyzed here was created from Vitality's marketing discourses publicly available online in May, 2025. These marketing discourses emerge from a specific set of understandings of health, the body, technology, the functioning of insurance, and the place of finance capital in this mix; a specific corpus of knowledge we will discuss through the study of the statements of marketing. Marketing is treated here as a primary site of knowledge production and dissemination and is thus itself a mechanism of subjectification and control, what Zwick and Bradshaw (2016) call "biopolitical marketing".

The specific texts included were selected to meet the following criteria: texts available on channels likely to be encountered by customers of the brand; materials prominently displayed by

Vitality, and thus likely to contain core brand statements and be accessible to a broad audience; texts encompassing a range of channels and modes of presentation, to capture recurring patterns and not messages aimed only at a particular audience; and documents containing a wealth of data, to enable a rich and detailed analysis.

We initially borrowed a methodological tool from Big Data: *n = all*, or maybe more precisely, *n = whatever we can get*. A total survey of publicly available materials was narrowed down by relevance and coherence of the data set. The preliminary selection included: the landing, product, and information pages of the Vitality Global and Vitality UK websites (as of 8 May, 2025); the full selection of "research, scientific studies, and white papers" made available by Vitality between 2019 and 2024 (hence "research"); the posts on the Vitality "Insights" blog (all posted during 2024); the content of the Vitality UK Youtube channel (with videos ranging from December 2014 to data collection on May 8, 2025); and the "news" articles available on the Vitality Global website. After an initial phase of exploration and preliminary data collection, the "news" articles were cut due to repetition of statements that appeared elsewhere and content which fell outside the scope of our research questions. Due to resource constraints, it was decided to analyze only the titles and digital architecture of the majority of the Youtube channel (i.e. the arrangement of videos into playlists and promotion of particular content); supplementing this, video content particularly relevant to the research questions was selected for deeper analysis. The full set of "research" papers were retained and analyzed, as were the "Insights" blog posts. Finally, the web pages analyzed were restricted to those extremely likely to be encountered by customers (e.g. the "Home" page) and containing core product information. The documents are summarized in Table 4.1 below with abbreviated names for in-text reference. Details of the full data set are available in Appendix A.

Category	Title	Data type	In-text name
Research	The Science of Vitality	Journal	Science of Vitality
	The Vitality habit index	White paper	Habit index
	Active women, healthy lives	Report	Active women
	Fit bodies, fit economies	Report	Fit economies
	Vitality healthy futures	Report	Healthy futures
	The antidote to inactivity	Report	Antidote to inactivity
Insights	Feeling stressed? Let mindfulness help	Blog post	Mindfulness blog
	SMART-er goals with Vitality	Blog post	SMART-er goals blog
	How SMART are your family's goals?	Blog post	Family goals blog
	Better health ... just by sleeping	Blog post	Sleep blog

	Healthy eating starts with healthy habits	Blog post	Healthy eating blog
	3 steps to build healthier exercise habits	Blog post	3 steps blog
	Need help remembering medication?	Blog post	Medication blog
Website	Home page	Web page	Vitality home page
	Our solutions	Web page	Our solutions page
	How do I earn Vitality points?	Web page	Vitality points page
	Healthy eating made simple	Web page	Healthy partners page
	Vitality Global sales brochure	Sales brochure	Vitality sales brochure
Youtube	Vitality UK	Youtube channel	Vitality UK Youtube (specific videos referred to by title)

Table 4.1: Documents analyzed

Why marketing discourse?

There are two reasons for this focus on discourse, and specifically on marketing. First, to understand power relations and processes of subjectification, we must look to the discursive construction of knowledge (Foucault, 1989). For Foucault (1978; 1995), power is not only repressive but also productive, constituted by and exercised through the production and reproduction of knowledge. This knowledge—the way visibilities are articulated in discourse—produces us as subjects; subjectivities are the product of power (Foucault, 1989). Discourse analysis aims to make visible and critique the relations between discursive and non-discursive objects, interrogating the ideologies operating to hide the constructed nature of these relations from view, to stabilize existing social relations and structures of domination (van Dijk, 1993). It seeks to uncover the relations of power from which these discursive articulations emerge, and how they operate to define who and what we are, what we know, and how we act.

Second, as subjectivities are produced discursively, their formation is independent of the actuarial accuracy of technical calculative mechanisms. Any concrete technical machine or institution is a manifestation of abstract social technologies, which are themselves immanent to the diagram of power relations (Deleuze, 1988). It is not an epistemological innovation in the minds of actuaries that produces a new technological product; it is a shift in power relations that generates new knowledge, new subjectivities: a new paradigmatic technology. The shift is revealed discursively, in the way we articulate insurance, insureds, and the relation between the two; in the value propositions and discursive functioning of the technological assemblage; in our basic ideas of *what is* health and the subject who can be healthy. Our focus is not the actual implementation of some 'true' and accurate health prediction and pricing scheme, but rather how we articulate the technology, whether we perform the operations it requires of us, whether we accept its normative judgements, and what mechanisms of coercion or control it exercises over us. In short, for the question of subjectification,

whether we are told, believe, and act as if it works—how we imagine the technology functions—is more relevant than the truth of its predictions.

The discursive production of the technologies of behavior-based insurance are more than simply marketing spin. Technologies are the creation of an imaginary that both emerges from a particular discursive formation and populates the discourse; they are the articulation of the specific socio-technological assemblage as a discursive object. Jasanoff (2015) defines socio-technological imaginaries as:

> Collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology. (p. 6)

These function as hegemonic beliefs about how socio-technological assemblages function, both descriptively and normatively, morally and technically; discourses not only of the moment, but also the future (Jasanoff, 2015). These imaginaries may arise in the mind of an individual or a group, can be consciously designed, produced, and propagated, and may be multiple, contradictory, or contested. What is important is that they are collectively accepted.

The literature from both the sociology of insurance and critical data studies are converging on an acceptance of behavior-based personalization in health insurance as primarily a marketing ploy (Jeanningros & McFall, 2020; Tanninen, 2020; Sadowski et al., 2024). However, far from defanging its effects of subjectification, this is precisely the discursive articulation of an imaginary of the technology: data scientists, marketers, and advertisers assuming the role of the concept creators and imagineers of the modern world (Deleuze & Guattari, 1994). There is a tacit acknowledgement of this in the behavioral insurance literature, with papers describing "forging markets" (Tanninen et al., 2021), "creating worlds" (Charitsis et al., 2018) or "not-yet markets" (Meyers, 2018) and describing the affective or sentimental role of imagined worlds in the history of insurance sales (Jeanningros & McFall, 2020).

The imaginary of technology is being produced before our eyes and, while there is value in a semiotic analysis of the imaginary of technology and the resignification of its central concepts, that is not our purpose here: "discourse is annihilated in its reality by entering into the order of the signifier" (Foucault, 1971; cited in Deleuze, 1988, p. 52). Rather than searching for the hidden meaning or the masked intent, we will "grasp the statement in the exact specificity of its occurrence" and ask "why is it this statement that appeared rather than any other?" (Foucault, 1989, p. 30). The aim is to reveal the rules that allow the emergence of the statement; to discern the limits of the discursive field and the extensive relations to other fields—finance, behavioral economics, health and the body, Big Data, etc. Contrary to the insistence of scholars within the sociology of insurance on insurance as a specific technology enacted through a set of situated practices (e.g. Tanninen, 2020), we require an analysis that is capable of stepping back and rebuilding the discursive unities; defined not by object, style, concepts, or themes, but by function, described by discontinuities, breaks, and system of dispersion

(Foucault, 1989, pp. 35-38; c.f. Deleuze, 1988). Rather than assume the unity of something called "insurance", we must follow transversal lines across disciplines to identify the family of our statements and discern the rules by which they emerge, their sites of articulation, and their techniques and institutions of verification and authorization (Foucault, 1989).

Critical discourse analysis

Critical discourse analysis (CDA) is a branch of discourse analysis that follows Foucault in understanding discourse as socially constitutive as well as constituted; an exercise and outcome of power relations that produce objects of knowledge, identities, and relations between people and groups of people (Fairclough and Wodak, 1997). CDA focuses on the role of discourse in producing and reproducing dominance and aims to reveal structures of power and "unmask ideologies" (Wodak & Meyer, 2009, p. 8). CDA provides researchers with a critical orientation and approach that is inherently normative and emancipatory, following the tradition of critical theory that seeks to critique and challenge the social conditions that perpetuate domination (Horkheimer, 1972).

Rather than a single specific theory or methodology, CDA can be characterized by a set of principles (Wodak & Meyer, 2009). Its project is the critique and demystification of ideologies and power through the analysis of texts, tending toward a broad understanding of texts that includes written, spoken, visual, or auditory mediums (Fairclough, 1995). CDA approaches are problem-oriented and thus heterogeneous and "eclectic" (Wodak & Meyer, 2009), broaching disciplinary boundaries as researchers appropriate theories, methods, and techniques as required for the pursuit of socio-political goals (van Dijk, 1993).

CDA advocates a positioning for the researcher and a direction for the research. Research and science are socially embedded within social and formal institutions that shape their practice and the knowledge they produce, and researchers must remain self-reflective and aware of their position within these social hierarchies of power (Wodak & Meyer, 2009). Moreover, CDA recognizes that knowledge is produced within certain epistemological and ideological frameworks, themselves a result of relations of power, and so rejects the objectivity of the researcher (van Dijk, 2011). Discourses reflect and reproduce social power relations and, as socially and ideologically situated actors, researchers do not stand outside these relations and must account for their own ideological and theoretical influences. A pretense of neutrality when encountering ideologically imbued texts is a tacit endorsement of existing relations, particularly when discursive practices sustain structures of inequality and dominance (van Dijk, 1993). The critical stance acknowledges the position and motives of the researcher in challenging these structures, without succumbing to normative pressure to retreat from or apologize for the critical position (van Leeuwen, 2009). This research adopts these understandings and commitments in the analysis of Vitality, seeking to uncover the latent ideologies in the knowledge being (re)produced and taking primary concern with the relations of power being maintained or constructed in the production of the subjects of behavioral insurance.

Reflexive thematic analysis

To meet the demands of the Foucauldian project, we appropriated the techniques and methods of thematic analysis (TA), as originally detailed by Braun and Clarke (2006). TA seeks to identify, analyze, and interpret recurring patterns within data to examine questions about behavior, experience, practices, social processes, norms and rules, and socially produced meaning (Braun & Clarke, 2013). Researchers move through their data set, tagging segments with specific codes which are later grouped into themes. Codes are generated by the researcher in a variety of ways (discussed below), while themes capture important information about the data set; some concept or pattern of meaning that relates to the research question (Braun & Clarke, 2006). TA is best described as a method rather than a methodology; a set of tools and research techniques used in the labor of research that can slot into various research designs and enable a variety of projects (Terry & Hayfield, 2021).

TA as a method contains diverse research practices and is flexible and applicable to different theoretical or ontological approaches (Braun & Clarke, 2006; 2013). However, TA highlights the importance of clarifying epistemological assumptions prior to appropriating its methods and matching appropriate tools with research paradigms (Braun & Clarke, 2013; Terry & Hayfield, 2021).

Terry et al. (2017) advocate for a specific form of TA that has come to be known as *reflexive thematic analysis* (Braun & Clarke, 2019). The central concept is the importance of the reflexive, interpretative work of the researcher; with emphasis placed on the researcher's subjective values, backgrounds, decisions, and interests as core to the process of analysis. As opposed to methods that stress detached objectivity in the name of avoiding bias, reflexive TA seeks deep familiarity and engagement between researcher and data, guided by beliefs, theoretical orientation, and the focus of the research (Terry & Hayfield, 2021). Reflexive TA operates within a "Big Q" qualitative paradigm, independent and flexible in its theoretical commitments (Terry et al., 2017, p. 10). While reflexive TA is often situated within a realist, experiential theoretical orientation that assumes language reflects (objective or subjective) reality, it is also compatible with critical, radical, or poststructuralist perspectives that understand language as productive of reality and seek to dissect and critique hegemonic structures of meaning (Terry et al., 2017; Braun & Clarke, 2019; Terry & Hayfield, 2021). Coding is active, organic, and flexible and themes are the outcome of the coding process—rather than pre-existing it—and develop from a deep engagement with the data and the codes (Terry et al., 2017). Reflexive TA starts from familiarity with the data, in an explicitly subjective sense: the researcher's interpretative work comes from within the data and forms part of the methodology. The researcher's intuition, background, standpoint, and experience are all important; two researchers will not necessarily—and almost necessarily not—arrive at the same coding schema, unlike positivist "coding reliability" paradigms (Terry et al., 2017). This approach understands analysis as something subjective, produced at the point of intersection between data, theory, knowledge, and experience;

quality assurance thus aims at encouraging a thorough, engaged, and rigorous process of reflection and analysis (*ibid*).

Reflexive TA practitioners warn against using TA "outside of theory or interpretation" for projects of description or summation; it must be used in conjunction with a theory of language and meaning (Terry et al., 2017, p. 39). As in other critical orientations, the absence of a theoretical position is the tacit acceptance of a hegemonic ideology. Similarly, this research acknowledges the impossibility of extracting ourselves from context or assuming the objective view from nowhere, and the difficulty of the researcher in making their epistemological or ontological assumptions and biases clear to their reader or even intelligible to themselves.

Reflexive TA calls for an active, interpretative role of the researcher with a clearly articulated theoretical perspective and recognition of the researcher's position (Braun & Clarke, 2006; 2019). Thus, it was decided to follow a dual-model structure. A deductive analytical model was derived from the literature and the theoretical framework, to clearly frame our orientation to the research questions and make our approach to the data explicit and well-grounded. On the other hand, coding proceeded inductively, allowing us to take the statements of Vitality as they are—not as objective facts, but as we came to them; not forcing the data into a model of predetermined codes, but building descriptive-interpretative codes from the data and using the deductive analytical dimensions to put the data in dialogue with the literature.

Analytical process

The specific tools and techniques used in this thesis followed the six-phase analytical process laid out in Braun & Clarke (2006) and Terry et al. (2017). This is not a strictly linear journey but moves back and forth between phases as necessary, with emphasis on the iterative and recursive nature of the approach. With that disclaimer, this section describes the process and how it was implemented.

Phase one (*familiarization with the data***)** was a process of immersion in the data through deep, active engagement with the data *qua* data, noticing patterns, asking questions, and generating provisional ideas (Braun & Clarke, 2006; Terry et al., 2017). This began during data collection and continued through the analytic process, gaining familiarity and improving the quality of the analysis with each iteration.

In phase two (*generating codes*) the researcher systematically and thoroughly attached meaningful labels to the segments of the data that are relevant to the research questions. This is an interpretative process, identifying and tagging segments using a few words or a memorable phrase that captures the meaning of the segment (Braun & Clarke, 2006; Terry et al., 2017). Coding was open and included all segments found interesting or relevant, capturing everything of relevance within those segments. Segments may have been tagged with zero, one, or more than one code. The process was undertaken twice, once focused on code generation and once on retroactively applying or condensing the full code-set. This was iterative and flexible; reviewing, developing, combining, and

eliminating codes to clarify and reduce the number of codes overall. As familiarity increased, the analysis moved from *semantic* coding—according to explicit or surface meanings—to *latent* coding; interpretative coding aimed at underlying assumptions, ideas, conceptualizations, and ideologies that shape and inform the semantic structure (Braun & Clarke, 2006).

During phase three (*constructing themes*), codes that formed part of similar or related patterns were organized into themes, building on earlier engagement with the data. Themes were constructed around a "central organizing concept" (Terry et al., 2017, p. 29) that clusters or collapses a range of codes into bigger and more meaningful patterns. These concepts are shared across a range of codes; not only within a single data item, but across the data set. This phase required active interpretation and subjective participation in identifying, forming, and analysing patterns; codes and themes do not "emerge" from their hiding place within the data, but are created in the coming together of the researcher and the data (Braun & Clarke, 2006).

Potential themes were reviewed in phase four (*reviewing potential themes*), with candidates evaluated to ensure they worked alongside the data and were oriented toward answering the research questions. Each theme aimed to capture the meaning in the coded data segments, accounting for the range of those meanings across codes and cohering around its central organizing concept (Terry et al., 2017). Themes were also evaluated against each other for a balance between distinction and relation: the boundaries of the themes should avoid overlapping or blurring, while on the other hand themes should work together to meaningfully and usefully articulate the story of the data set (Braun & Clarke, 2006; Terry et al., 2017). Finally, themes were rearticulated, reformulated, redefined, or rejected.

Phase five (*defining and naming themes*) aimed to produce clear, precise themes to help ensure the quality of the research (Terry et al., 2017). The research moved from a summative to an interpretative position; thinking about the themes not as lists of coded segments or amalgamations of codes, but instead concerned with analyzing the patterns, relations, and interactions between themes to tell a coherent story about the data (Braun & Clarke, 2006). Short "theme definitions" or abstracts for each theme were produced—as recommended by Terry et al. (2017)—to ensure each theme is distinct, 'thick,' and making a significant contribution to the narrative. These theme definitions form the core of the results presented in chapter five.

The final phase was the *production of the analysis*. The theme definitions were expanded and illustrated with examples from the data, a reorganized analysis produced broken down by data sub-sets (document categories), and the findings discussed. This was not simply a process of writing but a distinct phase of refinement, gathering the developing analysis and moving from a purely analytical engagement with the data set to a broader view of the project (Terry et al., 2017). For this research, this involved integrating the reflexive thematic analysis with the theoretical framework and creating a dialogue between the deductive analytical model and the inductive coding schema, laying the ground for a deep analytical discussion aiming to answer the research questions.

This methodology corresponds to the questions we want to answer with this research. Drawing on the theoretical framework and existing empirical studies of behavioral insurance, we propose a set of analytical dimensions from which to approach the data, leaving open the possibility for additional vectors of analysis to emerge. We code and thematically organize Vitality's marketing discourse, attempting a description of the discursive strategy, the specific knowledge being (re)produced, and the rules from which these statements emerge. Finally, returning to the question of subjectification, we draw on theoretical and empirical literature to sketch an outline of the likely effects of subjectification. Throughout, we follow the discursive construction of the product of health insurance itself, paying attention to changes which may signal a resolution of the tension between the economic imperatives of risk personalization, and the core function of insurance as a technology of social solidarity. The next chapter presents the results of this inductive-interpretative analysis, against which we deploy our conceptual toolbox and analytical model in chapter six to answer our research questions.

Chapter five: Results and analysis

This chapter details the patterns that were identified within and across the data set. The first section organizes the analysis by document category, describing differences and commonalities between the modes of discursive presentation and discussing the techniques and rules by which Vitality gives legitimacy and authority to their statements. The following section provides a short breakdown and description of each theme as it appears in the discourse, moving between analysis of semantic and latent meaning.

Document categories

The documents upon which this analysis draws were grouped together into four categories, following the dispersion of statements in digital space by Vitality and an intuitive categorization method. Four categories were created: "research" papers and reports; blog posts; website landing and product pages; and the Youtube channel. These categories vary in focus and emphasis according to their function, differing in their thematic content, rhetorical style, length, complexity, and modes of authorization. The thematic content is noted here (*italicized*), while the themes and codes themselves are described in more detail in the following section (see also Appendix B). Modes of authorization refers to the sources of authority from which Vitality purports to speak; the social codes by which they assume the right to be included in the discourse. These were coded according to the schema developed as follows:

- *Scientism*: appeals to the formal semantic structure or techniques of "science" and the scientific method
- *Institutions*: associations with prominent or renowned institutions
- *Data*: appeals to the objectivity of empirical data
- *Expertise*: qualifications and individual experts
- *Business success*: the size or success of an enterprise as evidence of its legitimacy
- *Famous*: celebrity or influencer endorsements
- *Community*: endorsements or inclusion of "normal people"
- *Social justice*: mirroring the language or concerns of progressive movements and activists, including activist endorsements
- *Technology*: appeals to the superior analytical capabilities and objectivity of machines
- *Politics*: endorsements or associations with politicians and policy influencers

Together, questions of style, voice, concepts, relations between objects, authority, etc. can help us trace the limits and boundaries of the discursive field; the rules according to which a statement finds its place within the discourse. From this, we can begin to understand Vitality's conceptualization of the field, how it enters into connection with or penetrates other fields, the subject positions created within and across the discursive domain, and the specific knowledge being (re)produced.

Research

The "research, scientific studies, and white papers" (Vitality home page) published by Vitality (referred to here as "reports") include documents with a range of styles and formats, but with some general characteristics. They are self-contained documents in downloadable formats, accessible from the website. They tend to be long, with the shortest fifteen pages and the longest sixty-six. They present a scientific or technical appearance—one even calls itself a "journal" (Science of Vitality)—partnering with prominent institutions such as the London School of Economics or the RAND corporation and adopting the stylistic, lexical, and formal elements of scientific literature, complete with a self-contained and self-referential network of academic citations leading the reader from report to report. The reports are primarily legitimated by the symbolism of scientific research, guaranteed by institutions of international renown.

The dominant recurring themes throughout these reports are *transformation of health*, *behavioral economics*, and *quantification*. Our health is the field of probability derived from our behaviors; behaviors are measurable, commensurable, and individual—and ultimately, knowable, calculable, and thus optimizable. The focus shifts between texts from the management of individual health to the population, but the understanding of health as quantified behavior and risk remains coherent, as does the productivist and utilitarian perspective. The recommendations or conclusions of the reports always fall back into *absolute advertising*; the solution was always already Vitality. The techniques with which Vitality authorizes these reports are similarly steady, drawing heavily on *scientism* and *institutions*, backed with *data* and *expertise*. The outlier is the report "Active Women, Healthy Lives", which also adopts a *social justice* perspective around the "exercise gap" and leans into the language of gender equality, seeking authority in social license and burnishing this with celebrity or activist endorsements (Active women). This report also reproduces a strong form of *biologization* in its discussion of women, as shown below; a theme less prominent elsewhere.

Insights (blog posts)

The posts on the "Insights" blog (Vitality home page) are short, simple documents mirroring the messaging of the longer reports in an easily digestible form. Their style is conversational and instructional, containing easily actionable advice on how to improve various facets of healthy behavior—either through techniques which Vitality conveniently enables or by purchasing Vitality. They take the familiar appearance of the self-help or healthy living listicles beloved of search engines and are replete with cross-promotional references to other Vitality content, reports, products, or corporate partnerships. The blog posts largely borrow legitimacy; they function as summaries or relays, reproducing the content of an *expert*, *institution*, or *scientistic* study and appropriating the weight of authority from the source material: "According to the Vitality Habit Index…" (Mindfulness blog), "Health and wellbeing research continues to show…" (Sleep blog), or through the inclusion of a "References" section at the end of each entry. However, this is not to situate the blogs as

discursively inferior or subordinate to more complex communications. They fulfil a different function and speak a different language, offering additional discursive context instead of simply detracting from the original through the abrogation of detail—a different tactic within a discursive strategy.

Thematically, the blogs contain a sharpened, concentrated form of Vitality's message: health is a result of individual behaviors and habits; it is difficult to make correct choices; here is how you can do it better; here is how our product can help. The *transformation of health* and the remedies of *behavioral economics* are prominent throughout, and the total system of health is represented as *quantifiable* and *optimizable*. The *business of insurance* underlies every post, the text replete with sales pitches for products from both Vitality and other corporate partners: health tips as marketing and communication as absolute advertising.

Website

The web pages follow standard formats of landing pages or product information pages; segments with snappy taglines, slogans, or summaries linking to more detailed and immersive marketing materials or specialized sales pitches, allowing individual and institutional customers to differentiate themselves. Repetition and simplicity of the core value propositions of Vitality's brand are central: "We make healthy habits, easy to achieve" (Vitality home page) or "Rooted in driving positive behaviour change" (Our solutions page). The landing pages are largely concerned with generating legitimacy for the product, flashing signifiers of authority such as logos and numbers one after another: primarily *business success*; associations with *technology*; and references to *data* and *scientism*. Interestingly, here corporate partnerships not only act as advertising or incentives but also as authority, trading on the legitimacy of the established products and brands.

The proximity to the point of sale produces a different thematic grouping. Here, the function is less to justify or establish the efficacy of the project and the product, and more to establish an immediate sense of trust. The primary message is one of *shared value* in the *business of insurance*: "Our knowledge, tools, and cutting-edge technology encourages healthier and safer behaviour, leading to happier clients, more productive employees and a healthier bottom line." (Vitality home page). Vitality's products are good for you, them, and society; a win-win-win. The website also seeks to differentiate the product and create excitement: products are *personalized*, *revolutionary*, *technological solutions* that will make you healthier and let you *monetize* your health. Again, the style and language are *absolute advertising* from top to bottom.

Youtube

The videos cover a broad range of topics (see Appendix A) and the titles conform to the naming conventions of their respective categories: "Quick & easy smokey tofu burrito bowl recipe | Family friendly", "Move with Louise | Full Body | Pilates", and "How to start a healthy habit (and keep it)" (Vitality UK Youtube). The videos largely base their legitimacy on collaborations with *expert* or

famous figures, predominantly sportspeople and influencers, *social justice*, or occasionally with *community* members including customers and employees of Vitality. These collaborations are often foregrounded in the title as the major drawcard of the video: "Vitality Member Stories: Monika" or "Changing the Game | Men's health with Celtic F.C." (Vitality UK Youtube). The view count of videos and the most popular topics vary: views range from almost zero to nearly 200,000 and popular topics include "day in the life" videos of sports celebrities, workout videos, sports news, and TV advertisements featuring a cute dog.

The main themes of the Youtube content suggest that it functions to shape the concept of health and our relationship to it. The first is health as a *total system*, including mindfulness, finance, nutrition, mental health, and so on. The second is that health is a dynamic system of behaviors, rather than a static system of objects: mental health is not a state but a project, for example. The third is the *biologization* and *responsibilization* of these behaviors; they may be structured by a biological jumping-off point, but it is your responsibility (with Vitality's help) to shape and alter these behaviors to *optimize* the field of health outcomes.

This ongoing project of optimization is enabled by the total transparency and total knowledge of the health system, and thus the integration of Vitality products into all aspects of the customer's life. This is true of both the products marketed and the form of advertising as self-help, but also in the consumption of advertising itself. The marketing here is not only biopolitical—literally creating customers—and not only advertising; it is also a project of producing audience data as they engage with the advertising: the recipes and workouts, interviews, news, explainers, and so on. What is notable in its absence is a discussion of the traditional functions of insurance: there is exactly one video about claims (Vitality UK Youtube, Hayley's story: 'I'm still covered even after claiming twice') and zero about coverage, processes, protection, appeals, or other bureaucratic mechanisms. The product is marketed entirely as a process of lifestyle change and becoming-healthy—health tips as advertising.

Themes

After producing a reading and coding of the data, ten high-level themes crystallized within the analysis: *Behavioral economics, naturalization, shared value, quantification, total transparency, machine god, transformation of health, optimization, personalization,* and *the business of insurance.* Each theme encompasses multiple codes and connects to several analytical dimensions, detailed in Appendix B. The themes are presented and described here with reference to the codes (*italicized*) and illustrated with examples from the data. The aim of this section is to present the data in its specificities. We assume a descriptive-interpretative posture which implicitly mobilizes the deductive model to describe and interpret the data; presenting and explaining the themes and codes which will be used to construct the final analysis and answer the research questions.

Behavioral economics

While insurance companies have long sought to create individualized risk profiles in the name of "actuarial fairness" (Sadowski, 2024), Vitality's promise to actively shape the behavior of its customers to reduce their exposure to risk is firmly rooted in behavioral economics (*behavioral economics general*). The research reports are replete with sections with titles like "What Sets Vitality Apart: Behavioral Economics" (Science of Vitality, p. 10), references to academic articles by behavioral economics scholars (Habit index), and explicit claims to behavioral economics principles such as "Vitality Active Rewards is grounded in the behavioral economics principles of…" (Antidote to inactivity, p. 3) or that Vitality "uses scientifically proven interventions informed by behavioral economics" (Science of Vitality, p. 11). The discourse mobilizes the institutional heft of the discipline and its Sveriges Riksbank Prizes, repeatedly referencing Richard Thaler and the concepts he deploys:

> Once we acknowledge that humans are fallible creatures, we can ask how to help them make better decisions. We can often do so with simple nudges that point people in the right direction, but don't force anyone to do anything. (Richard Thaler; in Antidote to inactivity, p. 11)

Behavioral economics understands people as rational agents making choices which are structured by particular architectures. We are responsible, choosing subjects (*responsibilization*) operating within the constraints of cognitive biases and environmental factors, which interfere with our abilities for rational calculation and encourage us to rely on shortcuts and heuristics (*flawed rationality*) (Thaler & Sunstein, 2008). Human choice may be constrained and limited, but it is essentially "preferences all the way down" (White, 2017). Sometimes known as libertarian paternalism (Thaler & Sunstein, 2003), by making changes to the choice architecture or using 'nudges' a benevolent power can restructure the rationality of their subjects and guide the choices they make (*paternalism*): it is libertarian insofar as the interference should not change the payoff matrix of the decision or apply coercion; and paternal insofar as it is the top-down imposition of an assumed-superior rationality or value-set that appropriates for itself the authority to interfere in the lives of its subjects.

Vitality follows these logics to correct for the inability of insured people to objectively assess risk in line with Vitality's values, or to assist people in overcoming their irrational or emotional inability to follow through on choices they know are objectively superior (*weak willed*). The primary mechanism of achieving this is by transforming calculated actions into repeated behaviors and finally into pre-conscious habits (*actions, behaviors, habits*), making certain the "correct" behaviors are internalized through the use of nudges and reminders, as well as material incentives (*incentives*). This use of incentives sits somewhat uncomfortably with the ethos of non-coercion and assumptions of flawed rationality, however, revealing a falling-back on economic rationality once the "price" of behavioral choices can be internalized into decision-making processes (*market ideology*). This is the operationalization of a particular theory of autonomy and choice—as practiced within the bounds of environmental or psychological architectures—but the social relations of power and knowledge that produce subjectivities are neglected.

Naturalization

For Vitality, our behaviors are individual and result from both choices as well as biological factors. Responsibility for health outcomes is thus individualized based on choice, while categorical differences that influence the choices of a given group of people can be recognized, but are reduced to biological essence (*biologization*): sex, reproductive status, age, etc. What is not available for recognition are the social structures that contribute to these outcomes (*no social structures*)—race, gender, economic status—which are essentialized or individualized. By doing so, Vitality can discuss, for example, the gender "exercise gap" (Active women) and recognize the impact of social reproduction on women's exercise behavior; not by addressing the gendered division of labor or the social construction of gender, but by quantitatively analyzing the behavior of women broken down into reproductive categories: "not actively trying to conceive, actively trying to conceive, pregnancy, postpartum, motherhood, perimenopause, postmenopause" (Active women, p. 9; 26). It is this naturalization, built on the pillars of the individual body and biological programming, that allows Vitality to make statements like the following that completely obliterate any collective social reality:

> Consider the most important issues facing the world such as climate change, healthcare, an ageing population, income inequality, xenophobia, and mounting threats to world peace. Each of these problems is, at its heart, behavioural. (Antidote to inactivity, p. 11)

Shared value

Shared value includes references, descriptions, or statements which rely upon Vitality's "shared-value business model":

> Shared-Value Insurance, with Vitality at its centre, enables Discovery to have a positive impact on large-scale societal needs without compromising its bottom line … This creates long-term value for the insurer, clients, and society. (Antidote to inactivity, p. 11)

This understanding of the relationship between society, individual, and corporation relies on a worldview rooted in *hegemony*: one in which all actors share a set of goals and values and collaborate to achieve an optimal outcome—the belief in a project without contradiction, antagonism, or alternative; only the more-or-less smooth functioning of the cybernetic system (Baudrillard, 2010). This understanding both authorizes statements through the rhetoric of catering to societal improvement and underserved groups (*social responsibility*) and advertises a personalized product tailored to the specific confluence of demographic and behavioral characteristics of the reader; not only a product of protection or risk mutualization, but one which tangibly and significantly improves individual health as the basis for delivering value to individuals and society.

Quantification

Quantification sits entirely within the analytical dimension of representation and forms the core of Vitality's products: methodologically, commercially, and epistemologically. The statements of

quantification within this theme refer to these various functions. First, methodological: the representation of the world-as-risk on which actuarial discrimination relies and the practices of self-surveillance by insured people that enable this function (*quantification*). The transformation of qualitative experience into quantitative data requires the reduction of contextual events to their most basic indicators. To be counted, unlike or singular things must be rendered commensurable and fungible: some number of steps translatable into a gym visit, the purchase of some number of vegetables exchangeable for a parkrun. We can follow Vitality on the long journey up the chain of signification from the experiential world to the actuarial database: for example, the process of transformation by which activity is monitored using an Apple Watch, which is quantified as a step-count, which is represented as Vitality Activity Points, which are interpreted as habits, which are operationalized as a risk-profile (Vitality points page; see also Science of Vitality; Habit Index).

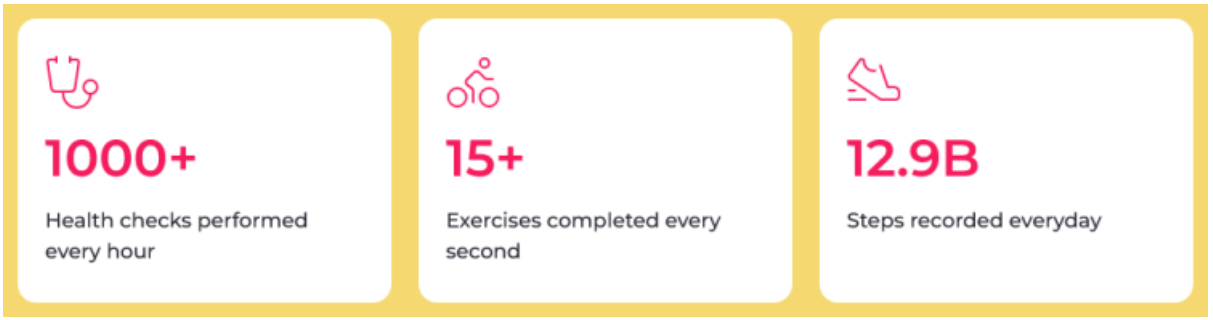

Figure 5.1: the equality of unequal terms
Source: Vitality home page

Second, commercial: the authorization or legitimation of the efficacy of behavioral insurance products through claims to total mathematical representation (*absolute representation*). These representations function not to further our understanding of the world but to produce a world in which behavioral insurance is the solution to every problem. They are so absolute as to be totally unmoored from the reality that they claim to represent, and serve only to market a product; claims so complete they could be considered—in the language of advertising—puffery. For example, Vitality and RAND Europe construct a "multi-country computable general equilibrium macroeconomic model" which "simulates the real economy" including "mortality, fertility, and migration rates" and "all indirect effects of physical activity on the economy" to assess the positive effects of changes in exercise behaviors on the global economy "over a 30-year time horizon, up to the year 2050" (Fit economies, pp. 11-17).

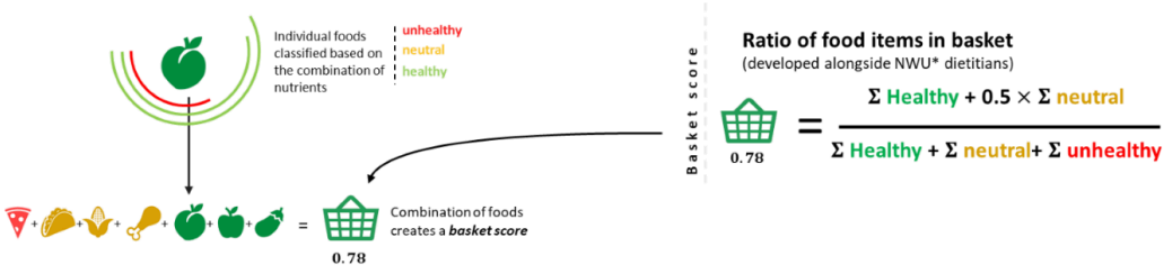

Figure 5.2: Making healthy eating intelligible.

Source: Habit index, p. 16

Third, epistemological: the production of health as an object of knowledge (*intelligibility and definition*). This is the delimitation of what can be known about health and how it can be known; the existence of health only once it can be measured and only when measured as defined, and the definition of health through and only through the proxies by which it can be measured. Vitality

> only consider[s] physical activity to have occurred if the individual has done at least 30 minutes of physical activity at a minimum of 60% of maximum heart rate or if the individual has recorded a minimum of 5,000 steps. (Habit index, p. 13)

This includes the exclusion of non-quantifiable or non-recordable events as non-intelligible: for example, "Measuring calories burned (selected Garmin devices only)" (Vitality points page) or completing a gym workout—at "participating partner gyms" (Vitality points page).

Total transparency

Total transparency relates to the expansion of data collection and the rendering-intelligible and digital representation of the insured subject. It is the integration of insurance products into all interactions, whether or not immediately health-related (*ubiquitous intermediation*), to extract economic and informational surplus. These data feed back into algorithmic models, where the health-risk profile of the insured subject can be revealed through analyzing patterns or correlations in a dataset which contains, ideally, the subjects' entire quantified life ($n = all$). Through rendering each interaction visible, measures can be implemented to incentivize certain choices and thus enact behavioral change. While Vitality acknowledges that visibility is not sufficient to create change, the implicit assumption is that behaviors will change even *before* the application of incentives. Vitality repeatedly states that insured people who produce "strong good" data have better health outcomes than those who produce "strong bad" data, but both groups have better health outcomes than those who produce no health data through device usage (Habit index). Regardless of whether the behavior tracked is good or bad, tracking itself leads to better health outcomes; to know is already to change (*knowing is changing*).

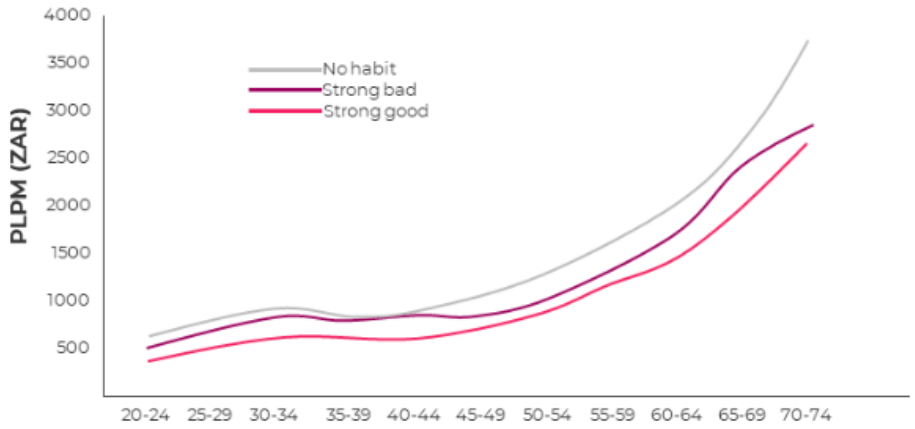

Figure 5.3: Per-life per-month healthcare costs (PLPM) and habits by age group.
Source: Habit index, p. 25.

Machine god

The paradigm of data science is heavily present throughout the documents in the explicit use of or reference to its technological and mathematical techniques. The data science paradigm also goes beyond these questions of technical practice in becoming an epistemological or ideological commitment; the idea that knowledge is available only through data (*knowledge only through data*). Subjective knowledge and human experience are devalued, and things which are obviously or even definitionally true are reframed as revelations of data analysis. To give some examples: Vitality proudly presents the finding that "the data shows that motherhood is a significant period for women" (Active women, p. 21); elsewhere that "strong habits reduce in-hospital costs" but that the effect is "significantly stronger" for "good" habits than for "bad" (Habit index, p. 51).

Empirical data are believed to be objective and superior to subjective or rational forms of knowledge generation. Self-reporting is seen as inherently flawed and logical or reasoned causality is superseded by the pure associative techniques of Big Data (*correlation = causation)*; correlation is enough, models are unnecessary, and theory is over (Kitchin, 2014b). The reasoning is self-contained and self-evident: those who engage with the product experience better health outcomes; those better outcomes are due to product engagement. For example, Covid-19 mortality (see Figure 5.4 below) is presented as a decontextualized correlative relationship with Vitality status. No alternative explanations are considered for why people with "No Vitality" suffer worse outcomes than "Gold" Vitality status—a private health insurance product offered in countries such as South Africa with high economic inequality, complex racialized dynamics, two-tiered health systems, and unequal health outcomes. No theoretical causal pathway is required, no third terms or mutual causes are considered; correlation is sufficient.

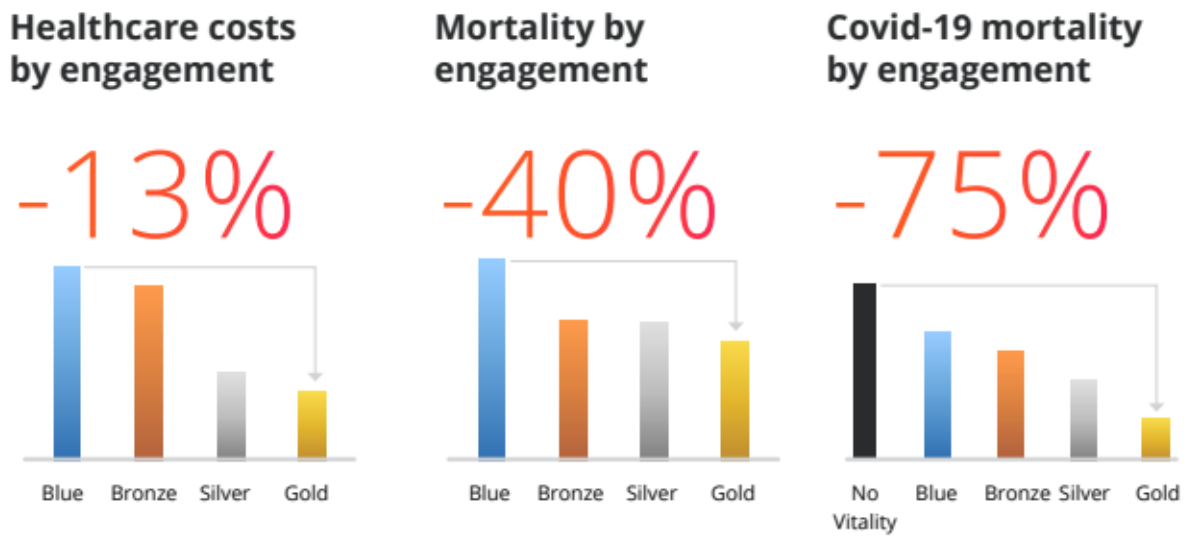

Figure 5.4: Healthcare outcomes by engagement.
Source: Healthy futures, p. 9

As McQuillan (2018) captures in the concept of "machinic neoplatonism," the capital-t Truth cannot be arrived at by a subjective analysis of experience or a rational appraisal of the world, but only through the transcendent mathematical operations of the machine (*neoplatonism*). Only the cold, mechanical data of digital reporting and the floating networks of correlation in data space are infallible and objective. As Vitality says, "people have cognitive and behavioral biases that affect their views of health" and think that their "state of health is better than it actually is" (Healthy futures, p. 6). We can only rely on technology to produce the truth: "[An action] refers to an activity or event that can be objectively observed and verified [by a device], rather than relying on self-reported data" (Habit index, p. 11). This mediated access to objective reality allows the truth to be reflected back to us by the magic of the machine: "Vitality's pioneering HealthyFutures algorithm calculates the number of years individuals can expect to live in good health" (Science of Vitality, p. 25); a "new algorithm that shows people how long they will live, how many of these years will be in good health, and the number one action they can take to improve the quality of their life" (Healthy futures, p. 3).

These discourses strongly echo the epistemology of data science discussed in the section on representation. They also resonate with the specific form of personalization as practiced on the object of the reconstructed dividual subject, and operationalized as a mechanism of subjectification—or the structuring of autonomy and choice—through the reproduction of this split digital subjectivity. However, the commitment to machinic data analysis proceeds beyond even this, straying into the realm of teleology or even theology. The march of digital technology is unstoppable (*inevitability*); people for whom no habit data has been produced "simply have not yet linked a device" (Habit index, p. 25), implying that it is only a matter of time. Moreso, the technological advances of the future will solve all the problems of today; or, the application of an abstract concept of "technology" is a solution

in-itself (*tech solutionism*): As CEO of Vitality SA Dinesh Govender tells us, "Vitality is a behaviour-change programme that finds its apex in technology" (Science of Vitality, Executive summary), and “If people are going to stay fit and active in the future, a device could be the ‘digital coach’ that nudges them to keep going” because "devices are the future of fitness" (Science of Vitality, p. 29).

Transformation of health

The transformation of health tracks the meaning and resignification of “health” in the discourse. Health is very rarely presented in its embodied, subjective form (*health = feel healthy*); or conversely, as not being sick. Instead, the concept of health in the discourse is dominated by two movements.

First, health as a virtual field of statistical potentialities—risk—continually evolving and updating based on behavior and only collapsing into the actual, static position of health at the moment of a terminal health event (*health = risk = behavior*). In this understanding, health is the ongoing project of the responsible individual who is less an experiencing subject and more the manager of an intelligible system. The role of the subject is to monitor and reflexively respond to the reports of the devices and intermediations that render the system intelligible; to regulate and correct behaviors in order to harmonize the informational outputs of the system (*health = signifiers of health*).

Second, health must be thus understood as a total system, inclusive of and responsive to the total range of inputs: nutrition, exercise, consumption, smoking—but also mental health, sleep, meditation, medication, business success, debt, interpersonal skills, social relationships, stress, and financial wellbeing (*health = total system*). These are interrelated, with each interacting with the others: walking helps to manage stress (Vitality UK Youtube, Parkrun: how parkwalk helps Christina manage stress); mind and body balance contribute to wellbeing (Vitality UK Youtube, Elle Simmonds & Maro Itoje discuss wellbeing: mind & body balance tips); and healthy behaviors are highly complementary, with physical activity, for example, associated with “one month of extra sleep per year” (Habit index). Consider the entries in the Youtube playlist titled “Boost your holistic wellbeing” (Vitality UK Youtube, emphasis added):

- Understanding & developing *emotional intelligence*
- *What it takes to build a business*
- A conversation with Gabby Logan, Ellie Simmonds, Tracey Neville and Simi Pam [professional athletes]
- Discussing *mental wellbeing* with Jos Buttler and Maro Itoje [professional athletes]
- How to start a *healthy habit* (and keep it)
- Gabby Logan and Maggie Alphonsi [professional athletes] on empowering women to *get more active*
- Ellie Simmonds and Jonny Wilkinson [professional athletes] talk *mental health*
- *Guided breathing* for beginners

Health is thus a continuous project of always *becoming-healthy* (Deleuze, 1992; Deleuze & Guattari, 2013); the body a total system of feedback and optimization operating on a continuous surface of monitoring and inscription that recognizes no boundaries or static definitions: "The program touches all aspects of life once you are engaged - with the ultimate goal of making millions of people around

the world healthier, wealthier, and safer" (Science of Vitality, Foreword). Insured people must "input new health measures relating to their cardiorespiratory fitness, medication adherence, salt intake, sleep and pre-diagnosed conditions" (Healthy futures, p. 11). The subject must emit the molecular expressions of a healthy subject in the form of intelligible outputs or digital artifacts of health; a never-ending struggle to occupy a position of proximity to absolute health itself. This cybernetic approach to health always trends toward absolute optimization; the ultimate purpose of health is to produce the maximally productive body (*productivism*) and the logical conclusion of the system is the perfectly healthy subject (*abolition of death*): "Vitality has led to a 13% reduction in mortality for members across all statuses" (Science of Vitality, p. 53) .

Optimization

Following this understanding of health as the management of a total system, the discourse is permeated with a logic of optimization and a doubling of the individual and collective systems; the individuated, statistical body-as-system projected through time and the collective, societal body-as-system projected across the population. As presented in the discourse, both systems function as continuous loops of information generation, feedback, and control that detect changes in the internal state—the statistical field of health outcomes or the health markers of the population, respectively. They then send this information to a central decision-making point—a "control center"—to evaluate and carry out corrective actions (*cyberneticism*). The system is not the physical body but the statistical body. As such, the monitoring mechanisms are not concerned with interruptions to the functioning of the system, such as injury or illness, but rather with risk: behavioral deviations or frictions in the functioning of the system. For example, in the blog entry titled "Healthy eating starts with healthy habits," (Healthy eating blog) Vitality does not warn against signs of ill-health or provide general guidelines for a diet that broadly fulfils our needs. Instead, the first step is to "identify your common triggers for a bad habit," which may include "sitting at home after work or on weekends watching TV" or "driving past a tempting fast-food drive-through on your way home," and asking ourselves "is there anything I can do to avoid the trigger?" Instead of balancing needs for convenience and comfort, external pressures such as advertising or demanding work routines, and desires for delicious unhealthy food, we are advised to reorganize a system of behaviors so as to function smoothly without the chance of deviation that may alter the stable state of the statistical risk matrix: "the key part of a habit is that you repeat it often enough until it becomes easy - almost effortless - to consistently do" (Healthy eating blog).

The optimization of a system requires an orientation toward a desired outcome or system state. Of course, this requires axioms about what is *good* or what is being maximized; axioms imposed and regulated by the control center. Rather than the individual subject making choices about values and desired outcomes, the control center of this system is the objective, neutral algorithm behind the network of devices, nudges, reminders, and incentives—and importantly, the people behind the

algorithm: Vitality, a private insurance provider selling behavior-change products to technocratic social managers. In this way, the functioning of both the individual and collective bodies are mediated through a quantified and monetized representation and guided by the value-system of the market, hidden behind the machine (*objective normativity / imposed values*). Subjective or everyday goals and desires are obliterated or obscured behind the optimization imperative. For example, Vitality advises customers to "Stick to a sleep schedule: ensure you go to sleep and wake up at the same time every day, even on weekends" (Sleep blog)—a demand in tension with existing as a living, desiring subject. Luckily, "behavioral economics has come up with interventions that reduce the effect of biases to *improve behavior and outcomes*" through "nudg[ing] you to make *better choices*" (Science of Vitality, p. 11, emphasis added), ensuring we exercise every day to decrease "absenteeism" and "presenteeism" (Fit economies) and do not succumb to "alcohol abuse" as one of the 18% of people worldwide who "drink heavily on occasion" (Science of Vitality, p. 17).

Thus the body is optimized toward the imposed normativity and assumed objectivity of standardized mechanical goals: longevity and performance, or time and intensity—maximized productivity and economic value and minimized healthcare costs (*better social systems*). Vitality projects that if everyone around the world added fifteen minutes of daily walking, individuals would see an increase in lifespan of 2.5 years and 5 extra productive days per year, while collectively we would see lower healthcare costs and $100 billion added to the global economy (Fit economies). This doubling reveals another tension within the discourse: impacts on the individual body are advertised as large, immediate, and certain; while impacts on the social body are marginal, long-term, and individually random (*aleatory / anti-aleatory*).

Figure 5.5: The personal benefits of becoming healthy

Source: Science of Vitality, p. 25

One final tendency emerges from the management of health as an optimized system. If individual and collective health can be rendered mathematical and knowable and regulated according to a set of uniform, transparent rules, the task of managing this system becomes specialized and technocratic (*professionalization*). Monitoring, interpreting, assessing, and regulating behaviors can thus itself be optimized, subjected to the laws of the division of labor and market efficiency. The subject is no longer the sovereign manager of health, and instead defers to the superior knowledge and expertise of the professionals and the machines. A separation occurs: while the individual remains responsible for the management of behavior, the judgement and direction of behaviors is ceded to the machinic process.

Personalization

Personalization emerges from the discourse along much the same lines as its discussion in the analytical model. The personalization of products occupies a central position in the discourse (*personalized products*): "personalized solutions" (Vitality home page); "tailored offerings" and "hyper-personalised global solutions" (Our solutions page); "personal pathways" and "personalised perspectives" (Science of Vitality); "personalised approaches" (Active women); or "staying active in a way that suits you" (Discover Vitality Optimiser, Vitality UK Youtube), to give a handful of examples. These are presented as a means for the choosing subject to consume a product that fulfils their particular preferences, suits their body, meets their needs: a way for the individual to exercise agency in the pursuit of becoming-healthy. This reveals the paradox of personalization: that the personalization of the product relies on the standardization of the person.

> To create greater awareness and accountability at an individual level, the new algorithm, developed by Vitality in collaboration with RAND Europe, provides individuals with a personalised view of their lifespan and healthspan, as well as bespoke recommendations for improving these measures. (Science of Vitality, p. 25)

The object of personalization is not the patient or the body, but its representation in data—the "data-double" (Haggerty & Ericson, 2000). The system of social optimization is reproduced in micro: the product is personalized not to the qualitative, unique experience of the individual, but the quantitative representation of the individual in data (*data doubles*). The collective or social body gives us the population function of the health algorithm; the individual body is simply a unique intersection of vectors, a specific relative position within the population. The specific individual is constructed in reverse: the person from the measurement, as seen in the fictional customers produced in Figure 4.6.

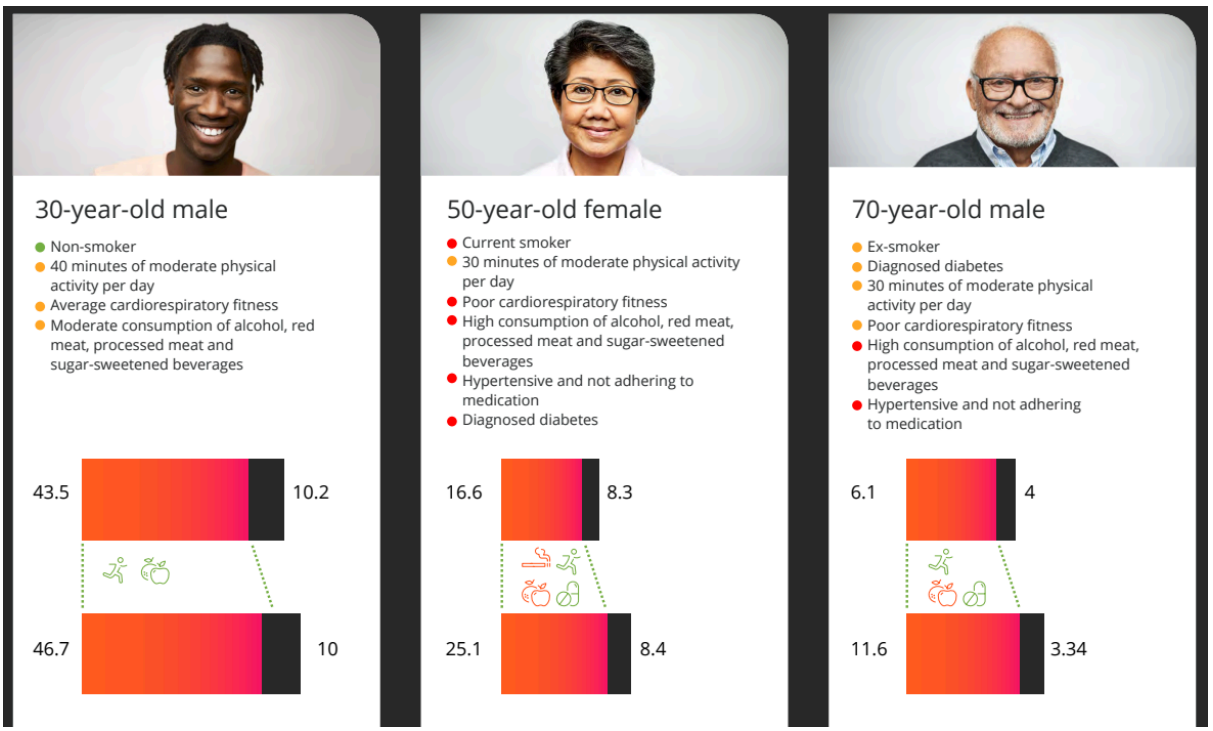

Figure 5.6: Meet your new neighbours in data-space.

Source: Healthy futures, p. 13

This interacts with autonomy and choice in two ways: first, by presenting the idea of autonomy and agency as choosing modes of consumption within an exogenously determined structure—Schull's "passive, choosing self" (2016, p. 14); second, by producing the dissonant subject that is always split between the experienced and the represented, the biological and the digital. As in Cheney-Lippold's (2011) description of the algorithmic identity, the data-double is an object that mediates the practice of becoming-healthy: subjective activity and practices of actuarial measurement and assessment co-constitute the data-double, and the actions of the subject and the personalization of insurance products adjust and tailor themselves to the representing object.

Business of insurance

The business of insurance is the apparently more technical discussion of insurance: what is insurance, what is it for, what is the product, and how does it work? While acknowledging once or twice across the data set that insurance is a financial product to ameliorate losses and mutualize risk (*insurance as protection*), Vitality is more focused on the new horizons of possibility opened up by behavioral insurance—for insured people, but also insurers, employers, and governments (*insurance revolution*). Old forms of public risk pooling *may* function sufficiently well for after-the-fact healthcare provision as an act of public necessity, but the flexibility and innovative capacities of private insurers can perform vastly superior regulation of population risk and management of collective health (*private / public insurance*). Only the private sector has the "ability to put a monetary value on people's health

and positive health behaviour" (Science of Vitality, p. 9) and make it visible to—and thus optimizable through—market mechanisms (*monetize health*).

This new form of insurance is available as a subscription lifestyle product, the provision of a total service; your insurance will not only protect your health, but guide and support you through your entire life. Want to know what to eat, improve your memory, or learn yoga? Vitality can help, with playlists on their Youtube channel (Vitality UK Youtube) with titles like "#ChefVitality Healthy Recipes," "Helping you with your Mental Health," or "Better Living through Yoga" (*health tips as marketing*). Vitality Active Rewards pairs you with gyms and records your food purchases at participating outlets and its rewards are received through coffee and travel partnerships. This dual mechanism of data production-incentive reaches a crescendo as Vitality curates and optimizes your spending through the Vitality American Express Card (Vitality UK Youtube; Science of Vitality). Vitality can even recommend the perfect Spotify playlist or teach you to meditate with Headspace—and don't forget your constant companion and guide, the Apple Watch (*corporate partnerships*).

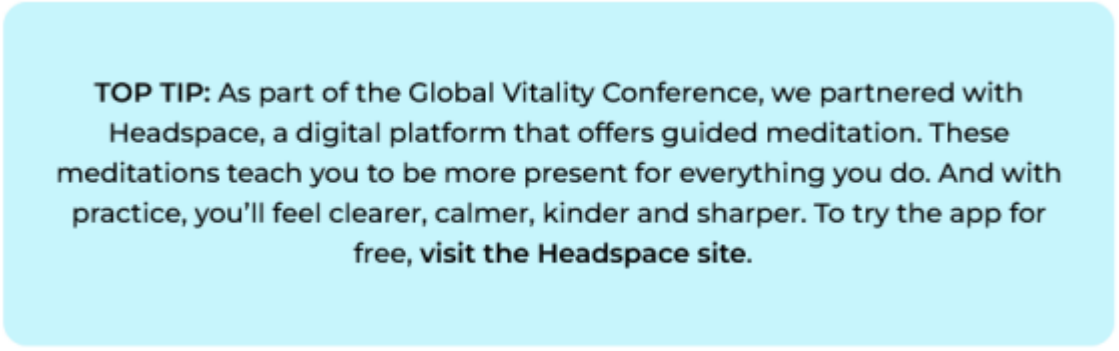

Figure 5.7: A free trial of Mental Health™
Source: Mindfulness blog

As noted in previous studies of Vitality (Jeanningros & McFall, 2020; Sadowski et al., 2024), the default mode of communication is already and always advertising: not only their product, but partner products, research, celebrities, institutions, brands. The answer to every research question is already given; the solution to every problem is already present; the recommendation for every policy; the filler for every gap: Vitality. All information is presented devoid of narrative, context, or interests; the style is that of the marketer: problem-agitate-solution. The subject is primed for the presentation of products packaged up and ready for consumption; product-as-solution (*absolute advertising*). Consider the following recommendations in the 65-page *Vitality Habit Index* white paper (emphasis added):

- For policymakers: "*Increase prevention budgets* to enhance public health interventions strengthening the importance of *healthy habits*" (Habit index, p. 53) and "collaborate with

employers to implement occupational health programmes *focusing on habit formation*" (Habit index, p. 54)

- For employers: "Vitality's 'Britain's Healthiest Workplace'" shows examples of how incorporating Vitality can "improve business outcomes such as productivity and retention, ultimately contributing to a more prosperous economy." (Habit index, p. 55)
- For insurers: "Offer insurance incentives for individuals who systematically engage in *healthy habits*" by "implementing reward programmes *akin to Vitality's*" (Habit index, p. 56)
- For individuals: "*Programmes like Vitality* which offer healthy food education and rewards are innovative examples of how to target individual-level behaviours." (Habit index, p. 57)

A similar recommendation is made in the conclusion to a study in the *Science of Vitality Journal*: "Result: To keep people active, we need new interventions, including the use of wearable devices and online workouts that are an intrinsic part of the Vitality programme" (Science of Vitality, p. 29). The solutions are already present in the framing of the problem, the definition of the concepts themselves necessitate the purchase of the Vitality product.

Conclusion

There are distinct differences between the categories of document, along with clear continuities. The reports are dense, scientistic, objective, and academic; blogs are easily digestible, communicative, and provide the assurance of health tips backed by science; the website is business-focused with succinct marketing messaging, emphasizing mutually beneficial societal improvement backed by technology and data; the Youtube channel is friendly, helpful, educational, and concerned with lifestyle and self-care.

Themes wax and wane in intensity between channels, which we can identify as functional differentiation in the discourse. Rather than being the ultimate texts (in complexity, sophistication, and density of messaging) the reports serve as symbolic mechanisms of authorization; their inner workings detailing the mechanical operations of behavioral economics and quantification that constitute the imaginary of behavioral insurance. The blogs enter into a discussion of the self-monitoring and regulation of the healthy subject through health tips as marketing, providing people with problems that can be solved by Vitality. The website drills down on shared value and the business of insurance, focusing primarily on legitimation and authorization, building trust in the efficacy of the product. The Youtube channel embarks on a project of education, laser-focused on the transformation of health; a soft subjectification, educating viewers to think differently about their health and their bodies, capturing existing desires through messages of self-care and self-help, burnished with popular and successful ambassadors.

These differences are underpinned by commonalities, with the transformation of health featuring prominently throughout the discourse, supported by behavioral economics and always falling back on

the business of insurance. There are also similar underlying currents, not dominant in any one place but structuring the conversation in every category: quantification, optimization, personalization.

The themes present in Vitality's discourse behave in a similar way, reorganizing and transforming the discourse to create varied tactics that form part of a multifaceted discursive strategy. Each theme forms a modular part of a cohesive narrative of behavioral insurance that can be selected, detached, and rearranged to produce a variety of documents, speak to a variety of audiences, and transmit variations on a message. The categories of documents and preeminent themes are delineated by function and constitute distinct tactics within a strategy of knowledge production; techniques of biopolitical marketing bound together and oriented by the business of insurance.

Chapter six: Answering the research questions

This chapter picks up the results presented in the previous chapter and places them in connection with the literature review, the theoretical framework, and the analytical model. This thesis has been structured to prepare us for this point. First, we came to understand our object of study and familiarized ourselves with the layout of the academic field. Next, we equipped ourselves with a set of conceptual tools and constructed a theoretical approach to the problem. Then we got to know the data, situated ourselves within the discourse, came to know its shape and its contours, and described and interpreted it in a set of codes and themes. Now we will again crack open our conceptual toolbox, draw up our models, and set to work on the discourse. This section pulls back to a broader perspective and articulates the major findings of the research, using them to answer our research questions: how does behavioral health insurance shape our understanding of our bodies and our health? Where is Vitality's discourse situated, and with which other discourses does it connect? What is the knowledge being (re)produced in Vitality's discursive strategy? What effects of subjectification does the strategy imply? And what imaginary of the product of behavioral health insurance does Vitality's discourse produce?

Marketing

The first finding of this research reinforces the conclusions of previous studies that Vitality's claims of personalized insurance products are primarily marketing aimed at "personalizing" the brand and attracting high-value customers (McFall & Moor, 2019; Jeanningros & McFall, 2020; Sadowski et al., 2024). Vitality creates a particular profile into which potential insurance customers can place themselves—active, aspirational, and financially successful. Socio-economic status is ignored as a contributing or confounding factor in the determination of health; very rarely are claims made about overcoming financial obstacles to health. The default customer produced in the discourse has already assumed a particular class position, sometimes explicitly: high status customers (i.e. those with access to the full range of incentives) have seventeen times the average savings deposits and are ninety-nine percent less likely to be in payment arrears (Science of Vitality). Corporate partnerships engage products with particular socio-economic significations such as Apple or Waitrose, while the incentives for producing behavioral data support this position: travel discounts, luxury technology, dining discounts, and high-end health food stores (Science of Vitality). The voices lending authority to Vitality's claims are aspirational figures such as CEOs or olympians (Active women; Vitality UK Youtube). People featured in the stock marketing imagery are ethnically diverse but physically and socio-economically homogeneous, dripping in the visual signifiers of class: corporate; professional; technologically savvy—using Apple devices, a corporate partner (Antidote to inactivity; Healthy futures); well-dressed—often in Nike apparel, a corporate partner (Science of Vitality); and walking on exotic beaches, exercising in well-equipped gyms, or driving new cars.

The reproduction of these memetic signifiers serves to construct a subject-position with which potential customers can affectively identify; a discursive image in which the subject recognizes themself. This provides strong support to Jeanningros and McFall's (2020) claim that behavior-based personalization serves primarily as a branding tool and a mechanism of customer self-selection. Approaching this analysis with our conceptual tools, this finding heightens, rather than diminishes, the importance of our research questions. The commitment to marketing may animate Vitality's discursive strategy but the questions of how Vitality's marketing operates and its effects of subjectification remain open.

Structuring the discursive field

The first question this research pursued was to situate behavioral insurance in the discursive landscape. We took aim at the contention between critical data studies, which sees behavioral health insurance as part of a larger socio-political movement toward communicative or surveillance capitalism (Charitsis et al., 2018; Gidaris, 2019; Sadowski, 2019), and the sociology of insurance, which maintains the independence and specificity of insurance as social practice and that behavioral insurance is one experimental tendency within this field (Tanninen, 2020; Meyers & Van Hoyweghen, 2018a). The former view focuses on the penetration of the logics of the technological goliaths and the adoption of the techniques and epistemologies of Big Data into ever more spheres of social life, while the latter understands insurance as an evolving discipline governing the social management of risk and the production or negotiation of solidarities. Our analysis supports the former view. The discourse of Vitality suggests that behavioral insurance is positioned between insurance and technology, lifestyle and wellbeing, cybernetics and behavioral economics—and deep within the discourse of business and marketing.

Furthermore, the discursive strategy of Vitality breaks from the understanding of risk and health presented in the traditional discipline of health insurance in a way that is hard to account for while maintaining the autonomy of the discursive field. Discussions of protection, claims, payment, coverage, or healthcare are almost entirely absent. Its conceptualization of individualized risk, the anti-aleatory understanding of individual bodies over time, the role of insurers and insured people, and even the function of the product of health insurance (as discussed in chapter five) all point to a radical transformation within the discipline of insurance if taken at face value as an endogenous innovation. On the other hand, continuities such as the always-present dream of individualization and the trajectory of increasingly precise actuarial discrimination trouble this narrative of revolution. However, if we understand Vitality as advancing and developing the discourse of insurance by entering it into connection with other fields and strategies, we can make sense of this apparent contradiction. Vitality produces a socio-technical imaginary of behavioral health insurance—that is, the articulation of behavioral insurance as a narrative as well as technical object—as a product that can both accurately assess individualized risk and actually change behaviors to improve individual

health. While this may be a marketing ploy, its apparent success advances the discourse of insurance in a new direction; evident in the growth and expansion of Vitality and the proliferation of behavioral insurance products. That said, how can we define this development of the discursive strategy? What rules can we discern of form, of authority, of style, of conceptual organization? What extensive connections can we identify with other fields?

We can begin to approach this through the discussion of document categories in the previous chapter, which concluded that the dispersion of the discursive strategy occurs along lines of function. These functions form parts of different chains and mechanisms of subjectification, aimed at different subject-positions: educating subjects about the behavioral nature of health; legitimizing the efficacy of Vitality's products as tools of behavioral regulation; negotiating the creation and distribution of value; establishing monitoring and control as a means of self- and social improvement; or legitimizing the marketization of health as a tool of governance. These relations of difference between texts allow us to discern the points of similarity; sketching the lines of disjunction allows us to derive the connective tissue of the strategy.

It may be tempting to assign the difference between marketing channels to the intended audience of each document, and thus differentiate mechanisms of subjectification or discern subject-positions, but we must be cautious in doing so. All texts are publicly accessible and available on the same website and often the same page, with various documents freely interspersed and often cross-referencing or cross-promoting each other. Subjects are encouraged to engage with various discursive modes: it is not necessarily accurate to conclude that, for example, private insurance customers will read the blog and corporate or governmental clients, the reports. The site offers up documents to the reader in every combination or permutation, with little regard for continuity of messaging or hierarchies of complexity. Rather, the architecture of the site suggests all visitors are presented with various pathways into subjectification and asked to select for themselves.

This dissolution of pre-defined audience categories into free-floating, ad hoc networks of behavioral association mirrors absolute advertising in its cybernetic form; the techniques of the platform masters of the internet. All (potential) purchasers of insurance enter into the discursive field as undifferentiated, unindividuated subjects and produce or interpellate themselves as specific categories of consumers, revealing themselves to Vitality through their choices and behaviors. These revealed subjects resonate with the techniques of data science or Big Data discussed in the analytical dimension of *representation* (McQuillan, 2018)—specifically the unstable, inferred identities of the consumers of digital advertising (Cheney-Lippold, 2011)—and the techniques employed in behavioral insurance products themselves. The distinction between form and content blurs; form and content are produced under the same conditions and take on the same structure.

The discourse of Vitality is not authorized according to a static set of rules, nor is it segmented according to audience, but is in flux, adapting to the specific context of each document. The segmentation and segmentarity of the Vitality customer base breaks down and blurs together,

crystallizing in singularities within texts that have specific permutations or characteristics according to their specific function, history, context, and the discourses upon which they draw: a Nobel Laureate (Antidote to inactivity), a sports star (Active women), a meditation app (Mindfulness blog), a research paper (Habit index), a cute dog (Vitality UK Youtube). The discourse of Vitality transgresses the bounds of the field of insurance: it is operative in the fields of health and wellbeing; lifestyle influencing; technology and data; finance and business; behavioral economics; and social governance. Its modes of authorization draw from all these fields; its statements are dispersed throughout these fields; its modes of enunciation malleable, adaptable, chameleonic; its objects grouped and regrouped; its concepts reorganized. The statements of Vitality do not belong to one specific discipline—they insert into any discipline where they can find a space to fulfil their function or enact their imperative. We can see key differences in the techniques and tactics of behavioral insurance; a deterritorialized movement that is reterritorialized in different contexts. Within this difference we can trace lines of continuity or connectivity between the documents: the quantification and representation of the body (as discussed in the analytical dimension of *Representation*); modes of biopolitical regulation and the cybernetic management of the doubled individual-social body (as discussed in the analytical dimension of *Total control*); and the overarching structure of the corporate imperative—sales, profits, marketing.

Vitality advances the discursive strategy of health insurance by acting as a locus of connection. The strategy develops in a new direction; reorganizing its concepts and the relations between its objects, developing and incorporating new types of enunciation (Foucault, 1989, p. 71). The insurer-insured relation is challenged and adapted, no longer a static relationship of risk and guarantee, but an ongoing project of mutual engagement. The relation between insured people deteriorates, from one of mutualization and solidarity to individualized nodes in a system of regulation. Health is reconceptualized, its objects reorganized. The project becomes a reciprocal relation of information exchange and feedback between insurer and insured, device and behavior; a relation of *total control*. This "shared-value" approach levels the relation between insurer and insured and produces a new object of knowledge—health as risk, the third term—around which both are oriented. Vitality's strategy pulls from the techniques of capital which organize the social field: cybernetics, data science, and advertising (Deleuze & Guattari, 1994). Vitality is the vehicle that imports these techniques into the discipline of insurance and destabilizes the boundaries of the field (Deleuze, 1992); renegotiating relations of power, opening possibilities for new knowledge and producing new subjectivities.

Forms of knowledge and of knowing reproduced

This section elaborates on the specific knowledge and ways of knowing articulated by Vitality, unfolding and critiquing the latent meaning in Vitality's statements to contribute to answering the question: what is the knowledge being (re)produced in Vitality's discursive strategy?

Understanding of health

The first discursive formation identifiable in the data configures health as a totalizing system of behaviors, establishing a network of relations which exceed the body to include financial management, mental wellbeing, rest and sociality, nutrition, and other metrics of life. Operating through the epistemic lens of risk (Ewald, 1991), health is quantified and represented within a grid of intelligibility in which subjective health is rendered calculable, comparable, and governable and temporally displaced. This biopolitical rationality is individualized, rendering health as an always-updating field of possibility contingent on personal behaviors and lifestyle choices, while political, collective, and social structural determinants fade from view. As discussed in the analytical dimension of *individuation*, health and health insurance are individualized and responsibilized, collective risk across a population transformed into private risk across time (Charitsis et al., 2018; Meyers & Van Hoyweghen, 2018a; Barry & Charpentier, 2023). Insured subjects are interpellated within a neoliberal governmentality (Barry & Charpentier, 2020): entrepreneurial managers of their own health system, continually adjusting behaviors in response to shifting metrics of information feedback (Petersen & Lupton, 1996; Lupton, 2013). Behaviors thus become the determinants of individualized risk that dictate future health outcomes; an equation in which *current behavior = future risk = health*. Risk is calculated as an aleatory phenomenon at the level of the population, but applied at the level of the individual as the fixed, certain, and knowable outcome of behaviors; an inversion of the epistemological innovation of aleatory risk that enabled the solidarity of traditional insurance.

The aim of this discussion is not to pass judgement on the relationship between behavior, risk, and outcome or call into question relations of cause and effect—although the consequences of this conceptualization will be unpacked in the following—but to describe the arrangement and operation of these concepts within the discursive formation; the reorganization of objects that constitutes the knowledge produced within the discursive strategy. In sum, health is abstracted from the body and embedded within a system of practice; the transformation of health from embodied to performed. Rather than an affective state, health is a matrix of probability derived from the totality of behavior or life itself.

Alienation of health

Health becomes not only a system of behavior, but one in which behavior is immediately abstracted through a system of proxies and measures that define the boundaries of what is intelligible as health. This is the deterritorialization of health into the quantified representations of a system of action; health retreats into representation as data and is abstracted into the future as risk. This discussion is situated in the analytical dimension of representation, leveraging the practical and epistemological problems raised there.

The problem is grounded in Dan Mcquillan's (2018) conception of data science as a paradigm of machinic platonism, with computation as a liminal space between an imperfect world represented in data and the hidden mathematical order. The mechanical production of the statistical space of risk mediates access to the true state of our health; where reasoned causation gives way to patterns of correlation in massive data sets. The scale of operations required far exceeds human processing capabilities—Vitality boasts of 60+ million "life years" of data, over four petabytes of data, and more than five billion device "readings" per year (Our solutions page)—and must therefore be turned over to mechanical computation, rendering the process opaque to human eyes through sheer enormity. These are not calculations from experience but "against experience," from the traces of experience that can be datafied (McQuillan, 2018, p. 261). This is an act of mechanical definition that speaks knowledge into the world—see the definition of physical activity discussed in the theme *quantification*, for example. The assumed facticity or objectivity of data means that anything which results from it is necessarily, and retroactively, justified (McQuillan, 2015; 2018). Data science thus forms an apparatus of definition: its techniques of measurement and observation enact relations of power; and those who are subjected to the coercive exercise of power are rendered intelligible through its operation (Foucault, 1988). In reproducing the paradigm of data science, Vitality requires the subject to represent themself within a grid of intelligibility so as to render themself as data; to allow the machine to perform its computational revelations.

This takes place through ubiquitous intermediation, as noted by Sadowski (2024), where data-production devices are inserted into as many moments of health as possible. Vitality creates an "oligoptic" view of health (Latour, 2013); health is the amalgamation of distributed, partial representations produced within Vitality's system of definition. Behaviors become intelligible—and therefore knowable—only within the body-device assemblage: exercise only through the convergence of the body and the Apple Watch; rest only in conjunction with a sleep tracker; nutrition only through the grocery loyalty program. The individual is reconfigured as Deleuze's dividual (1992), where disarticulated flows of data allow the computational triangulation of the modular, shifting status of health; updating as new forms of information or databases contribute to the "digital data assemblage" (Lupton, 2016a; 2017). Health becomes accessible only through mathematical operations on the plane of representation—the separation of health from the body and the mediation of knowledge by the machine god and its priests. Health is no longer knowable by the subject; we must cede its determination to the superior capability of the machine.

At this point, we enter the analytical dimension of *personalization*. Products in the discourse are marketed as tailored, personalized, or other ways of saying 'made specifically for you,' but who is the 'you' to which these products are specified? What is the knowledge of the self that Vitality reproduces in their discourse? As discussed in depth in the analytical model, personalized, individual health can be known only as a position relative to the aggregate; the pattern-matching machines rely on the absolute mass of data to derive the algorithms of health. Individual health is reconstructed as a

statistical position within a mass, based on the representation of the individual as a collection of data points (McQuillan, 2018). Personalization thus relies on depersonalization; the individual is decomposed into dividual flows of data, which must be abstracted and made commensurable across a population to form a data set (Charitsis et al., 2018).

The operation produces characteristics as standard and stable measurements across people: an assumed continuity between one experience and the next, and a linear or stable relationship between variables at different quantities and in different combinations. This is the paradox of datafied personalization; that it finds its ground in depersonalization. The individual must be decoded from its singularity as a subject to form the mass of the aggregate. The individual as contingent, irreducible difference is eliminated; the individual as an instance of a standardized function is born—the data double (Haggerty & Ericson, 2000). Personalization is thus enacted on an alienated representation of the self, mirroring the process described by Cheney-Lippold in online advertising (2011). In Vitality's discourse, the body becomes the representation of action in data and health becomes the field of risk. The depersonalization inherent in personalization requires the subject to represent themself to the machine within a system of definition; the machine then acts upon the data-double, asking the subject to understand themself *as* their representation in data. The knowledge (re)produced in the discourse of Vitality opens a gap between health and the body: a double alienation, temporally displaced through the production of risk and displaced into representation through the shadow of the data-double.

Effects of subjectification

In this section, we finally turn to the subjectivities or effects of subjectification produced by the forms of knowledge production identified in Vitality's discourse and analyzed in the previous section to answer the question: what effects of subjectification are implied by Vitality's discursive strategy?

Becoming-healthy

The first effect of subjectification we can discern in the discourse is what we are calling becoming-healthy. Once health is abstracted from the body, transformed into a process of continuous inscription, it is no longer a characteristic we possess or a stable state of being, but an always-updating field. Health is something we are always becoming. In the previous section we established the three terms of health in the behavioral insurance relationship: the body, acting in the world; the data-double, displaced into representation; and risk, displaced into the future. The body performs or animates the data double, producing the behaviors which are interpreted by the machine in an imperfect synchronicity, while both terms are oriented toward or pulled forward by the temporally displaced third term of risk. Vitality produces a discourse in which health—construed as the triple body-data-risk relation—is an always-ongoing private project of stabilizing a field of statistical risk. In a society organized by a regime of cybernetic control "one is never finished with

anything" (Deleuze, 1992, p. 6). The subject can never *be* healthy, they can only give off the continuous signals of a subject which is becoming-healthy.

Health is defined by the mechanical assemblage and its operations of observation and calculation; the body must render itself totally transparent—able to be represented in data. Vitality positions itself discursively as an assistant in the ongoing project of health, inserting its product into the gap between the body and representation. Health has already been understood as metrics of behavior; now the subject requires some way to produce these metrics. Becoming-healthy is colonized and mediated by algorithmic control—the cybernetic and biopolitical regulation outlined in the analytical model. Health becomes a collaboration between subject and device, seeking to improve the functioning of the health system; the doubled anatomopolitical discipline of the body and biopolitical regulation of the social body (Foucault, 1978). The human-insurance assemblage embarks on the journey of becoming-healthy: data displacing embodied health, nudges substituting for memory, incentives augmenting frail motivation. The subject enacts a performance of health choreographed by Vitality, an ongoing production of the datafied expressions of pre-defined quantitative and normative values.

Behavioral health insurance is thus discursively produced as a lifestyle product; a commodified and consumable technology of the self. Foucault (1988) describes technologies of the self as concrete practices by which the self constitutes itself as a subject; the techniques by which the subject discloses, reflects, and develops their ways of living by internalizing norms and regulating behaviors. We can see the products of Vitality functioning in this way. Insured people practice self-observation, producing a quantified representation of behavior. These are compared against norms derived from scientific or statistical standards. The insured person self-regulates, adjusting behaviors as prompted by the gamified interventions of Vitality tracking products. Eventually, norms become internalized—or "habits," as Vitality prefers to call them (Habit index)—until self-correction pre-empts the external intervention. However, the self is not fully autonomous and never exists outside power; thus the becoming-healthy is framed within an imposed normativity; a biopolitical framework that determines its direction and its limits (Foucault, 1988).

Both what health *is* and what health *is for* are constructed discursively, as discussed in the dimension of *representation*. Here we pick up the discussion of definition from the previous section: the imposed structure of intelligibility—what is included, how it is measured, etc.—captures the becoming-healthy in advance and delimits the practices through which it proceeds. Likewise, the normative structures against which individuals measure and regulate their behavior are not endogenously or autonomously defined, but are already given (Sanders, 2017). The system of definition is not neutral; devices come pre-loaded with the *what* and the *why* of health.

The imposition of values is not only imposed through normative structures of suggestion but is enacted, as the structures that define both means and ends are embodied in technologies. Technical objects are produced to fulfil a function and the values of that function are imprinted in their design (Kaiser, 2023). The values of Vitality are the values of capitalism and of profit: productivism,

efficiency, cost-minimization, profit maximization. This is implicit in Vitality's discourse, as captured in the codes *productivism*, *intelligibility and definition* and *objective normativity*, with texts framing becoming-healthy within normative structures of personal development, improved productivity, or physical optimization, endorsed by star athletes and businesspeople (Vitality UK Youtube; Active women; Science of Vitality). Elsewhere it is made explicit, laying out the quantitative gains to employers, economies, and capital (Fit economies; Healthy futures; Vitality sales brochure; Our solutions page). Technologies of the self and their mechanical assistants operate within a system of values defined by the exercise of power. The process of becoming is delimited and directed by the tools at our disposal and the structures within which we perform the operations of the self.

In the discourse of Vitality health is produced as a becoming. The understanding of health as behavior and risk is imposed upon this becoming: the object of health with which insured subjects seek to enter into proximity is predefined by its metrics of representation. The cybernetic system of health regulation that is Vitality's product colonizes the gap between the body and data; an assistant in the project of becoming-healthy. Subjects co-produce themselves with the device and so understand themselves within the grid of intelligibility and the values baked into its design. Behavioral insurance is thus a technology of the self, operating within hard and soft mechanical limits; within an imposed normative framework; and within a system of biopolitical regulation. The structure of the assemblage is given by function, and the function here is profit; a project of eternal consumption. Vitality provides becoming-healthy as a subscription service; a rental technology of the self.

Epistemological enclosure

The second effect of subjectification is something that can be described as epistemological enclosure, the capture and privatization of a previously autonomous space of knowledge production. We have covered the transformation of health and its double displacement in detail; its move into a system of representation and a future-oriented project of becoming. We have also discussed the insertion of Vitality's products into the space created by this discursive displacement. But why should people turn to Vitality to bridge this gap? Why do we need Vitality's little mechanical assistants?

Previous work has noted the attempt by insurers to privatize the insurance relationship, assuming the risk of the individual without redistribution or mutualization within a category (Barry & Charpentier, 2020). Vitality, however, aims not only to privatize risk but to privatize access to the knowledge of health. This is a two-fold problem: Vitality must take control of the means to know your health; and the means to know how to improve it. To acquire subjective investment in their authority, they must show their mechanical apparatus has "better knowledge" and "better decision-making" (Illich, 2009, p. 100). Vitality discursively reproduces knowledge of both health and the treatment as something they possess and we do not. This is what we are calling epistemological enclosure.

The first action of epistemological enclosure is the privatization of the ability of the subject to know what health *is*. Through the combination of Vitality's techniques of authorization—data science,

technological solutionism, and expert authority—knowledge of and ways of knowing health are professionalized; access is restricted and mediated. In Vitality's discourse, claims to health can only be certified by the computation of the distribution of outcomes based on behavior. Health is about constant regulation and inscription: a continuously updating system of behavior, represented as data and computed with reference to the entire population—not a stable state of being and impossible for the subject to access autonomously. Thus it becomes entirely possible to be at once healthy and sick; sickness is no longer proof of ill-health, just as the absence of sickness is no longer proof of health (Illich, 2009). Access to knowledge of health is available only through the complex of the machine: the representation of health requires the mediation of technical devices; the operations of data science require the insights of computational omniscience (McQuillan, 2018); and the interpretation of health requires the expert.

This produces a particular set of subject-positions or relations between insurer and insured. The top-down definition of the signifiers of health—the hard-coded ways in which we are allowed to access knowledge of our health within the behavioral insurance assemblage—removes our competence and makes us dependent on having our knowledge of health produced for us (Illich, 2009). We are no longer the trusted guardians of our own health; our health or unhealth is determined statistically. Insured subjects are produced not as the customers or consumers of medical services, but as an ongoing project of optimization: a project in which they are required to willingly subordinate themselves to the superior knowledge of the machine. The devices which mediate this relationship are imbued with the authority of institutions, expertise, scientific objectivity, and neoplatonic data science—even celebrities and sports stars. The individual is thus produced as the always becoming-healthy—and thus never-yet healthy—patient of the device. Not merely reliant on the device to certify *illness*, as in the figure of the doctor and the medical bureaucracy (Illich, 2009), but to know the causes and status of *health*. What we could once do for ourselves—know whether we were healthy or sick—becomes professionalized and absorbed into a corporate technology of health. To be healthy, we must produce ourselves as patients of the machine, produce the behaviors that it requires of us, and produce the signifiers of behavior that render us intelligible.

The second action of epistemological enclosure is the privatization of the ability to know how to *be* healthy. It is not enough to privatize and sequester knowledge of health; Vitality can also sell the cure if they convince us that we cannot be trusted with the treatment. If health is behavioral, bad behavior is ill-health; the shaping of behavior through behavioral economics is thus the treatment. Vitality reproduces discourses that construct the subject as irrational, infantile, needy: incapable of the autonomous regulation of health. This is not the perfectly rational utility maximizer of neoclassical economics. The subject is rearticulated through the discipline of behavioral economics as cognitively biased, predictably irrational, and susceptible to environmental or psychological influence.

The shift from autonomous rational actor to nudge-able subject aligns with neoliberal governmentality, where the role of power is not to dictate outcomes but to structure the "choice

architecture" in which subjects make decisions (Thaler & Sunstein, 2008). The subject is constructed as caught in a bind between long-term rational preferences and short-term desires, justifying interventions that recalibrate choice-making through financial incentives for 'healthy' behaviors or 'nudges' (Thaler & Sunstein, 2008). Economic agents remain calculative, but their calculative abilities are imperfect and require the surveillance, correction, and subtle guidance of a benevolent patron. This is a self-governing but flawed and weak-willed subject, exercising freedom within a biopolitical framework engineered to produce desirable population-level outcomes. The insured person is the willing but incompetent agent of a becoming-healthy; Vitality, the helpful assistant, knowledgeable expert, and technical wizard. The subject is still choosing and responsible but—given the inadequate rationality of the subject, the predilection for instant gratification, and the ready availability of superior technological knowledge—the subject is primarily responsible for choosing Vitality.

The opening-up of the gap between the body and the knowledge of health provides the opportunity for mediation and the conditions of possibility for market colonization and commodification. As an entire system of behaviors must be computed to generate knowledge of health, it becomes a complex, capital-intensive process: requiring devices of surveillance and monitoring; computational power; machinic expertise; and above all access to data-as-capital (Sadowski, 2019). Individual health is only able to be known within the network of relations and connections produced in the aggregate data-set of capital (Charitsis et al., 2018), as discussed in the analytical dimension of *personalization* and the previous section. Not only is the ability to generate knowledge of health epistemologically foreclosed; the discursive production of the knowledge of what health *is* creates a material impediment to our ability to know it. On the front end, Vitality creates a price for the ability of the subject to become intelligible and to access knowledge of their health through a proprietary, private, algorithm-as-product and the network of information-generating interactions which enable it. On the back end, Vitality sells knowledge of the treatment as well as the rational reinforcement required to pursue it. As intuitive knowledge of the body becomes the data of behavior, knowledge of health becomes the output of capital. The retreat into a system of representation creates affective investments by the insured subject into the representing sign—affective investments that can be channelled into the desire for a product. The separation of health from the body is the first and necessary step in allowing the commodification of health; not only in the form of rarefied knowledge and commodified treatment (as in the private hospital; Illich, 2009), but the commodified knowledge of health itself—a commodified becoming-healthy.

Finally, we are reminded that this entire discursive formation emerges within the axioms of capitalism (Deleuze & Guattari, 1983; 2013); that it was always operating within a paradigm of absolute advertising (Baudrillard, 1994). Behavioral health insurance is, above all, a business. We find health and wellness tips, cross-promotions of corporate partners, and specific products and incentives all as forms of marketing, geared toward a particular class of consumers—a particular subject who can

see themselves reproduced in the discourse. But to dismiss Vitality's statements as simply advertising speaking to a target demographic is to stop too early. Vitality not only speaks to a particular audience, but produces that audience as a particular type of subject; they not only sell a product, but produce a particular imaginary of that product. Vitality's discourse positions both product and consumer in forms amenable to understanding health as the co-produced outcome of a market relation. This is Zwick and Bradshaw's "biopolitical marketing" (2016): marketing which simultaneously produces a product and a subject for whom the product makes sense—the need and the solution are co-constituted in the discourse. The subject is produced as biologically determined to fail in the performance of the behaviors of health; the product is produced as a benevolent system embodied in everyday devices that allows the subject to overcome the inevitable obstacles in their production of the healthy self.

The new product of behavioral insurance

We can now turn to the additional question that emerged during our engagement with previous scholarship from the sociology of insurance. If insurance is about the creation of internally homogeneous categories and the mutualization of risk across a category, what happens when the size of the category tends toward $n=1$? Insurance has long been undergoing a neoliberal transformation, shifting from risk pooling to "actuarial fairness" (Sadowski, 2024). In this conceptualization the function of insurance is no longer to mutualize risk across a population, but to standardize and regularize individual risk across time. This "privatized actuarialism" is "actuarially fair" (Barry & Charpentier, 2020) in that it produces the responsible individual as the manager of their own risk, allowing for more precise risk segmentation (as discussed in *individuation*). However, if the pricing of risk becomes individualized the product of insurance disappears; the calculating individual has no incentive to purchase insurance that is equal to the true cost of their individual risk. In the face of this contradiction, we are interested in the articulation of the product. Does Vitality's discourse present a resolution to the immanent tension between the tendency toward individualized risk and the mutualizing function of insurance? What, in short, is Vitality selling?

Vitality's product is no longer the management of risk: the amelioration of costs and their standardization across groups and over time. Instead of pricing health into the market to allow the rational calculation of risk, Vitality sells mechanical assistance to the flawed rationality of the subject. Through the augmented calculative abilities of the nudged subject and the transcendent knowledge of the neoplatonic machine, Vitality sells the optimization of health itself. Risk is not financialized as a mechanism of efficient allocation; rather, risk is cybernetically managed through representation, quantification, and datafication and monetized in the form of a subscription service and lifestyle product. As Deleuze and Guattari (1983) explain, as productive flows are deterritorialized, recaptured, and reterritorialized within the capitalist axiomatic, capital comes to appear as the source of all

production. Behavioral health insurance is about making our behaviors healthy: capital, technology, and data become the source of health.

Conclusion

This research analyzed the marketing discourse of Vitality, an ecosystem of behavioral insurance products owned by Discovery Limited, to answer the question: how does behavioral health insurance shape our understanding of our bodies and our health? To do so, we adopted a Foucauldian methodology, drawing on the tradition of Critical Discourse Analysis and the specific methods of reflexive Thematic Analysis. First, we used existing literature in conjunction with our conceptual toolbox to create a five-dimensional analytical model that structured our analysis and described the process of behavioral insurance: *individuation, representation, personalization, total control,* and *autonomy and choice*. We then analyzed a selected set of marketing statements produced by Vitality: research papers and reports, blog posts, pages from the Vitality Global and Vitality UK websites, and the Vitality UK Youtube channel. The analysis of Vitality's marketing discourse generated 55 codes, which were organized into ten themes. The themes were described according to the semantic and latent meanings present in the discourse and illustrated with exemplary statements from the data set. Finally, we placed them into dialogue with the theoretical framework and existing scholarship through the mechanism of the analytical model to provide answers to the research questions.

The first finding of this research supported the conclusion of previous studies that Vitality's discourses of behavior-based personalization are first and foremost a marketing ploy, aimed at attracting high-value, high-health customers (McFall & Moor, 2019; Jeanningros & McFall, 2020; Sadowski et al., 2024). Rather than diminishing its importance, this finding highlighted the relevance of our questions: what is Vitality doing, how are they doing it, what are they selling, and what are its effects? The marketing discourses are viewed as the construction of a discursive imaginary of health insurance, a tactic in a discursive strategy and thus a site of knowledge production and a mechanism of subjectification.

The first question was: where does Vitality situate the discourse of behavioral health insurance? Our analysis concluded that Vitality's discourse is situated at the limits of the discipline of insurance, driving the discourse in a new direction by acting as a locus of connection to other discourses and other fields: technology start-ups and finance capital, behavioral economics, preventative health and social governance, and socially conscious holistic wellbeing. Vitality's discursive strategy is produced as a transdisciplinary, malleable discourse that adapts its statements to the audience, but always operates on a plane of consistency organized by the imperatives and axioms of capitalism.

We then asked: what knowledge of health is being (re)produced in Vitality's discourse? The empirical analysis found that Vitality articulates health as a totalizing system of behaviors that produce a calculable, optimizable field of risk. These encompass everything from exercise and nutrition to financial security to quality of sleep and mental wellbeing, but are ultimately understood as something measurable, knowable, and manageable. This reconfiguration of health results in its alienation from the body. Health is represented as data, quantified as risk, and projected into the future

as a statistical field of potential outcomes. It becomes a triple relation, a concept containing three terms: body, data, and risk. The discourse of Vitality thus produces an understanding of health that is doubly displaced: abstracted into the representation of action as data; and projected into the future as a system of computable risk.

The next question investigated was: what are the effects of subjectification implied by Vitality's discourse? The first finding was that the insured subject is produced as one always becoming-healthy, but one that can never become healthy. The conception of the self, the body, and health in Vitality's discourse is shaped by an internalized neoliberal governmentality that produces the subject as an entrepreneur of the self; the paradigm of Big Data that decomposes the self into a dividual, shadowing the body with its data-double and splitting the self through datafied representation; and a cybernetic conception of health that produces it as a total system of behaviors to be monitored and controlled in an ongoing project of becoming-healthy. Health is transmogrified into the continuous and eternal regulation of a representational system of behavior and risk by the entrepreneurial subject; the never-ending cybernetic management of life, represented by the quantified expressions of behavior. The subject is coached to emit particular signals of health; to willingly and correctly perform the role of the healthy subject.

This leads to the major conclusion of this research: that Vitality's discursive strategy is a project of epistemological enclosure. The discourse of Vitality produces a form of machinic professionalization, privatizing the ability of the subject to know what health *is*. Health becomes a surface of continuous inscription, no longer a stable state and therefore impossible for the individual to definitively know. Health is an entire system of behavior represented as data, calculated as risk, and computed with reference to the entire population; a project requiring the insights of computational omnipotence, the divinations of the machine god. This is supplemented with the knowledge of behavioral economics, which constructs the subject as irrational, weak-willed, and infantile, removing the autonomous ability of the subject to *be healthy* and justifying paternal intervention. Together, these produce a subject reliant on the product of Vitality: we require access to the socio-technical assemblage of tracking and inscription that renders us intelligible and permits knowledge of the self; we require the guiding hand of Vitality's mechanical assistant to overcome our biological insufficiencies, to produce the correct digital artifacts of health and emit the signals of the healthy subject.

Vitality's discourse is an operation of what Zwick and Bradshaw (2016) call biopolitical marketing, insurance sales as a project of subjectification. The marketing articulates the simultaneous discursive production of both the object and the subject of the consumer relationship, knowledge of the product and the customer, capturing and commodifying the datafied representation of life itself. Vitality's discursive strategy colonizes the space created by the double displacement of health with a monetizable product. This is the act of epistemological enclosure: what we could once do for

ourselves—know whether we were healthy or sick, be the custodians of our own health—becomes professionalized, technologically gatekept, privatized, and commodified.

After this analysis, we can answer the question generated by the apparent contradiction between behavior-based personalization and the solidarity function of insurance: what is the discursive imaginary of the product of behavioral health insurance? Behavioral health insurance is no longer about protecting against losses and mutualizing risk. Instead, it is the individualized regulation of behavioral risk across time. Vitality's product is articulated as an assistant in the project of becoming-healthy, a mechanical augmentation of the frail subject of behavioral economics. Behavioral insurance is about making us healthy: capital, finance, and data become the source of health. Vitality sells a lifestyle product, a subscription service that enables us to create ourselves as healthy, a rental technology of the self.

One final remark in closing. Behavioral health insurance is an example of what occurs when we fall into a paradigm of representation; the enabling condition for this process of product and subject co-creation is total representation. The retreat of the subject into data produces a subjectivity organized within the axioms of markets and data science: a world of systematization, intelligibility, commensurability, generalizability, and exchangeability. Resistance to this mode of social knowledge must take the form of affective knowledges and embodied ways of knowing, de-privileging the abstract, the visual, and the metric over the felt, the tactile, and the experienced. If we find something unsettling about a world of total information, transparency, and control, we must defend difference, specificity, and the ability to become imperceptible and unintelligible.

Limitations and further research

This research faced several limiting factors which placed restrictions on the development of the project. First, we lack the material capacity to perform a larger analysis of the total field of insurance discourse. Given the debate over the transformation of insurance as continuity or rupture, any narrative would be strongly supported by significantly extending the temporal scope. Similarly, questions about the extent and reality of implementation would be better served were it possible to extend the analysis into a wider corporate and geographical space. There is some merit to extending the conclusions of this research to encompass other behavioral health insurance providers who display evidence of participation in a similar discursive strategy, or to operators in other markets where behavioral techniques are applied. Future research may provide further evidence of the proliferation of these mechanisms of subjectification, whether they are operative in general, and whether they are heralds of a broader social trend.

Second, there are limits to the geographic scope of this study and its generalizability. Vitality is a private actor, operating primarily (but not solely) in markets with predominantly private health and life insurance. The generalizability of any conclusions is clearly limited as the structural balance of public/private provision changes between contexts, although there are continuing structural trends

toward privatization or at least supplementary private provision even in markets dominated by public providers, such as Australia, Canada, and several EU countries (see, for example, Maarse, 2006; Taylor-Gooby, Leruth, & Chung, 2017). Regulatory environments (such as the GDPR) also significantly hamper or restrict the implementation of Big Data and behavioral practices, limiting its applicability across contexts. However, the basis of our theoretical framework is that the trajectory of capitalism has always been one of overcoming the social codes which regulate production (Deleuze, 1992; Deleuze & Guattari, 1983; 2013). If we are correct in identifying the structural forces pushing the development of behavioral insurance, they supersede regulatory efforts: the systemic imperative will exist regardless of regulatory attempts, which will ebb and flow in accordance with shifts in power relations. Further research on the connections between public and private actors and the infiltration of public health by behavioral techniques—both commercial products such as Vitality and the techniques of Big Data and behavioral economics—could shed light on this interplay of forces.

Finally, an investigation into subjectification would be significantly strengthened by conducting interviews with insured people. While we can look to discourse to identify the presence of this or that particular mechanism or trend, empirical data from people insured under these practices would help close the significant space between 'pure,' theorized mechanisms of subjectification and the messiness of reality when this molar system of subjectification comes into contact with resistance and obstacles in its application to real people. The field would greatly benefit from further research in this area.

We must also be cautious attempting to generalize the conclusions of this research. This study sought to answer the question of subjectification. In doing so, we took the discourse of Vitality very much on its own terms: a descriptive project of the logics and mechanisms embedded in Vitality's product, marketing, and business model. However, we should not overstate the ability of Vitality to create the world in their image. Subjectification is a precarious and negotiated process and performances of the subject-position fail in varied and interesting ways (Butler, 1990). Processes of subjectification are always heavily overdetermined and are a manifestation of competing or contradictory forces, discourses, and experiences. They meet resistance, unpredictability, unintended consequences, and the messiness of the social world. Subjects contest and attempt to reshape the very structures and categories that are seeking to define them; resistance is irreducible and inherent to the workings of power (Foucault, 1978). Further research into the experiences of insured people might allow us to understand the degree to which these discourses are internalized, the strategies of resistance or acquiescence, and the negotiation of externally structured and mechanically embedded modes of self-subjectification.

References

Ajana, B. (2017). Digital health and the biopolitics of the quantified self. *Digital Health, 3*, 1–18.

Akerlof, G. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics, 84*(3), 488–500.

Arrow, K. (1963). Uncertainty and the welfare economics of medical care. *The American Economic Review, 5*(5), 941–973.

Arvidsson, A. (2016). Facebook and finance: On the social logic of the derivative. *Theory, Culture & Society, 33*(6), 3–23.

Austin, R. (1983). The insurance classification controversy. *University of Pennsylvania Law Review, 131*(3), 517–583.

Barry, L. (2020). The quantified self and the digital making of the subject. In M. Stocchetti (Ed.), *The digital age and its discontents: Critical reflections in education* (pp. 95–110). Helsinki University Press.

Barry, L, & Charpentier, A. (2020). Personalization as a promise: can Big Data change the practice of insurance? *Big Data & Society*, *January–June,* 1–12.

Barry, L. & Charpentier, A. (2023). Melting contestation: Insurance fairness and machine learning. *Ethics and Information Technology, 25*, 49.

Baudrillard, J. (1994). *Simulacra and simulation* (S. F. Glaser, Trans.). University of Michigan Press.

Baudrillard, J. (2010). From domination to hegemony. In *The agony of power* (pp. 33–58). Semiotext(e).

Becker, G., Dreller, A., Güntner, A., & Lorenz, J-T. (2020, September 21). Behavioral science in insurance—Nudges improve decision making. *McKinsey & Company*. https://www.mckinsey.com/industries/financial-services/our-insights/insurance-blog/behavioral-science-in-insurance-nudges-improve-decision-making

Bednarz, Z. & Manwaring, K. (2022). Hidden depths: The effects of extrinsic data collection on consumer insurance contracts. *Computer Law & Security Review, 45*. http://dx.doi.org/10.1016/j.clsr.2022.105667

Bednarz, Z., Lewis, K., & Sadowski, J. (2025). 'It's not personal, it's strictly business': Behavioural insurance and the impacts of non-personal data on individuals, groups and societies. *Computer Law & Security Review, 56*. https://doi.org/10.1016/j.clsr.2024.106096

Beer, S. (1972). *The brain of the firm*. Penguin.

Bouk, D. (2015). *How our days became numbered: Risk and the rise of the statistical individual*. University of Chicago Press.

boyd, D., & Crawford, K. (2012). Critical questions for big data. *Information, Communication, & Society, 15*(5)*,* 662–679.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4).

Briggs, A., Göpfert, A., Thorlby, R., Allwood, D., & Alderwick, H. (2020). Integrated health and care systems in England: Can they help prevent disease? *Integrated Healthcare Journal, 2*(2)*,* doi:10.1136/ihj-2019-000013

Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. Routledge.

Callon, M. (2007). What does it mean to say that economics is performative? In D. M. MacKenzie, Fabian & Siu, Lucia (Ed.), *Do economists make markets? On the performativity of economists* (pp. 311–357). Princeton University Press.

Cevolini, A. & Esposito, E. (2020). From pool to profile: Social consequences of algorithmic prediction in insurance. *Big Data & Society, July–December*, 1–11.
Charitsis, V. (2016). Prosuming (the) self. *ephemera, 16*(3), 37–59.
Charitsis, V. (2019). Survival of the (data) fit: Self-surveillance, corporate wellness, and the platformization of healthcare. *Surveillance & Society, 17*(1/2), 139–144.
Charitsis, V., Zwick, D., & Bradshaw, A. (2018). Creating worlds that create audiences: Theorising personal data markets in the age of communicative capitalism. *tripleC, 16*(2)*,* 820–834.
Charitsis, V., Yngfalk, A., & Skålén, P. (2019). 'Made to run': Biopolitical marketing and the making of the self-quantified runner. *Marketing Theory, 1*(3)*,* 347–366.
Charpentier, A. & Vamparys, X. (2025). Artificial intelligence and personalization of insurance: Failure or delayed ignition? *Big Data & Society, January–March*, 1–13.
Cheney-Lippold, J. (2011). A new algorithmic identity: Soft biopolitics and the modulation of control. *Theory, Culture & Society, 28*(6), 164–181.
Cheney-Lippold, J. (2017). *We are data: Algorithms and the making of our digital selves.* New York University Press.
Cinnamon, J. (2017). Social injustice in surveillance capitalism. *Surveillance & Society, 15*(5), 609–625.
Dean, J. (2009). *Democracy and other neoliberal fantasies: Communicative capitalism and left politics*. Duke University Press.
Deleuze, G. (1988). *Foucault.* (S. Hand, Trans.). University of Minnesota Press.
Deleuze, G. (1992). Postscript on societies of control. *October, 59,* 3–7.
Deleuze, G. (2001). *Pure immanence: Essays on a life*. (A. Boyman, Trans.). Zone Books.
Deleuze, G, & Guattari, F. (1983). *Anti-Oedipus: Capitalism and schizophrenia*. (R. Hurley, M. Seem, H.R. Lane, Trans.). University of Minnesota Press.
Deleuze, G. & Guattari, F. (1994). *What is philosophy?* (H. Tomlinson & G. Burchell, Trans.). Columbia University Press.
Deleuze, G, & Guattari, F. (2013). *A thousand plateaus: Capitalism and schizophrenia.* (B. Massumi, Trans.). Bloomsbury.
Ericson, R., Doyle, A., & Barry, D. (2003). *Insurance as Governance*. University of Toronto Press.
Ewald, F. (1988). A concept of social law. In G. Teubner (Ed.), *Dilemmas of law in the welfare state* (pp. 40–76). De Gruyter.
Ewald, F. (1990). Norms, discipline, and the law. In R. Post (Ed.), *Law and the order of culture* (pp. 138–161). University of California Press.
Ewald, F. (1991). Insurance and risk. In G. Burchell, C. Gordon, & P. Miller (Eds.), *The Foucault effect: studies in governmentality* (pp. 197–210). University of Chicago Press.
Fairclough, N. (1995). *Critical Discourse Analysis: The Critical Study of Language*. Longman.
Fairclough, N. & Wodak, R. (1997). Critical discourse analysis. In T. van Dijk (Ed.), *Discourse Studies: A Multidisciplinary Introduction* (pp. 258–284). Sage.
Foucault, M. (1978). *The history of sexuality, volume 1: An introduction* (R. Hurley, Trans.). Pantheon Books.
Foucault, M. (1982). The subject and power. *Critical inquiry, 8*(4), 777–795.
Foucault, M. (1986). *The History of Sexuality, Vol. 3: The Care of the Self* (R. Hurley, Trans.). Vintage Books.
Foucault, M. (1988). *Power/knowledge: selected interviews and other writings, 1972–1977*. Random House USA Inc.
Foucault, M. (1989). *The archaeology of knowledge* (A. M. Sheridan Smith, Trans.). Routledge.
Foucault, M. (1995). *Discipline and punish: The birth of the prison* (A. Sheridan, Trans.). Vintage Books.

Foucault, M. (2007). *Security, territory, population: Lectures at the College de France, 1977–78* (G. Burchell, Trans.). Palgrave Macmillan

Foucault, M. (2008). *The birth of biopolitics: Lectures at the College de France, 1978–79*. (G. Burchell, Trans.). Palgrave Macmillan.

Fourcade, M. & Healy, K. (2017). Seeing like a market. *Socio-Economic Review, 15*(1), 9–29.

Fourcade, M. & Healy, K. (2024). *The Ordinal Society*. Harvard University Press.

Francois, P. & Voldoire, T. (2022). The revolution that did not happen: Telematics and car insurance in the 2010s. *Big Data & Society, July–December*, 1–12.

Gane, N. (2012). The governmentalities of neoliberalism: Panopticism, post-panopticism, and beyond. *The Sociological Review, 60*(4), 611–634.

Gerring, J. (2006). *Case study research: Principles and practices.* Cambridge University Press.

Gidaris, C. (2019). Surveillance capitalism, datafication, and unwaged labour: The rise of wearable fitness devices and interactive life insurance. *Surveillance & Society, 17*(1/2), 132–138.

Hacking, I. (1990). *The taming of chance.* University of Toronto Press.

Haggerty, K., & Ericson, R. (2000). The surveillant assemblage. *British Journal of Sociology, 5*(4), 605–622.

Halpern, D., & Sanders, M. (2016). Nudging by government: Progress, impact, & lessons learned. *Behavioral Science & Policy, 2*(2), pp. 53–65

Haraway, D. (1991). A cyborg manifesto: Science, technology, and socialist-feminism in the late twentieth century. In *Simians, cyborgs and women: the reinvention of nature* (pp. 149–181). Routledge.

Henly, H. (2024, December). Artificial intelligence: Intelligent medicine? Reinsurance Group of America. https://www.rgare.com/knowledge-center/article/artificial-intelligence--intelligent-medicine

Horkheimer, M. (1972). Traditional and critical theory (M. J. O'Connell, Trans.). In M. Horkheimer, *Critical theory: Selected essays* (pp. 188–243). Herder and Herder.

Hull, G., & Pasquale, F. (2018). Toward a critical theory of corporate wellness. *BioSocieties,* 13(1), 190–212.

Insurance Europe. (2022). *European insurance in figures: 2020 data*. https://www.insuranceeurope.eu/publications/2569/european-insurance-in-figures-2020-data/download/European+Insurance%20in%20Figures%20-%202020%20data.pdf

Illich, I. (2009). *Tools for conviviality.* Marion Boyars.

Jasanoff, S. (2015). Future imperfect: Science, technology, and the imaginations of modernity. In S. Jasanoff & S.H. Kim (Eds.), *Dreamscapes of modernity* (pp. 1–33). University of Chicago Press.

Jeanningros, H., & McFall, L. (2020). The value of sharing: Branding and behavior in a life and health insurance company. *Big Data & Society, July–December,* 1–15.

Kaiser, Z. (2023). *Interfaces and us: User experience design and the making of the computable subject.* Bloomsbury.

Kitchin, R. (2013). Big data and human geography: Opportunities, challenges, and risks. *Dialogues in Human Geography, 3*(3), 262–267.

Kitchin, R. (2014a). Big data, new epistemologies, and paradigm shifts. *Big Data & Society, April–June,* 1–12.

Kitchin, R. (2014b). *The data revolution: Big Data, open data, data infrastructures and their consequences.* Sage.

Kitchin, R. & McArdle, G. (2016). What makes Big Data, Big Data? Exploring the ontological characteristics of 26 datasets. *Big Data & Society, January–June,* 1–10.

König, P. (2017). The place of conditionality and individual responsibility in a "data-driven economy". *Big Data & Society, July–December*, 1–14.

Koopman, C. (2018). *Infopolitics, biopolitics, anatomopolitics: Toward a genealogy of the power of data. Graduate Faculty Philosophy Journal, 3*(1)*,* 103–128.

Kratochwil, F. (2008). Constructivism: what it is (not) and how it matters. In D. Della Porta & M. Keating (Eds.), *Approaches and methodologies in the social sciences: A pluralist perspective* (pp. 80–98). Cambridge University Press.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network theory*. Oxford University Press.

Latour, B. (2012). Introduction: Paris, invisible city: the plasma. *City, Culture and Society, 3*(2)*,* 91–93.

Lapidus, J. (2022). Privatising, liberalising, and dividing a welfare state without affecting universality? Debunking the myths surrounding the rapid rise of private health insurance in Sweden. *Health Economics, Policy and Law, 17,* 367–379.

Lehtonen, T-K. & Liukko, J. (2011). The forms and limits of insurance solidarity. *Journal of Business Ethics, 10*(1), 33–44.

Lehtonen, T-K. & Liukko, J. (2015). Producing solidarity, inequality and exclusion through insurance. *Res Publica, 21*(2), 155–169.

Lehtonen, T-K. & Van Hoyweghen, I. (2014). Insurance and the economization of uncertainty. *Journal of Cultural Economy, 7*(4), 532–540.

Liukko, J. (2010). Genetic discrimination, insurance, and solidarity: An analysis of the argumentation for fair risk classification. *New Genetics and Society, 29*(4), 457–475.

Lupton, D. (2012). M-health and health promotion: The digital cyborg and surveillance society. *Social Theory & Health, 10*, 229–244.

Lupton, D. (2013). Quantifying the body: Monitoring and measuring health in the age of mHealth technologies. *Critical Public Health, 2*(4), 393–403.

Lupton, D. (2014). Beyond techno-utopia: Critical approaches to digital health technologies. *Societies,* (4), 706–711

Lupton, D. (2015a). Health promotion in the digital era: A critical commentary. *Health Promotion International, 3*(1)*,* 174–183.

Lupton, D. (2015b). Quantified sex: A critical analysis of sexual and reproductive self-tracking using apps. *Culture, Health & Sexuality, 1*(4), 440–453.

Lupton, D. (2015c, May 13). The thirteen Ps of big data. *The Sociological Life*. Available at: https://simplysociology.wordpress.com/2015/05/11/the-thirteen-ps-of-big-data/

Lupton, D. (2016a). The diverse domains of quantified selves: Self-tracking modes and dataveillance. *Economy and Society, 45(1)* 101–122.

Lupton, D. (2016b). Personal data practices in the age of lively data. In J. Daniels, K. Gregory, & T. Mcmillan Cottom (Eds.). *Digital Sociologies* (pp. 335–350). Policy Press.

Lupton, D. (2017). Self-tracking, health and medicine. *Health Sociology Review, 2*(1), 1–5.

Lupton, D. (2020). Wearable devices: Sociotechnical imaginaries and agential capacities. In I. Pedersen & A. Iliadis (Eds.), Embodied technology: wearables, implantables, embeddables, ingestibles (pp. 49–70). MIT Press.

Lupton, D. & Williamson, B. (2017). The datafied child: The dataveillance of children and implications for their rights. *new media & society, 19(5)*, 780–794.

Maalsen, S. & Sadowski, J. (2019). The smart home on FIRE: Amplifying and accelerating domestic surveillance. *Surveillance & Society, 17*(1/2), 118–124.

Maarse, H. (2006). The privatization of health care in Europe: An eight-country analysis. *Journal of Health Politics, Policy and Law, 3*(5). DOI 10.1215/03616878-2006-014

Malabou, C. (2024) *Stop thief! Anarchism and philosophy*. Polity Press.

Malhotra, R. (2024, December 23). AI revolutionizes auto insurance via real-time data. Insurance Thought Leadership. https://www.insurancethoughtleadership.com/ai-machine-learning/ai-revolutionizes-auto-insurance-real-time-data

Marr B (2014, March 6) *Big data: The 5 vs everyone must know*. Linkedin. https://www.linkedin.com/pulse/20140306073407-64875646-big-data-the-5-vs-everyone-must-know

Marx, K., & Engels, F. (1848). *The communist manifesto*. https://www.marxists.org/archive/marx/works/1848/communist-manifesto/

Massumi, B. (2013). Translator's foreword: Pleasures of philosophy. In G. Deleuze & F. Guattari, *A thousand plateaus: Capitalism and schizophrenia,* (B. Massumi, Trans.), (pp. vii–xiv). Bloomsbury.

Mayer-Schönberger, V. and Cukier, K. (2013). *Big data: a revolution that will transform how we live, work, and think.* Houghton Mifflin Harcourt.

McQuillan, D. (2015). Algorithmic states of exception. *European Journal of Cultural Studies, 18,* 4–5.

McQuillan, D. (2016). Algorithmic paranoia and the convivial alternative. *Big Data & Society, July–December*, 1–12.

McQuillan, D. (2018). Data science as machinic neoplatonism. *Philosophy & Technology, 31*, 253–272.

McQuillan, D. (2022). *Resisting AI: An anti-fascist approach to artificial intelligence.* Bristol University Press.

McFall, L. (2009). Devices and desires: How useful is the 'new' new economic sociology for understanding market attachment? *Sociology Compass,* (2), 267–282.

McFall, L. (2011). A 'good, average, man': Calculation and the limits of statistics in enrolling insurance customers. *The Sociological Review, 5*(4), 661–684.

McFall, L. (2014). *Devising consumption: Cultural economies of insurance, credit and spending*. Routledge

McFall, L. (2019). Personalizing solidarity? The role of self-tracking in health insurance pricing. *Economy and Society, 48*(1), 52–76.

McFall, L. & Moor, L. (2018). Who, or what, is insurtech personalizing?: Persons, prices and the historical classifications of risk. *Distinktion: Scandinavian Journal of Social Theory, 1*(2), 193–213.

McFall, L., Meyers, G. & Van Hoyweghen, I. (2020). Editorial: The personalisation of insurance: data, behavior, and innovation. *Big Data & Society, July–December*, 1–11.

McKinsey. (2011). *Big data: the next frontier for innovation, competition, and productivity.* McKinsey & Company. https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/big-data-the-next-frontier-for-innovation

McNulty, E. (2014, May 22). *Understanding big data: The seven V's*. Dataconomy. http://dataconomy.com/seven-vs-big-data/

Mercille, J. (2017). Neoliberalism and health care: The case of the Irish nursing home sector. *Critical Public Health.* DOI: 10.1080/09581596.2017.1371277

Meyers, G. (2018). Behaviour-based personalisation in health insurance: A sociology of a not-yet market [Doctoral dissertation, KU Leuven.] https://lirias.kuleuven.be/retrieve/518020

Meyers, G., & Van Hoyweghen, I. (2018a). Enacting actuarial fairness in insurance: From fair discrimination to behavior-based fairness. *Science as Culture, 2*(4), 413–438.

Meyers, G. & Van Hoyweghen, I. (2018b). 'This could be our reality in the next five to ten years': A blogpost platform as an expectation generation device on the future of insurance markets. *Journal of Cultural Economy, 1*(2), 125–140.
Meyers, G. & Van Hoyweghen, I. (2020). 'Happy failures': Experimentation with behavior-based personalisation in car insurance. *Big Data & Society, January–June,* 1–14.
Mol, A. (2002). *The body multiple: Ontology in medical practice.* Duke University Press.
Mossin, J. (1968). Aspects of rational insurance purchasing. *Journal of Political Economy, 7*(4), 553–568.
Neuhaus, T. & Curley, L. (2022). The emergence of global behavioral public policy – developments of and within the nudge unit. *World Complexity Science Academy Journal, 3*(2).
O'Malley, P. (1996). Risk and responsibility. In A Barry, T Osborne, & N Rose (Eds.). *Foucault and political reason* (pp. 189–207). University of Chicago Press.
Petersen, A., & Lupton, D. (1996). *The new public health: Health and self in the age of risk*. Sage.
Pollock, N. & Williams, R. (2010). The business of expectations: How promissory organizations shape technology and innovation. *Social Studies of Science, 4*(4), 525–548.
Pollock, N. & Williams, R. (2015). The venues of high tech prediction: Presenting the future at industry analyst conferences. *Information and Organization, 25*(2), 115–136.
Pons-Pons, J. & Vilar-Rodriguez, M. (2022). The genesis, growth, and organizational changes of private health insurance companies in Spain (1915–2015). In Donze, P.Y. & Perez, P. (Eds.), *The business of health*, Routledge.
Prince, A. & Schwarcz, D. (2020). Proxy discrimination in the age of artificial intelligence and Big Data. *Iowa Law Review, 105*(1257), 1257–1318.
Raley, R. (2013). Dataveillance and countervailance. In L. Gittelman (Ed.), *'Raw data' is an oxymoron* (pp. 121–146). MIT Press.
Ruckenstein, M., & Schull, N. (2017). The datafication of health. *Annual Review of Anthropology, 46*(1), 1–18.
Sadowski, J. (2019). When data is capital: Datafication, accumulation, and extraction. *Big Data & Society, 6*(1). https://doi.org/10.1177/2053951718820549
Sadowski, J. (2024). Total life insurance: Logics of anticipatory control and actuarial governance in insurance technology. *Social Studies of Science, 54*(2), 231–256.
Sadowski, J. (2025). Machine's eye view: Postmodern data science and the politics of ground truth. *Science, Technology, & Human Values*. https://doi.org/10.1177/01622439251331138
Sadowski, J., Lewis, K., & Bednarz, Z. (2024). Risk, value, vitality: The moral economy of a global behavioral health insurance platform. *Economy and Society, 53*(2), 227–249.
Sanders, R. (2017). Self-tracking in the digital era: Biopower, patriarchy, and the new biometric body projects. *Body & Society, 2*(1), 36–63.
Scheffler, G. (2023). The ghosts of the affordable care act. *Washington University Law Review*, 101, 791–849.
Schull, N. (2016). Data for life: Wearable technology and the design of self-care. *Biosocieties, 11*(3), 317–333.
Starmer, K. (2025). PM speech on AI opportunities action plan: 13 January 2025 [Speech transcript]. Prime Minister's Office, 10 Downing Street. https://www.gov.uk/government/speeches/pm-speech-on-ai-opportunities-action-plan-13-january-2025
Sugiura, E. & Lewis, L. (2022, November 13). AI is giving insurers godlike powers, says Sompo chief. *Financial Times*. https://www.ft.com/content/a3372e1a-d43c-403e-97e5-449b50d51b87
Sunstein, C. & Thaler, R. (2003). Libertarian paternalism is not an oxymoron. *The University of Chicago Law Review, 70*(4), 1159–1202.

Tanninen, M. (2020). Contested technology: Social scientific perspectives of behaviour-based insurance. *Big Data & Society, July–December,* 1–14.

Tanninen, M., Lehtonen, T-K., & Ruckenstein, M. (2021). Tracking lives, forging markets. *Journal of Cultural Economy, 14*(4)*,* 449–463.

Tanninen, M., Lehtonen, T-K., & Ruckenstein, M. (2022). Trouble with autonomy in behavioral insurance. *British Journal of Sociology, 73*, 786–798.

Taylor-Gooby, P., Leruth, B., & Chung, HJ. (Eds.). (2017). *After austerity: Welfare state transformation in Europe after the great recession.* Oxford University Press.

Terry, G., & Hayfield, N. (2021). *Essentials of thematic analysis*. American Psychological Association.

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017) Thematic analysis. In Willig, C., & Stainton Rogers, W., *The SAGE handbook of qualitative research in psychology*. SAGE Publications.

Thaler, R. H., & Sunstein, C. R. (2003). Libertarian Paternalism. *The American Economic Review*, *93*(2), 175–179.

Thaler, R., & Sunstein, C. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Penguin Books.

Uprichard, E. (2013). Focus: Big data, little questions? *Discover Society, 1*. https://wrap.warwick.ac.uk/id/eprint/67329/

Van Dijk, T. A. (1993). Principles of critical discourse analysis. *Discourse and Society, 4*(2)*,* 249–283.

Van Dijk, T. A. (2011). Discourse, knowledge, power and politics: Towards critical epistemic discourse analysis. In C. Hart (Ed.), *Critical discourse studies in context and cognition* (pp. 27–65). John Benjamins.

Van Hoyweghen, I. (2007). *Risks in the making: Travels in life insurance and genetics*. Amsterdam University Press.

Van Hoyweghen, I. (2010). Taming the wild life of genes by law? Genes reconfiguring solidarity in private insurance. *New Genetics and Society, 29*(4), 431–455.

Van Hoyweghen, I. (2014). On the politics of calculative devices. *Journal of Cultural Economy, 7*(3), 334–352.

Van Leeuwen, T. (2009). Critical discourse analysis. In J. L. Mey (Ed.), *Concise encyclopedia of pragmatics* (pp. 166–169). Elsevier.

Vennesson, P. (2008) Case studies and process tracing: theories and practices. In D. Della Porta & M. Keating (Eds.), *Approaches and methodologies in the social sciences: A pluralist perspective* (pp. 223–239). Cambridge University Press.

Vitality. (2024). *The Vitality habit index: Quantifying habits and their impact on health*. Vitality Group International in partnership with London School of Economics & Political Science.

Vitality. (n.d.). *Home*. Retrieved August 23, 2025, from https://www.vitalityglobal.com/

White, M. (2017). Preferences all the way down: Questioning the neoclassical foundations of behavioral economics and libertarian paternalism. *Oeconomia, 7*(3)*,* 353–373.

Wodak, R., & Meyer, M. (2009). *Methods for critical discourse analysis.* Sage.

Zelizer, V. (1978). Human values and the market: The case of life insurance and death in 19th-century America. *American Journal of Sociology, 8*(3)*,* 591–610.

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. Public Affairs.

Zwick, D. & Bradshaw, A. (2016). Biopolitical marketing and social media brand communities. *Theory, Culture & Society, 3*(5)*,* 91–115.

Appendices

Appendix A: List of documents analyzed

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
Research	Fit bodies	Fit bodies, fit economies: The economic benefits of a more physically active world	Report	Vitality global	November 2019 (branding updated 2023)	Vitality global. (November, 2019). Fit bodies, fit economies: The economics benefits of a more physically active world. https://www.vitalityglobal.com/documents/1311343/0/Fit+bodies.+Fit+economies.+%281%29.pdf/2cabfe4e-d7d5-4e6c-3c52-c654ba4a25e4?t=1709649325605
	Healthy futures	Vitality healthy futures: The algorithm for more years lived in good health	Report	Vitality global	October 2021 (branding updated 2023)	Vitality global. (October, 2021). Vitality healthy futures: The algorithm for more years lived in good health. https://www.vitalityglobal.com/documents/1311343/0/Vitality+Healthy+Futures+%281%29.pdf/3259b43b-e9da-c7d3-7143-9872c7f6ea87?t=1709649383252
	Science of Vitality	The Science of Vitality	Journal	Vitality global	March 24, 2022	Vitality global. (March 24, 2022). *The Science of Vitality.* https://www.discovery.co.za/site/binaries/content/documents/managedcontent/discoverycoza/assets/vitality/science-of-vitality/the-science-of-vitality-journal.pdf/the-science-of-vitality-journal.pdf/contentdelivery%3Abinary

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
	Vitality habit index	The Vitality habit index: How to create habits for a longer healthier life	White paper	Vitality global	March, 2024	Vitality global. (March, 2024). *The Vitality habit index: How to create habits for a longer healthier life.* https://www.vitalityglobal.com/documents/d/guest/gvc_files__the-habit-index-booklet_11mar2024__pdf
	Active women	Active women, healthy lives: Understanding barriers to women's participation in physical activity	Report	Vitality global	November 2024	Vitality global. (November, 2024). Active women, healthy lives: Understanding barriers to women's participation in physical activity. https://www.vitalityglobal.com/documents/1311343/0/Active+Women+Healthy+Lives+Understanding+barriers+to+womens+participation+in+physical+activity.pdf/09e3e26d-f17d-638d-d452-ba1f68ac8017?t=1733475456875
	Antidote to inactivity	The antidote to inactivity: How technology-based incentives drive healthier lives	Report	Vitality global	n.d.	Vitality global. (n.d.). The antidote to inactivity: How technology-based incentives drive healthier lives. https://www.vitalityglobal.com/documents/1311343/0/Vitality_the-antidote-to-inactivity-final+%281%29.pdf/d6a3fa18-c5f3-b86a-2806-fb33ab0f946d?t=1710096966715
Insights blog	Sleep blog	Better health ... just by sleeping	Blog post	Vitality global	March 12, 2024	Vitality global. (March 12, 2024). *Better health ... just by sleeping.* https://www.vitalityglobal.com/sleep
	Mindfulness blog	Feeling stressed? Let mindfulness help	Blog post	Vitality global	March 12, 2024	Vitality global. (March 12, 2024). *Feeling Stressed? Let mindfulness help.* https://www.vitalityglobal.com/mindfulness

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
	Healthy eating blog	Healthy eating starts with healthy habits	Blog post	Vitality global	March 12, 2024	Vitality global. (March 12, 2024). *Healthy eating starts with healthy habits*. https://www.vitalityglobal.com/healthy-eating
	SMART-er goals blog	SMART-er goals with Vitality	Blog post	Vitality global	March 12, 2024	Vitality global. (March 12, 2024). *SMART-er goals with Vitality*. https://www.vitalityglobal.com/set-smarter-goals-with-vitality
	3 steps blog	3 steps to build healthier exercise habits	Blog post	Vitality global	March 12, 2024	Vitality global. (March 12, 2024). *3 steps to build healthier exercise habits*. https://www.vitalityglobal.com/exercise
	Family goals blog	How SMART are your family's goals?	Blog post	Vitality global	June 19, 2024	Vitality global. (June 19, 2024). *How SMART are your family's goals?* https://www.vitalityglobal.com/wellness
	Medication blog	Need help remembering medication?	Blog post	Vitality global	June 19, 2024	Vitality global. (June 19, 2024). *Need help remembering medication?* https://www.vitalityglobal.com/screening-and-prevention
Website	Home page	Home page	Web page	Vitality global	n.d.	Vitality global. (n.d.) *Home page*. Retrieved May 8, 2025, from https://www.vitalityglobal.com/home
	Our solutions page	Our solutions	Web page	Vitality global	n.d.	Vitality global. (n.d.). *Our solutions*. Retrieved May 8, 2025, from https://www.vitalityglobal.com/our-solutions

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
	Vitality points page	How do I earn Vitality points?	Web page	Vitality global	n.d.	Vitality global. (n.d.). *How do I earn Vitality points?* Retrieved May 8, 2025, from https://www.vitality.co.uk/support/vitality-programme/how-points-work/
	Healthy partners page	Healthy eating made simple	Web page	Vitality UK	n.d.	Vitality UK. (n.d.). *Healthy eating made simple.* Retrieved May 8, 2025, from https://www.vitality.co.uk/rewards/partners/healthy-eating/
	Insights page	Vitality Insights	Web page	Vitality global	n.d.	Vitality global. (n.d.). *Vitality Insights.* Retrieved September 20, 2025, from https://www.vitalityglobal.com/insights
	Vitality sales brochure	Vitality Global sales brochure	Sales brochure	Vitality global	n.d.	Vitality global. (n.d.). *Vitality Global sales brochure.* https://www.vitalityglobal.com/documents/d/guest/vitality-global-sales-brochure
Youtube	Vitality UK Youtube	Vitality UK	Youtube channel	Vitality UK	n.d.	Vitality UK. (n.d.). *Home* [Youtube channel]. Youtube. Retrieved May 8, 2025, from https://www.youtube.com/@VitalityUK
		Better living through Yoga | Vitality UK	YouTube playlist	Vitality UK	n.d.	Vitality UK. (n.d.). *Better living through Yoga* [YouTube playlist]. YouTube. Retrieved May 8, 2025, from https://www.youtube.com/playlist?list=PLoaZoSkvGAHfSuVX_yPwKBNdd8Ax934PT

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
		Boost your Holistic Wellbeing | Vitality UK	YouTube playlist	Vitality UK	n.d.	Vitality UK. (n.d.) *Boost your holistic wellbeing | Vitality UK* [YouTube playlist]. YouTube. Retrieved May 8, 2025, from https://www.youtube.com/playlist?list=PLoaZoSkvGAHdn0eqazTpXbQ1DVor8KKzj
		#ChefVitality | Healthy Recipes	YouTube playlist	Vitality UK	n.d.	Vitality UK. (n.d.). #ChefVitality | Healthy Recipes [YouTube playlist]. YouTube. Retrieved May 8, 2025, from https://www.youtube.com/playlist?list=PLoaZoSkvGAHcOy-IEm5Xl1Kdhp2lWYets
		Helping you with your Mental Health | Vitality UK	YouTube playlist	Vitality UK	n.d.	Vitality UK. (n.d.). *Helping you with your Mental Health | Vitality UK* [Youtube playlist]. YouTube. Retrieved May 8, 2025, from https://www.youtube.com/playlist?list=PLoaZoSkvGAHcDWChJTVgV0auoAVU1mrJ-
		Changing the Game | Men's health with Celtic F.C. | Vitality UK	YouTube video	Vitality UK	November 13, 2023	Vitality UK. (November 13, 2023). *Changing the Game | Men's health with Celtic F.C. | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=p5vtobtK_cw
		Discover Vitality Optimiser | Vitality UK	YouTube video	Vitality UK	October 14, 2020	Vitality UK. (October 14, 2020). *Discover Vitality optimiser | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=dAL7Gw674S4

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
		Ellie Simmonds & Maro Itoje discuss wellbeing: mind & body balance tips | Vitality UK	YouTube video	Vitality UK	May 16, 2024	Vitality UK. (May 16, 2024). *Ellie Simmonds & Maro Itoje discuss wellbeing: mind & body balance tips | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=NvGb8C1l33M
		parkrun: How parkwalk helps Christina manage stress | Vitality UK	YouTube video	Vitality UK	March 19, 2025	Vitality UK. (March 19, 2025). *parkrun: How parkwalk helps Christina manage stress | Vitality UK* [Video}. YouTube. https://www.youtube.com/watch?v=bdwikMoefAk
		Hayely's story: 'I'm still covered even after claiming twice' | Vitality UK	YouTube video	Vitality UK	January 25, 2024	Vitality UK. (January 25, 2024). *Hayley's story: 'I'm still covered even after claiming twice' | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=t_dg_bs1IL4
		How does the Vitality American Express Card work? | Vitality UK	YouTube video	Vitality UK	March 30, 2023	Vitality UK. (March 30, 2023). *How does the Vitality American Express Card work? | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=YjvWuycXhHc
		How to start a healthy habit (and keep it) | Vitality UK	YouTube video	Vitality UK	February 12, 2024	Vitality UK. (February 12, 2024). *How to start a healthy habit (and keep it) | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=ua3RR7YzE7M

Appendix A: List of documents analyzed						
Category	In-text name	Title	Document Type	Author	Publication date	Reference
		Move with Louise | Full Body | Pilates	YouTube video	Vitality UK	April 22, 2021	Vitality UK. (April 22, 2021). *Move with Louise | Full Body | Pilates* [Video]. Youtube. https://www.youtube.com/watch?v=2N3970wX0ts
		Quick & easy smokey tofu burrito bowl recipe | Family friendly | Vitality UK	YouTube video	Vitality UK	September 18, 2024	Vitality UK. (September 18, 2024). *Quick & easy smokey tofu burrito bowl recipe | Family friendly | Vitality UK* [Video]. Youtube. https://www.youtube.com/watch?v=sEYjnfsbOgU
		Vitality Member Stories: Monika | Vitality UK	YouTube video	Vitality UK	October 18, 2022	Vitality UK. (October 18, 2022). *Vitality Member Stories: Monika | Vitality UK* [Video]. YouTube. https://www.youtube.com/watch?v=sZeSX2V9pp0

Appendix B: Theme and code descriptions

Appendix B: Theme and code descriptions			
Theme	**Codes**	**Description**	**Relevant analytical dimensions**
Behavioral economics and rationality			
	Behavioral economics general	Discussions of the discipline of behavioral economics	Autonomy and choice
	Paternalism	Experts or those in power know what is best and should act to impose it	Autonomy and choice
	Incentives	The use of incentives to structure choices	Individuation
	Market ideology	The assumption that consumers are calculating individuals and that changed payoff matrices will thus alter outcomes	Individuation
	Actions, behaviors, habits	Making the conscious or reflexive subconscious and automatic; internalizing ideology	Total control, autonomy and choice
	Responsibilization	People make free choices and are responsible for the outcomes of those choices	Individuation
	Flawed rationality	Subjects are rational agents, but either their perceptions of payoffs or probabilities, or their calculative abilities are flawed	Autonomy and choice
	Weak willed	People know what they want but are unable to pursue it without external motivation	Autonomy and choice
Naturalization			
	Biologization	The reduction of the appearance of social phenomena or symptoms to biological processes	Individuation, personalization
	No social structures	The omission of broader structural determinants; a negative category, revealed in lists of contributory factors containing only individual choices or biological essentialism	Individuation, autonomy and choice
Shared value			
	Shared value general	Mentions or definitions of shared value	Total control, autonomy and choice
	Hegemony	The assumption that all actors have a shared set of values and collaborate to achieve the best outcome; the belief in a system without contradiction or antagonism	Total control
	Social responsibility	Appeals to corporate social responsibility or the social mission of the insurer	Total control, personalization

Appendix B: Theme and code descriptions			
Theme	**Codes**	**Description**	**Relevant analytical dimensions**
Quantification			
	Absolute representation	The absolute displacement of the represented by the representative and the total disconnection of the two	Representation
	Quantification	The transformation of qualitative phenomena into quantitative representations or proxies	Representation
	Intelligibility and definition	A phenomenon does not exist until it can be measured and exists only as defined; includes both the establishment of proxies-as-definition and the non-intelligibility of non-quantifiable events	Representation
Total transparency			
	Knowing is changing	Making something intelligible is already improving it	Total control
	Ubiquitous intermediation	The insertion of data production into every action and interaction	Total control, autonomy and choice
	n = all	The collection of any and all data for correlative analysis	Total control, representation
Machine god			
	Inevitability	The inevitable march of mechanical progress	Autonomy and choice
	Knowledge only through data	Knowledge can only be obtained through empirical data	Representation, personalization, autonomy and choice
	Neoplatonism	The truth of the universe can be revealed through the application of machine learning techniques to sufficiently large quantitative datasets	Representation
	Tech solutionism	The belief that future technological advances will solve problems; or, the presentation of the application of abstract "technology" as a solution in-itself	Representation
	Correlation = causation	Mathematical correlation or pattern-matching no longer requires an argument for causation; the "end of theory"	Representation
Transformation of health			
	Financial health	Health includes "financial health"	Total control
	Becoming-healthy	Health is an always-ongoing process; the subject must be continuously inscribed with health	Autonomy and choice

Appendix B: Theme and code descriptions			
Theme	**Codes**	**Description**	**Relevant analytical dimensions**
	Health = feel healthy	Health is when you feel fit and healthy	Representation
	Health = signifiers of health	Health is when your digital representation matches a set of pre-determined standardized metrics	Representation, personalization, autonomy and choice
	Productivism	The purpose of health is to increase labor productivity	Total control
	Abolition of death	If we become sufficiently healthy, we can abolish death	Total control
	Health = risk = behaviors	Health is the statistical field of potential outcomes structured by individual behaviors and choices	Individuation, representation, total control
	Total health system	Health is not only your physical condition; mental health, financial health, fitness, risk of disease, social wellbeing all constitute a total health system	Total control
Optimization			
	Professionalization	Delegation or enclosure of health by professionals	Autonomy and choice
	Cyberneticism	Input-feedback operation and optimization of total systems; related to hegemony	Total control
	Aleatory / anti-aleatory	Small but statistically significant changes on the population level; large and guaranteed changes at the personal level	Individuation, total control
	Better social systems	Building a better society: greater productivity and economic value, lower healthcare costs	Total control
	Objective normativity / imposed values	The axiomatic imposition of what health is and what it is for	Total control
Personalization			
	Personalized products	Personalization of insurance and health products	Personalization
	Data doubles	Production of abstracted representative identities from data	Representation, personalization
Business of insurance			
	Insurance as protection	The presentation of insurance as a financial product to ameliorate losses and protect against misfortune	Individuation
	Health tips as marketing	Advice and listicles presenting a few easy steps to a better life, one of which is to purchase Vitality's product	Autonomy and choice
	Private / public insurance	References to the superior flexibility or innovative capacities of private enterprise, or denigrations of public provision	Total control

Appendix B: Theme and code descriptions			
Theme	**Codes**	**Description**	**Relevant analytical dimensions**
	Monetize health	Commodifying health to make it visible to the market and thus available for optimization by market forces	Total control
	Corporate partnerships	Direct commercial partnerships or product relations	Autonomy and choice
	Absolute advertising	All communication is already and primarily advertising	Autonomy and choice
	Insurance revolution	The presentation of behavioral insurance and Vitality as a disruptive force set to revolutionize the industry	Individuation
Authority		The modes of authorization that enable speakers to speak	
	Community	The speaker is just like you and I, a member of the community	
	Politics	The speaker is a politician, policy adviser, or lobbyist	
	Famous	The speaker holds a high position in popular culture, often as an influencer or sports star	
	Data	The content of the speech is based on empirical data	
	Business success	The speaker has achieved success in business	
	Institutions	The speech is backed by a highly-regarded institution	
	Expertise	The speaker holds formal qualifications in the field	
	Technology	The speech is backed by the application of technology	
	Scientism	The speech follows the established forms of science	