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Digitalization of the body: how new technologies of self-tracking change Czech students' perception of health and well-being

Master's thesis

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Declaration

1. I hereby declare that I have compiled this thesis using the listed literature and resources only.
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.

In Prague on 31.07.2018 Yuliia Kudaieva

References

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Abstract

Topic of work is an impact of digital self-tracking technologies such as wearable fitness trackers and smartphone self-tracking applications on individual**.** With using the methodology of semi-structured interviews, conducted with students who are engaged in self-tracking and comparative discourse analysis, when data received from interviews were compared with healthy lifestyle discourse, manifested in Czech internet media portals, research question of "How self-trackers perceive the impact of the technology of self-tracking on their physical activities and lifestyle, respectively differentiated among themselves in terms of impact and usage of self-tracking technology, and to what extent they perceive it similarly to the way self-tracking is presented in Czech internet media portals?" was answered in a following way: respondents were categorized as 'engaged' and 'sportsmen' users, and their relation to discourse was not complete, although they were using a proposed by media conceptualization of healthy lifestyle. In addition, paper proposes a theoretical overview over a problem of self-tracking and discusses the possibilities for future research.

Abstrakt

Tématem práce je vliv digitálních technologií self-trackingu (sebesledování) jako fitness náramek a aplikace pro smartphone na individua. Používanou metódou výzkumu byly polostrukturované rozhovory a komparativní diskurzivní analýza, kde data získáne v průběhu rozhovorů byly porovnávane s diskurzem zdravého životního stylu, prezentovaného na Českých internetových portálech, a byla zodpovězená výzkumní otázka „Jak sebe-sledovatelé vnímají vliv technologií self-trackingu na jejích fyzické aktivitu a životní styl, respektive se odlišují mezi sebou kvůli rozdílům ve vlivu a používání technologie sebesledování, a do jaké míry oni to vnímají podobně tomu jak self-tracking je prezentován na Českých internetových media portálech?" následujícím způsobem: respondenty byli kategorizováni jako „angažování" a „sportivní" užívatelé, a jejích sebeidentifikace s diskurzem nebyla kompletní, nehledě na to že nabízena medií konceptualizace zdraveého životního stýlu byla využitá. Na závěr, práce nabízí teoretický přehled problému self-trackingu a diskutuje možné směry dalšího výzkumu.

Keywords

Self-tracking, digitalisation, biomedicalisation, health, healthy lifestyle

Klíčová slova

Self-tracking, sebesledování, digitalizace, biomedikalizace, zdraví, zdravý životní stýl

Title

Digitalization of the body: how new technologies of self-tracking change Czech students' perception of health and well-being

Název práce

Digitalizace těla: jak nové technologii self-trackingu ovlivňují vnímaní zdraví a štěstí Českých studentů

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Institute of Sociological Studies

Master's degree thesis proposal

Digitalization of the body: how new technologies of self-tracking change Czech students' perception of health and well-being

Research topic and formulation of research question

Concept of medicalisation describes a process by which non-medical problems become defined and treated as medical problems, usually in terms of illnesses or disorders (Key Concepts, 49). Medicalization should be regarded as a value-neutral term of "lenses" of dealing with some subject in medical terms.

Many scholars in a field of medical sociology argue that concept of medicalization should be replaced by biomedicalisation, as medicalization is changed and shaped by new social forms and practices of a highly and increasingly technoscientific biomedicine (Clarke et al., 2003). One of the most notable trends in biomedicalisation is increasing popularity of usage new informational technologies as mobile apps and tracking devices, which shape and redefine our concepts of health and well-being.

We will use the proposed notion of digital medicine: "*We need to begin by defining what "digital medicine" means: using digital tools to upgrade the practice of medicine to one that is high-definition and far more individualized. It encompasses our ability to digitize human beings using biosensors that track our complex physiologic systems, but also the means to process the vast data generated via algorithms, cloud computing, and artificial intelligence. It has the potential to democratize medicine, with smartphones as the hub, enabling each individual to generate their own real world data and being far more engaged with their health. Add to this new imaging tools, mobile device laboratory capabilities, end-to-end digital clinical trials, telemedicine, and one can see there is a remarkable array of transformative technology which lays the groundwork for a new form of healthcare.*" (Steinhubl & Topol, 2018)

Interconnection between medicalisation and new digital technologies is widely discussed in academic literature: "*Beyond simply 'medicalising' mobility (by bringing it into the realm of public health), digital technologies contribute to various transformations of health: encouraging some health practices, inhibiting others; creating or excluding individual and collective health-related identities; and reconfiguring health and well-being*" (Carter, Green & Speed, 2017).

In this work we are going to observe, how digital technologies in forms of particular software, tracking devices and possibly specialised social media, which are related to health and body (e.g., health tracking devices, applications of tracking and quantifying health matters from food consummation and running and walking tracking applications and so on) shape people's understanding of concepts of health and wellbeing, "i*ncluding the lived experience of being tracked*

by digital devices and how people interpret and act on the data that are generated by these devices"(Lupton, 2015).

Main research question: *how Czech students can perceive their health and well-being (why do they think it is important for their life) through self-tracking experience and received digital data?*

Research methods and structure of the work

The structure of work will be following. In the theoretical section I am going to introduce the theory of (bio)medicalization and different perspectives on it. Further will be presented theorisation of digital medicine and academic works, related to usage of digital health self-tracking. A part of theoretical section will be dedicated to conception of well-being as it is presented in modern neoliberal discourse along with the concept of disciplination of Michael Foucault.

Research will be conducted based on in-depth interviews with respondents, who have experience of engagement in health self-tracking activities. Respondents will be mainly young Czechs, students of universities in Prague. Based on analysis of data, impact of digital technologies on Czech students' perception of health and well-being will be presented and discussed in a conclusion section.

Main literature

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"Lady Bracknell: Do you smoke?
Jack: Well, yes, I must admit I smoke.
Lady Bracknell: I am glad to hear it.
A man should always have an occupation of some kind."
Oscar Wilde, The Importance of Being Earnest

Introduction

This work is dedicated to a phenomenon of digital self-tracking, which is framed in the theory of biomedicalization. The scholars' attention to this field is relevantly new, since digital technologies of self-tracking started so spread and entered the popular culture no more than 5 years ago. During this time, a big amount of literature dedicated to this topic emerged. Theoreticians consider those technologies as radically re-organising medical relationship between doctor and patient, and have a potential to reform the medicine completely – some of them proclaim biomedicalisation 2.0, connected with a rise of digital technologies (Boesel, 2012).

Apart from medical issues, health is a part of modern lifestyle of individual. Here are visible the sociological implications, which health and medicalization of life hold for modern society – while previously health was only a specific part of individuals' life which mattered only in cause of illness, modern age re-conceptualise health as a resource, which person should be constantly aware about and organise activities according to the avoidance of risk. Healthy lifestyle is a trend of modern times. Image of autonomous, responsible individual reflects the popular image of neoliberal citizen, who is learned to be self-disciplined by the popular discourse.

Human body with wearable self-trackers and self-tracking applications starts to be considered and treated differently. Quantification of body movement proposes a new formula of self-relation, and continuation of self in the setting of smartphone application fascinates people, who may consider tracked data as a primary, objectified reality, free of subjective experience. This understanding then fits well to consideration of life by neoliberal individual as a set of projects, in which he or she is engaged due to feel of moral obligations, either to self or a society.

As technologies of a self-tracing continue to evolve, spreading their agenda on such regular body activities as physical exercises, walking, sleeping, eating and drinking, affecting well-being in total, sociologist response on this phenomenon must be broad, adequate and up-to-date. Digital technologies of self-tracking propose a challenge to medical sociology and sociology of modernity, Marxism and phenomenological approaches, Actor-Network Theory and so on. Recent development, actuality of the topic and undoubted impact on people's identity are the reasons, why self-tracking deserves particular attention of scholars.

Sociology of medicine

Medical sociology has as a subject medical institutions, medical professionals and social impact of medicine. It constitutes rather a distinctive field, which is rather defined by its context than in terms of a general theory (Mechanic, 1966). Medical sociology generally may be divided on two parts: applying part, which have an orientation to understanding and improving health; and a theoretical part, explaining social transformations and their implications, as well as everyday interactions dealing with the subject of health (Gabe et al., 2004). These two aspects can be considered as sociology in medicine and sociology of medicine (Straus, 1957). This work, therefore, belongs to the latter.

Sociology of medicine is interconnected with a sociology of knowledge (Freidson, 1962). Key question in this field is particularly the concept of disease – what are the consequences of imputing the disease and what it is as a social concept (Freidson, 1962). One of the first sociologists who contributed to it was Talcott Parsons with his attempt to explain disease as a social deviation in terms of structural functionalism (Parsons, 1966). Sociology also collaborates with medicine in revealing social context of stress, mental illness and drug addiction. Medical-related issues like a social role of a physician or bureaucracy in the hospitals are also in the aim of sociologists (Mechanic, 1966; Freidson, 1962). In the next section I am going to describe what medicalization is about and how it is connected to the topic of the work.

1.1 Medicalization

Medicalization describes a process by which non-medical problems become defined and treated as medical problems, usually in terms of illnesses or disorders (Gabe et al., 2004: 49). Medicalization should be regarded as a value-neutral term of "lenses" of dealing with some subject in medical terms. It may, however, have its positive and negative sides. (Williams, et al., 2008)

One of the evidences that medicines are heavily influencing the social life is constant growing consuming of drugs. Modern sociologists admitting the global trend of increasing consummation of pharmaceuticals, economical grow of this particular corporate sphere, and enlarging role of medicine in people's everyday lives. This phenomenon which is a part of medicalization, so-called pharmaceuticalization, was observed by scholars in most countries of North America and Europe (Williams, et al., 2008). It can be called Western-world phenomenon because North American and European pharmaceutical sales together constituting over three-quarters of global pharmaceutical sales (IMS Health MIDAS, 2008). Czech Republic is also a part of this Western trend – from the year of 2003, consumption of medicals grown in Czech Republic on one-third. Consumption has trend of growing on approximately 2,5%, and the costs on 5,7%. (Šulek & Boček, 2015).

Medicalisation of life is a prominent topic among the sociologists of medicine. Illich (1975) one among the first criticized an increasing role of medicine in society. According to his criticism, "medicine has promoted an illusion that it is possible to control not only disease but our daily

activities and even our mortality" (Barnet, 2003). He argued that medicalization which is dealing with immediate issues causes more harm than good in the effect of lifelong health. Pharmaceutical business promoting medicines, but merely in terms of own profit. Promoting drugs for every health problem has a result that people doubt their own resources and abilities to losing weight, dealing with casual cold etc. This business pushes consumers to obtain cures for normal age diseases or even non-diseases (Illich, 1976).

This criticism remains actual up to date. Scholars as Conrad (2007) admit the growing role of pharmaceutical and biotech companies in medicine industry – first start to use their promotion more aggressively and second ones with developing genetic tests also create concepts of potentially ill, and among this presenting biomedical enhancements for increasing health, mental and social abilities. Also this scholar argued that the term "medicalization" should be replaced by "biomedicalisation" because the consumerism of pharmaceutic industry is more and more interconnected with using of biotechnologies. (Conrad 2005, 2007, Conrad and Leiter 2004).

Multinational biomedical corporations spend millions for the researches of a new drug, and the developments and tests usually last 12-13 years (EFPIA, 2005). Some researchers therefore present medicine as a corporate enterprise, as it must be run as an industry, which forgets about patients' needs and serves only to their own need of money. (Singh & Singh, 2005).

Other critics as Moynihan (2002, Moynihan and Henry 2006, Moynihan et al. 2002) and Blech (2006) shows how pharmaceutical companies could in fact evolve new diseases or dependency on drugs, in terms of profit. Diseases may vary from ADHD (Phillips 2006) through erectile dysfunction (Lexchin 2006) and female sexual dysfunction (Tiefer 2006) to bipolar disorder (Healy 2006).

Many fields of social became objects of medicalization. Which was considered before as deviant behaviour - alcoholism, drug addiction - now is considered as medical problems (Kittrie, 1971). Other matters as obesity, smoking, divorce, unwanted pregnancy, game addiction, gamblering and grief started to be treated medically as a disease (Szasz, 1977). According to those who criticize medicalization, it is hard to set the boundaries for this phenomenon, and now there is no resistance to prevent government influence on lifestyle of people since it uses terms of a medical authority (Fitzpatrick, 2004).

1.2 Concept of biomedicalization

In recent medical sociology publications, term 'biomedicalization' becomes popular elaboration of the observed problem. It shifts the centre of medicalization process from the doctors to consumerism, managed care markets and development of biotechnologies, including pharmaceutical industry and genetic engineering (Williams, 2008). As Clarke et al. (2003) defines it, "*Biomedicalization is our term for the increasingly complex, multisited, multidirectional processes of medicalization that today are being both extended and reconstituted through the emergent social forms and practices of a highly*

and increasingly technoscientific biomedicine. We signal with the "bio" in biomedicalization the transformations of both the human and nonhuman made possible by such technoscientific innovations as molecular biology, biotechnologies, genomization, transplant medicine, and new medical technologies. That is, medicalization is intensifying, but in new and complex, usually technoscientifically enmeshed ways". Health as itself becomes an object of individuals' own moral responsibility through knowledge, self-tracking, risk assessment and responsible consumption. Incorporation of new technologies which lies in core of biomedicalisation is connected to a grow of multinational pharmaceutical corporations. In its 'expansive' agenda, boimedicalisation is spreading on sociocultural sphere of life through mass culture (Lupton, 1994; Bauer, 1998), health becomes a matter of a social movements (Brown et al., 2001). Through biomedicine people now look and perceive their bodies and their lives. Clarke et al. (2003) propose 5 interrelated processes which constitute biomedicalisation:

1) The politico-economic constitution of the whole sector of corporations, which take part in biomedicalization agenda. Corporative capitalism of pharmaceutical enterprises was firstly described and criticized in America in 1970's and relates to the corporatized private (not state-funded) research, innovations in products and services at pharmaceutical industry, enhancing consumerism. Distinct feature of this process is also a centralisation, rationalisation and devolution of healthcare services. As a result of centralisation, many public or non-profit services were not able to compete or forced to be closed. Which results in regaining the political, economical and administrative power to new healthcare facilities. An attempt to routinize and standardize healthcare services also resulted in devolution of those, examples of which are outpatient surgery, home health care, elaborating care facilities such as nursing homes. Biomedicalization also goes through process of biomedical stratification, not ensuring equally accessible and performed healthcare for all. Various fee-for-service options are examples of this. Biomedical sector goes through both macro- and micro reorganisation.

2) The focus on health itself and elaboration of risk and surveillance biomedicines. Health becomes an object of moral, a site of biomedical intervention. Individual bears a moral responsibility to be healthy or to successfully manage his own illnesses. Health is no more something given for granted – it is a goal, which requires to work over as ongoing project. As the self-regulation in so important, self-disciplination ond disciplination of other never stops. Other factor which prospers to this process is risk and surveillance. Risk and surveillance mutually co-construct one another, as risks are quantified in order to assure precise surveillance. This factor is a part of bodies' disciplination mechanisms, which are now not only a matter of the hospital or doctor-patient relationships. Rather they embrace population as a whole through constitution of risk factors, offer self-surveillance techniques for the individual's daily life, management of risc and chronic conditions.

Problematisation of normal turned everyone in a state of 'becoming ill' and constitutes no state where the risk would be absent completely. Individuals are judged for being under risk and are expected to treat such state as a state of illness (Press, et al., 2000; Fosket 2002). Risk technologies are normalising, in a way of creating a criteria using which others would be judged (Ewald 1990). "*Health is thus paradoxically both more biomedicalized through such processes as surveillance, screening, and routine measurements of health indicators done in the home, and seemingly less medicalized as the key site of responsibility shifts from the professional physician/provider to include collaboration with or reliance upon the individual patient/user/consumer*" (Clarke et al., 2003).

3) The increasingly technoscientific nature of the practices and innovations of biomedicine. Connection of science and medicine is one of most notable trends in XX century's medicine. Innovations tend to be hybrid ones – both in technology and new social forms – like spread of computer technology, which leaded to a drastical change in organisations' structure. Computerisation and data banking also are a pillars of power of biomedicalization. Centralised storage of all patients' data is a dream of doctors, which came to be real routine of medicine. These new datastructures are created not only at level of medical jurisdiction, but also produces new possibilities for public-private linkages and therefore a space for biomedical governmentality. Secondly, biomedicalization is enhanced by new molecular biology technologies. Study of differences between humans based on gene called "genetisation" is interconnected with it. Pharmacogenomics, field which examines interaction between drugs and individual metabolism promises that pharmaceutical therapies can be designed for particular groups and individuals. Application of molecular biology and pharmacogenomics in medicine is naturally interconnected with the development of technologies. Third, medical technologies development is being transformed and shaped through digitalisation, miniaturisation and hybridisation with other technologies. Wearable tracker devices are a good example of this process as itself, since they not only propose digital data about the health condition and body performance, but also contain such technologies as alarm clock, access to the internet and various applications on the mobile phone, with which it is interconnected and is able to interact with the user in real time during the physical exercises. Schiller (1999) calls biomedicalization 'a digital capitalism', considering the impact which have digital technologies on it.

4) Transformations of biomedical knowledge production, information management, distribution, and consumption. In all kinds of media there is spreading information about medicine. Biomedicine is now an important part of mass culture. Medical knowledge is therefore dependent on an information channels and sources and who is responsible for grasping and applying this knowledge. Sources of medical knowledge were multiplied and diversified, and the main role here plays the Internet where the user can access not only governmental websites in search for the medical information, but websites of private medical companies, discussion boards, forums and social media. It is can be seen

both as democratisation of knowledge and confused readers. It often difficult to find on the Internet a truly objective information, and also it is full of commercial propositions. However this new division of knowledge may be seen as disrupting expert versus lay knowledge dichotomy. Also biomedical knowledge is characterised by access, distribution and responsibility for grasping such information. Before information of health was almost exclusively in hands of medical authorities, while modern times witness a boom of popularised lay knowledge about medicine. Today individuals have resources and possibilities to influence research studies and even found a new science track by themselves. But in the conditions of democratising of knowledge, corporate interest majorly predominate. There are also not actors' but cultural discourse stratification, those regarding sex, race, agender. Another transformation of knowledge is emergency of competitive knowledge systems. Alternative systems, including alternative medicine and patient-based movements (Belkin, 1996; Adams 2002) are also parts of a landscape of biomedicalization. A final feature of transformation of biomedical knowledge are changes in legitimation of biomedical claims – new standards for tests for a presentation of a new drug on a market.

5) Transformations of bodies to include new properties and the production of new individual and collective technoscientific identities. Extension of models in medical research and practice provided new ways to 'attaining control over bodies' through medicalization techniques like enlarged scope of possible diagnosis to enable the transformation of bodies to include desired properties and identities (Clarke, 1995). Body, in Foucauldian spirit, is seen not as a stable and solid entity but as flexible and capable to be disciplined and changed. If medicalization practices ensured normalisation through homogeneity, biomedicalization proposes a scope of normalities, which can be applied on different social groups. Marketing of medicaments embodied customisation of biomedicaments, which is also in trend of a 'lifestyle improvement', like Viagra became one of the 'lifestyle drugs' with treating the signs of aging (Mamo & Fishman, 2001). Customisation applies not only to body improvements, but also knowledge about status of human body and tracking it in order of prevention, using body scans. Biomedicalization constituted, in contrast to medicalization that there is no single normality but multiple ones of race/ethnicity, sex/gender, habitus, age etc., which also adapts the research technique for those differences. Emerged genres of technoscientific identities also corresponds with biomedicalization. Those new identities allow to access and process body with technics according to those identities and ensure them: identities of mother or father (which can become possible via biotechnological intervention), healthy subject, members of a risk group or non-consumers of gluten, lactose etc.

One of the aspects of biomedicalisation, especially important for this paper is increasing popularity of healthy lifestyle. As it was noted by researchers, definition of what is healthy changed during recent decades. Medical definition connects being healthy with avoidance of the risk of getting a disease

(Korp, 2010). This meaning in popular discourse was being gradually replaced by a holistic definition of health – when healthy refers not to avoiding some activities, but instead performing them to ensure well-being and quality of life (Downie et al., 1996; Tones & Tilford, 2001, Korp, 2008). Giddens (1991) noted that lifestyle construction is a matter of increasing importance in post-industrial age. 'Healthy lifestyle' in sociology was conceptualised by approaches of methodological collectivism (social structures, which are promoting this lifestyle influence the individual) or methodological individualism (emphasizes the role of individuals on the construction of social reality) (Frohlich et al., 2004; Cockerham, 2005).

1.3 Digitalization of a body

Digital era had a huge impact on mentioned features of biomedicalization. Digital medicine is seen by researchers as a continuation of biomedical trends, changing ways of health promotion (Lupton, 2015) and making medicine far more individualised. Democratising the medicine using smartphones as a hub turns individuals to be more concerned about their health. Through new digital devices, medicine start to obtain possibilities to be engaged in individual's life directly, not only in setting of healthcare facilities. Digital medicine is seen, therefore, as new form of healthcare and a future of medicine (Steinhubl & Topol, 2018).

Researchers of Quantified Self team, which is using ethnographies to describe the social and individual effects of self-tracking see digitalisation as a 2.0 "reform" of biomedicalisaion. So-called Quantified Self technologies using smartphone or wearable self-trackers can present a threat to medicine and authonomisation of patient, since they re-formulate doctoral authority and patient-doctor relationship. Self-tracking person is being an expert for himself, bears moral authority to hold himself in a healthy condition as responsibilised neoliberal citizen. Self-tracking subject is "pacified by the steady stream of information generated through daily practices, may get absorbed into the digitized abstraction of his own quantified identity" (Boesel, 2012).

Researchers describe detailly possible consequences of "datafication of health", when once qualitaltive aspects of life turn into quantitative data (Ruckenstein & Schüll, 2017). So-called "lifestyle diseases" treatment such as obesity, diabetes, cardiovascular disease is shifted from the hospitals and doctors to the hands of a patient (Goetz, 2010; Topol, 2012) with using digital tracking technologies as a mediator. Some researchers frame surveillance technologies and misbalance in access to a 'big data' using Deleuze's concept of "control society" (Cheney-Lippold, 2011; Andrejevic & Burdon 2015). Other use Foucault's notion of neoliberal governmentality, when person overtakes the responsibility for his own well-being on oneself. Lupton (2013) states that in this case empowerment "becomes a set of obligations". Scharon (2015: 295) criticizes this trend of considering individuals engaged in a healthy citizenship discourse as objects of normalisation and disciplination.

Members of Quantified Self research project states that the created data enable individuals to bring meaning to their life experiences, relate them to their body and selves. Genetic testing sites for example may be used to construct "autobiologies" (Harris et al., 2014) and influence identities with a new "ways of knowing" (Fishman & McGowan, 2014: 39). Self-tracking technologies, according to researchers, does not produce an objective truth but rather "situated objectifications" (Pantzar et al., 2017), where matters experience, reflection and understanding.

Self-tracking can change patient-relationship, when both may be seen as experts (Neff, 2013; Nafus & Neff 2016: 140). Though alongside with empowerment, many self-trackers have an ambivalence to used technology, when they want to be both in charge of themselves and delegate that task, they feel good since they passed the burden of self-control on the mediator (Schüll 2017). People also emotionally response to their data, they love them, are proud of them, feeling frustrated because of them or hate them. When device shows undesirable outcome despite the amount of efforts, people can feel guilty as they didn't fulfil their moral obligations. Some may be addicted to technology or forced to de certain actions which they would not do normally (Dudhwala, 2017: 121–122). Fritz et al. (2014) describes how strongly respondents (who use self-tracking apps more than 3 months) in his study are attached to the self-tracking device. Numerical data in lives of individuals becomes more important than represented activity, and participants often didn't see sense in performing activities for which they are not given credit.

Non-human actors role in self-tracking is an important matter of research to many scholars of the field. Tracking programs and devices actively influence actions of tracked individual, they have an agency (Latour, 2005), "liveliness" (Lupton, 2016), or "performativity" (Mackenzie 2005). Trackers shape experience and people's agency. Williamson (2015: 147) states that "*health-tracking data act as a kind of active, algorithmic skin that not only sheathes but animates and orders the body*." By presenting the body as quantified data, normativity and health start to be perceived in terms of numbers and fulfilled daily goals. Trackers influence certain behaviour and discourage other, as they often do not merely monitor but actively regulate users (Schüll 2016). In a Donna Haraway's tone, researchers start to consider self-tracking people as "hybrids". Walking becomes thus a hybrid activity with quantification and following making sense from experience are mediated by the smartphone. However, to consider self-trackers as hybrids analytic should pose the question to what extend those new digital technologies are "tamed" or "domesticated" – they are not given as itself and then used fully, but presuppose symbolic, cognitive and practical work from users. Also not everybody uses tracking applications as they were designed and intended to use by developers, and some may never be adopted. (Carter et al., 2018).

As the object of this paper are technologies of tracking of physical activity, such as walking and running, theorisation of this particular area of self-tracking technologies should be observed. As

Laurier, Brown, & McGregor (2016) state, there has never been an unmediated way of movement, such as walking or running. Paper maps existed for a long time, and first pedometer is dated XVIII century. Despite that fact, digital technologies of walking and running evolved drastically in the last decade and deserve a particular attention.

Counting steps is the most popular way of self-tracking, which strongly influenced everyday mobility (Ruckenstein & Schüll, 2017). Steps must be standardised an equalled to all other steps. Most common parameter of daily goal is 10 000 steps, popularity of which does not lies in the medical research, but rather in an easy remembering of a count and attractiveness of having a large number of accumulated steps (Tudor-Locke & Lutes, 2009). More of that, many apps are designed to communicate with a user in efforts to affect his behaviour: so-called "persuasive technologies (Fritz et al., 2014). Efficiency of this regulation though is sometimes doubted by the researchers (Fanning et al., 2012; Ho et al., 2013; Lewis et al., 2015, Gorm & Shklovski, 2016).

Critical literature on digital technologies of tracking observes them as a manifestation or solution of social, political, moral and ethical problems in the modern world (Lupton, 2014). Particular aspects include "'*body projects of perfectibility'; healthism and responsibilisation of individuals as healthy consumers, in the ways in which technologies both assume and encourage citizens to be orientated to self-surveillance; visualisation and competitiveness; and metrification, in the ways in which numerical representations of bodies encourage a move from the 'haptic to the optic' as numbers become more meaningful than bodily sensations"* (Carter et al., 2017). Hybrids may change the understanding of what human body is and what should do – through a prism of governmentality or healthism Nansen (2008) suggests that physical exercises via digital technologies become unbounded from space of a fitness gym and particular time of the day. Trackers' body is performing constantly, as ongoing activity, without division on work and leisure. Applications involve themselves in a daily rhythm of temporality, where user must be physically active during his other activities.

1.4 Biocapital

In this section, I am going to describe briefly the concept of biocapital, used in interpretation the data and may be proved useful for a research in the field of digital technologies of self-tracking. Types of capital were firstly described by Bourdieu (1984): economical, cultural, social and symbolic, when all of types of capital are interchangeable and intertransferable. In a not huge scope of works, using the term biocapital exist, however a big plurality of definitions of what biocapital is and on which fields of (generally macro-) social it may be applied. Biocapital is applied on genetic research field and new identities produced by technologies of genetic mapping, genetic diagnosis, genetic counselling, genetic therapy, and genetic profiling (Rose, 2007); Marxist-feminist approach presented by Sarah Franklin, Margaret Lock, and Charis Thompson is concentrated over issues of reproduction

in terms of sex/gender and race; more Weberian approach of Kaushik Sunder Rajan, Eugene Thacker, and Michael Fortun discusses reproduction alongside with ethical subjectivity (Helmreich, 2008).

In the field of digital self-tracking technologies, Bourdieu's theory and concepts of capital have not been systematically applied. For the purpose of this work, in a spirit of Helmreich's (2008) elaboration of definition of capital drawing from Marx, I will define biocapital as following. According to Marx, circulation of money produces capital, which follows the formula M – C – M', where M stands for money, C for commodity, M' for the surplus value gained in a profitable exchange of a commodity for money, and M' for the total capital produced by that exchange (Marx, 1867: 251). For biocapital will stand following formula: B – C – B', where B stands for body 'assets' of human being, C – for product of a body, or performed practice tracked by the digital wearable tracker of other self-tracking digital technology, B' is a biocapital produced by this practice, with possible implications on those spheres of life, where there is possible exchange of biocapital on other forms of capital. Application of the term will become clear in analysis part, however it is already evident that it is different from other definitions used by researchers. Returning to Bourdieu, biocapital may be considered as one of the forms of symbolic capital, as it is dependent on lifestyle and presents "symbolic universe of practices", where practices function as a sign or distinction and according to specific rules of symbolic systems. Body practice in symbolic system of digital tracking app receives a value, which is also a measure of a degree or adherence to a particular lifestyle (Bourdieu & Wacquant, 2013) – and since the popularisation of self-tracking technology, which quantifies body practice - this degree of a lifestyle has never been so clear before.

1. Research design

2.1 Formulation of the research question

In this diploma thesis, the observed problem is impact of new digital technologies of body performance tracking – reorganisation of physical activity, changes of individual's perception of a body, has its effects in other spheres of life apart from sport. As it was described in the theoretical section, digital self-tracking changes users' self-perception and affects their well-being. Huge part in it plays "healthy lifestyle discourse", which alongside with technologies of the self works on reconstitution of people's self-understanding, when self-tracking is merely a mediator and a manifestation of those changes.

In order to analyse presented problem, research will be conducted in two steps. First part were set of interviews, conducted with Prague students-users of self-tracking applications. It is important step to understand, how particular social group perceives and presents the impact and reasons, why they use this technology. Respondents then will be categorised according to their standpoint and usage of technology. Second part will be discourse analysis of internet media articles, which are propagating self-tracking. In this part of analysis, speech of respondents will be compared to how digital tracking technology is presented and propagated in media to the readers, and whether they perceive it similarly or differently.

Research question for this diploma thesis is following:

How self-trackers perceive the impact of the technology of self-tracking on their physical activities and lifestyle, respectively differentiated among themselves in terms of impact and usage of self-tracking technology, and to what extent they perceive it similarly to the way self-tracking is presented in Czech internet media portals?

2.2 Data corpus

Sample for the research is presented by students, who live in Švehlova student dormitory, which is a part of Charles University in Prague, Czech Republic. Respondents were obtained by proposing to take part in the interview for those who use digital tracking apps and devices, the offer to participate in the research was posted on a Facebook group - official page of the dormitory. 12 people responded in total, expressing a wish to participate. Later respondents were filtered according to the amount of time during which they were using the application – not less than a month and then were selected only those who use (or used) the application regularly. As a result, 9 respondents were selected in the sample, all inhabitants of Švehlova dormitory, active self-trackers, all students of Bachelor, Master of Doctoral program in Prague universities.

Švehlova dormitory is an old building, built in the beginning of XX century, and located in the one of central districts of Prague. It is considered as a dormitory mainly for medical students, and they

indeed consist the biggest group of students here, although there are big representativity of other faculties and even universities. In the sample there are present students of various faculties in the sample, such as law, pedagogy or even industrial design. Despite the old age of the building and its rather unpleasant appearance inside, it attracts students because of its cheapness with regard to the location. An atmosphere maintained by students is very pleasant and friendly, emerged problems or issues are always publicly discussed on the official dormitory page in Facebook. Popularity of the group was the reason why offer to participate in the research was posted there, and the particular, rather homogenous group of youngsters, who receive high education in prestigious universities, people who are open to new technology serves well to the needs of the research and therefore was selected as sample.

In the following table, I will present all respondents from whose data were collected:

Sex, Age & education	**Used tracker & duration of self-tracking**	**Employment status**	**Respondent category with justification of inclusion**
Female, 26, student of pharmacology	Wearable tracker **Pulse**; application **Pulse**; used for a month	Works in an international pharmaceutical corporation	**Engaged** category; not doing sports apart from the walking daily goals in the app in order to be healthier
Female, 21, student of economics	Wearable tracker **MiBand**; application **MiFit**; used for almost 2 years	Works on part-time job in the office	**Engaged** category; not doing sports apart from walking daily goals in the app in order to be healthier
Male, 30, doctoral student of pedagogy	Wearable tracker **Apple**; two applications – **RunKeeper** used from year 2011 and **Apple Activity**, latter is the most used now	Works as a teacher of pedagogy and research	**Engaged** category; doing sports actively – running and exercises in gym but mainly in the app setting, does sports to be fitter
Female, 25, student of law & economics	Application **Endomondo**; used for two years; does not use wearable tracker	Works on part-time job in an attorney agency	**Engaged** category; uses application to motivate herself to run in order to be healthier
Female, 20, student of industrial design	Wearable tracker **MiBand**; simultaneously use **MiFit** and **mapy.cz**; used for half a year	Part-time job in a bakery	**Sportsmen** category; runs on long distances and aspires to run a half-marathon

Male, 22, student of medicine	Wearable tracker **MiBand**; application **MiFit**; used for half a year	Works as tennis coach	**Sportsmen** category; is a professional tennis player, takes part in city tournaments.
Female, 22, student of clinical psychology	Application **Sports Tracker** for 3 months; in the past used **Pomáhej Pohybem** for year and half and **Endomondo** also for 1,5 years; does not use wearable tracker	Part-time job in the hospital	**Sportsmen** category; professional runner, ran 4 marathons in the past and has awards for at least some of them.
Male, 22, student of technics	Application **Fitocracy** used for almost a year, but now does not use any application nor wearable tracker	Does not work	**Sportsmen** category; although non-professional sportsman, does various sports daily since he was 12 years old and considers sports as part of life.
Female, 23, student of medicine	Wearable tracker **MiBand**; application **MiFit**, used for year and a quarter	Works in a sports camp for kids/teenagers and also as a coach of athletics	**Sportsmen** category; professional sportsman for 6 years. Wanted to get in the faculty of sports but did not get there due to received trauma during preparation on exam.

Students-participants were ranged in two categories according to their engagement in usage of the application. 'Engaged' users performed sport activities mainly in the context of the application and did not perceive themselves as doing sports, rather keeping healthy condition. They were, according to the name of the sub-group, far more engaged and motivated in the context of application to collect virtual points and fulfil goals. Keeping in a fitness condition by them was perceived in terms of a self-responsibility. 'Sportsmen' sub-group are engaged in the sport and would do it with or without the application. Sometimes 'sportsmen' were actually professional sportsmen – case of tennis player and athletic coach. They often were not so concentrated on the tracking as itself as 'engaged' respondents, were either not taking application so serious or less successful (or motivated) to fulfil daily walking goal. Most of them associated themselves with sports as a lifestyle and did not need some additional

motivation to be physically active. Although they found possibilities proposed by self-tracking as 'interesting'. Division on these two groups of respondent proved itself also in the analysis of keywords in speech.

Data from respondents were gathered by me during series of semi-structural interviews with rather loose order of questions. Durance of the conversation varied between 12 and 30 minutes, according to how long interviewee was willing to talk. They were conducted mostly in Švehlova dormitory's study room, however 2 of the respondents were contacted online using audio call on Facebook, since they weren't in Prague in summer but nevertheless were willing to take part in the research. All the interviews were recorded, respondents were warned about that and agreed with anonymous recording. In the analysis part respondents will be quoted according to this pattern: age-sex(M stands for male, F for female)-model of wearable tracking device/name of the most used application (sub-group of respondent, where S stands for 'sportsmen', E – for 'engaged), e.g. 30-m-Apple Watch 3/Apple Activity (E). Interviewer's speech will be marked as IR in the quotes.

2.3 Methodology

Structure of semi-structured interviews was following. In the beginning of the interview there were usually posed three questions:

1. What do you use for sport tracking and for how long?
2. How did you know about this program/device?
3. What were the reasons of why you started to use it?

After answering on those, interviewee usually started to describe their experiences with application and engagement in a self-tracking practice. Me as an interviewer was trying in any case ensure the smoothness of the interview, asking clarifying questions and changing the topic with posing a new question only with certainty that respondent spoke all necessary facts about the actual question. Thus, interviews were constructed to encourage self-trackers to share their experience and express their thoughts freely and comfortably. As it was important to not confuse respondents with strictness of the interview, next questions were posed not in a strict order but so to continue and develop thoughts of respondent expressed previously:

1. How usage of a tracking device/program changed your physical exercises?
2. How it can help you? (resp. how can you benefit from self-tracking?)
3. To which people those devices/programs may be helpful, and for who might not be?
4. Do you read some article papers, journals, or participate in community dedicated to a healthy lifestyle?
5. Does self-disciplination play some role in your life?
6. Does competition with yourself play some role in your life?

During the interview usually were posed many clarifying questions, which helped understand the position of respondent or it was just the intention to get interesting data. All 9 interviews were coded using software Atlas.ti, analytical tool-program for qualitative analysis of data. During analysis of data I created codes for their interpretation as in the Grounded Theory approach (Glasser & Strauss, 1967) – theoretical part to the work and theorisation of digital technologies was examined methodically and added to this work only afterwards data analysis – although conducted analysis confirmed many of ideas, expressed in existing literature. It allowed to build assumptions more independently from existing actual literature on the topic, however some knowledge of self-tracking was used in the construction of oriental questions for an interview as well as sociological term as self-disciplination.

Final list of created codes is following:

- application as an actor (code used for a cases when application enforces a person to do some activity, and constructed in speech as an actor)
- application data as a reality (code used when respondent express confidence or doubted correctness of application data)
- better person (code highlighting representations of better persona as respondents are now or going to be)
- biocapital (code marked manifestations which can be conceptualised as biocapital, a form of symbolic capital)
- challenge (code marked all the cases of challenge, either with oneself or with the others)
- fulfilling a goal (code refers to fulfilling inner goals of application, such as 10 000 steps per day)
- healthy lifestyle (code for cases of respondent's association with healthy lifestyle)
- lay health knowledge (code used when respondent described some known medical facts)
- moral pressure (code associated with all moral problems either connected with usage of the app or lifestyle issues).

During the analysis, only code "creating new knowledge" didn't prove itself as analytically fruitful, since it was the most often description of respondents of process of self-tracking and didn't need to be analysed as it was explicit enough and widely presented in speech.

Second part of analysis was discourse analysis. Analysis of a segment of health discourse, more concretely of health discourse representations which are connected to fitness trackers in applications was included to the work in order to describe the character of the relationships between media discourse and respondents' manifestations, and to check whether respondents from social group of students perceive usage of wearable fitness devices and sports tracking applications similarly how they are presented in the media or not. Chosen method was comparative keyword discourse analysis,

supplemented with the elements of Foucauldian discourse analysis, which should help to describe underlying knowledge-power relationships in the discourse, to check whether some representations are excluded from media field or respondents' statements and reveal technologies of a self, implied both by respondents and by media articles. I used the recommendations for Foucauldian Discourse Analysis provided by Bishoping and Gazso (2016): "*In Foucauldian discourse analysis, talk data can be used to engage in deconstruction, the process of unearthing discourses in relation to power, knowledge, and subjects. One common analytic strategy that we see is to deconstruct the power–knowledge relations embedded in a discourse and its potential effects. Talk data can also be analyzed by the strategy of looking at how discourses discipline"*. In this part of analysis, therefore, patterns of disciplinative power will be searched, alongside with analysis how discourse of health lifestyle shapes and affects the self-perception of respondents, manifested in the speech.

Dataset of the analysis contains 10 articles from various media sources, which represents healthy lifestyle discourse, connected with promotion of fitness trackers – wearable devices and applications, and also the archive of respondents' interviews. There were two steps in selection of the media articles. During the first step, there were collected articles which respond to the topic, implied by the way of searching by search requests as: *fitness tracker* and *fitness application*. On the second step there were excluded articles, which contained propagation of a specific products, since they were considered as commercial articles. Also data promoting concrete fitness trackers or applications were excluded from the selected articles for analysis, as they were appearing from time to time. Dataset, therefore, can be described as a collection of articles, which present fitness tracking technology in general, propose applications of usage and offering a motivation to use them for readers. Articles were mostly placed in a "health and lifestyle" sections of webpages, referring to "fitness" and sometimes were aimed especially on women readers. In this way, I tried to approach the general description of sports tracking phenomena, as it could be meaningfully similar to presentation of same phenomena by respondents. As such, marketing articles and cases promotion of concrete label of fitness trackers were excluded from dataset, since respondents also didn't do any promotion or weren't intended to persuade interviewer to buy some concrete label of fitness trackers. Participants of research didn't even express the opinion that their tracker is somehow better than others since they don't have possibilities to compare different ones.

Texts were gathered by Google search engine, and since it didn't propose many results with describing fitness tracking technology (on contrary to the product advertising, number of which was unsurprisingly big), I have conducted additional search through the biggest news media portals of Czech Republic according to Wikipedia (ČT24.cz, iDNES.cz, Lidovky.cz, iHNed.cz, Aktuálně.cz, iRozhlas.cz, ČTK.cz, Novinky.cz, E15.cz, Echo24.cz, Parlamentní listy.cz, TN.cz, EuroZprávy.cz, Forum24.cz, Blesk.cz, Seznam.cz). Search engine proposed by particular websites were used, and

some of the media articles have been excluded from analysis, since webpages proposed those articles only as subscribers' content (case of iDNES.cz and E15.cz).

The reason of using Google as well as most popular Czech internet media portals is the algorithm of search engine proposed by Google, when order of search results is constructed due to relevancy of articles to keywords: page content, popularity of page, number of links to page from other websites. Also, relevancy of media servers is clear, because they present most popular news websites in Czech Republic and therefore, have highest chances to represent the discourse analysed in this paper.

In order to conduct comparative analysis of keywords, all articles were placed in one Microsoft Word document. Respondents' speeches were joined together in another separate one, with withdrawing the speech of interviewer. Also I divided speeches according to two groups or respondents – 'engaged' and 'sportsmen', to conduct separate analysis. For the analysis was used webpage http://countwordsfree.com/ since there was present a stoplist for Czech words. Still, data were processed through manual heuristic control, where unnecessary words were erased and words of a same linguistic origin were united in one word.

In a process of studying the data, same codes were applied on media articles as on the semi-structured interviews with respondents. Usage of Foucauldian Discourse Analysis enabled to demonstrate disciplination techniques and "moral management", performed by media in regard to their readers, which proved itself analytically fruitful.

3.Analysis

3.1 Semi-structural interview analysis

3.1.1. Presentation of Sport Tracking technologies by respondents

As it was described in Methodology part, sample was constituted by students of Švehlova dormitory, who are using sport tracking applications or devices, therefore engage themselves in physical activity and healthy lifestyle. Most popular device used by students was MiBand, a wearable fitness tracker produced by Xiaomi. Also were used different type of fitness tracker and numerous mobile applications, created for analysing and processing the data, received from wearable fitness tracker and other type of mobile applications, designed to create data themselves. Usage of MiBand and similar wearable trackers is relatively not demanding – data to the applications are transferred automatically via Bluetooth; at the same time, respondents who used programs, designed for input data by user were complaining about the struggles with constantly upgrading data by themselves – which in case of 22-old male law student was the reason to stop the usage of the Fitocracy application after 1 year. One female respondent, however, preferred using of smartphone instead of MiBand for sports tracking because of "unaesthetical appearance on hand" of those wearable devices.

Among the reasons to use sport tracking technologies were named curiosity (due to engaging in long time walking activity because of work as a waiter or practice in the hospital), receiving a feedback from physical exercises (including not only data about exercises but an actual pulse frequency during exercising), effortless and comfortable usage, making the physical exercises more interesting than before, attractiveness of the application's design and idea.

Receiving a feedback from physical exercises, therefore creating new knowledge about their body performance, measured in kilometres, steps or even the abstract "points" stands as the strongest feature of new tracking devices:

> 21-w-MiBand/MiFit (E): It's actually monitoring a sleep, and even pulse. You can set a goal there, now I have a goal 10 000 steps [per day], so when I fulfil it, it will vibrate and I will know that I've made it.

All respondents agreed on the point that sport tracking devices and applications provide an important to them quantitative data about their body performance. As we divided respondents in a two separate groups according to the results of the coding, it showed quite separate approach to the app and treatment the outcome data.

The 'engaged' group of students saw data, which applications offer as a first-hand received knowledge, which are the golden standard and basis for a good health, which the 'engaged' respondent try constantly to achieve:

> 26-f-Pulse/Pulse (E): ...It's okay, well, 10 000 steps [per day] is like, let's say, 10 000 steps is a basis to person, even if he's not doing sports, it will retain him stable in a healthy physical condition.

Later on the interview, the same respondent wasn't sure about the origin of this data, she didn't state that it is science approved knowledge but rather stick to the opinion that it is an abstract mean of overall people performance. Supporters of training for health proved itself to be an important motivation to sport, and in some cases, to become better. Those users praised the design and functionality of the applications, were often eager to show to me how the application looks like and its possibilities. While attractive setting of the application provided a good overview of the results and appealed on user to "fill" it with data of his or her physical activities, some used it to show better and better results – goal implemented in Apple Activity:

30-m-Apple Watch 3/Apple Activity (E): Mostly I have a feeling that those goals, which application shows to me depend on what I did the previous month. So if I walked last month 360 kilometers, to motivate me it will set the goal up to 400.

Or fulfilling daily the same goal for each day:

> IR: So you have some goal and you try to achieve it. Why is it important?
>
> 21-f-MiBand/MiFit (E): Just because... here every day it has a yellow thing. Because I accomplish those 10 000 [steps per day] which I set for myself.

Virtual point system of Fitocracy evoked curiosity, how many points user will receive for some new exercise. Apple Activity provided user with "badges" for fulfilling months and ad-hoc goals, appearance of various coloured received awards was pleasant for a user, when at the same time "missing" a goal provoked dissatisfaction with oneself:

> 30-m-Apple Watch 3/Apple Activity (E): For example last month it wanted from me to move somehow more, and last month I haven't accomplished it. And I don't know, it wanted some 3200 or 3700 minutes to collect in that month in a scope of moving activities, and I haven't manage it.
>
> IR. But it's okay, no?
>
> 30-m-Apple Watch 3/Apple Activity (E): No! No it isn't okay, because I've got the rest of those! (enthusiastically) Wait, since when… I don't know, since second month I got second, third, fourth, fifth, sixth, look here… (shows the results in the app).

In this excerpt it is seen how attractive design and goal system fascinate the users to the point of hypnotising themselves by the new media (Mcluhan, 1964) such as a mobile app. Students are provided by awards and rankings, and as they become involved in this play, they have urge to achieve more and more "badges".

'Sportsmen' group of students were less likely to put application as a main reference of their physical activity. Still, they express their opinion about those app as 'interesting feedback', but not the kind of they should build they sport around. Sportsmen group revealed themselves as using the applications as a tool, not as a goal or system of goals. Although some of them were also engaged in fulfilling daily goals, however their results were not as solid as in the 'engaged' group:

> IR: Yeah. And you are successful in this? Like getting better using this?
>
> 20-f-MiBand/MiFit, mapy.cz (S): Rather I'm getting worse, I think.
>
> IR: And are you frustrated because of that?

20-f-MiBand/MiFit, mapy.cz (S): I don't think so. I don't really care. I run so I could get a nice feeling, that I'm doing something. It's not like I'm dependent on this perfectioning in some way.

20-year old cited above female student (who runs long distances weekly and is aspiring to run a half-marathon), said the only reason she keeps using the application to this device is the mentioned possibility of pulse measurement. She stated that received data should help her to be better in sports, but she is not giving too much attention to that, and as a result performs worse results in her own words.

This group of students, which I have categorised as aspiring sportsmen group, has overall tendency to use only limited number of functions, such as traces tracking. Similar point expressed a 22-year old professional tennis player, who would calmly sacrifice his running results in the app to be better in tennis:

IR: So if you haven't run your plan, but won the tournament, it wouldn't bother you?

22-m-MiBand 2/MiFit (S): Not at all. I would have take a break, save some energy.

Other half-professionally sporting participant after admiring the application as itself, expressed doubts about the implication of the outcome:

21-f-none/Sports Tracker (S): I admire that someone can put it all together, and that somebody has this idea, author manage wedge it with such wrinkles, that it can measure spread in hours, maximum and minimum, and a route, there are tables there, so for me it is good. And for who it may be prosperous, well maybe for people who later put it in their story on the Instagram. (laughs)

IR: So for bragging?

21-f-none/Sports Tracker (S): And it's like helpful to people, a person after has sort of progress. But it's a question, however, how professional sportsmen use those applications or devices.

Different opinion was expressed by a 23-year old female respondent, who is long term engaged in a professional athletics, also as a coach. She stated that she uses almost all functions during her walks in the sporting camp for young children, as she can successfully track how long children will exactly manage to go. A smart example of usage of data was counting a route through the suburbs of Prague, to plan the exact and fastest way between the university buildings during the exam period. On the position of a child coach, she also pointed on a parents' disciplination tactics to use wearable trackers for their children. A child should complete the goal which is set for a day, before they can approach computer. As she stated, children are not happy about that, but they are pleased they are free to do what they want after.

From the presented excerpts, the difference between two groups of respondents is visible. It can be concluded that for those who aspire to engage in a sport, the goal is ‚outside' the sport tracking as itself, but rather to run a half marathon or just enjoying doing sports, which they would do with app or without. ‚Engaged' group was far more enthusiastic to do the activities proposed by the app, as they saw them as a key to be in a healthy condition. One of reasons may be difference in sources of knowledge about physical exercises between two groups. Most of ‚sportsmen' in the interviews have

shown broader perspective on a sports field, had other authorities to receive knowledge from – such as tennis coach in case of professional tennis player, or a thematic literature alongside with channels on Youtube platform (21-year old student doing various sports). ‚Engaged' respondents consider app as a primary source of knowledge about what does they body need and weren't interested in receiving this knowledge from other sources.

3.1.2 Attitude to challenge

Sport tracking applications propose possibility to compare your results to others', due to the fact that physical exercises are transferred to quantitative data as a measurable entity. Respondent perceived the notion of challenge differently and with a various importance. Though very respondent express the opinion that the challenge with himself or herself – in the past, either through a data saved in the app or merely a memory of person's physical performance – is one of the ways they are thinking about their physical exercises. Challenge with others to some respondents wasn't motivating enough because they performed far better or far worse than those of their friends. Sport tracking apps, however, offer certain possibilities to compare your results with a 'generalised other' – overall statistics of app users. In the next quotation, one of the 'engaged' respondents explains, why she enjoys this kind of challenge opportunities:

> IR: Well why it is important, this comparison to others?
>
> 21-f-MiBand/MiFit (E): (smiling) I have a good feeling from it! Now when I click this, I see here that I overcame 95% of users, who have this application. (...) I have 12 300 steps and I overran 95% of people. I am interested then how much like those others will go.

By showing that user actually performed well, app is encouraging to users and evoke an opinion that they are better than others. The same respondent explained that there are millions of people, who use this application and by doing a step, she leaves thousands behind. Curious was her ambiguity in explaining the data. When, according to respondent, in the morning she only starts her walk, the app shows that she performed better than 90% of users. Which respondent explains as not the kind of a bias in data (for example that most of those 90% just didn't refresh the data this day or don't use the tracker anymore), but as a sign of her betterness (21-f-MiBand/MiFit: it is obvious that people just don't walk a lot, isn't it?). On contrary, same interviewee expressed doubts about the case of monthly challenges:

> IR: How important for you is this challenge? The global one?
>
> 21-f-MiBand/MiFit (E): This challenge is important for me, because it is visible in there, on which place I am. It's differentiated by one step, if I do for example 3 steps, I will overrun 20 000 of people, because there are millions involved in this. But what to me appears funny, and on my opinion not very realistic is that during 6 day someone may complete those 200 000 steps. (...) Look – finished by 128 people, and today is 4th! (laughs) Do you know how 200 000 divided by four look like? It's 50 000 steps [per day].

In case of unrealistic results which are better than those of respondents', they are perceived as some kind of cheating and those results evoke distrust. But when there is unrealistic mean of overall

statistics, it is not the reason to doubt it but in this case it is rather a kind of supporting own moral well-being. App statistics management has possibilities to influence self-evaluation of user, support his belief that he is better or worse than others and therefore motivate or demotivate to use the app.

Other case of challenge was engaging of one of respondents in a Global Pulse Challenge, which is organised for a workers of big corporations, where employees are organised in teams according to the firm structure, and are comparing results in-between those teams. Manifested goal is enforcing a team spirit and support 'goal-achieving atmosphere' in the corporation as well as promoting healthy lifestyle among. This challenge as itself didn't had a serious impact on a respondent – since, as she confessed, she is in the last team in the competition – as a result she perceived this goal-achievement standpoint as her personal challenge, to have every day 10 000 steps for her own good health.

3.1.3 Fulfilling a goal and moral pressure of failure

This leads us to a goal-setting and goal-fulfilling strategy, which most of sport tracking apps in the research propose to users. Re-framing physical activities in terms of goals is one of the main features of those apps alongside with statistical feedback. System of every-day or every-month goals as itself supposes a 'good user', who cares about his health and is capable to behave according to plan, become healthier, fitter – and a 'bad user', who deviates from regular physical exercises and seemingly doesn't care about himself. It implicitly poses a question of health in a moral terms, when results in the app can evoke the feeling of satisfaction with oneself, or frustration. To avoid negative emotions, users usually set their goal as not so high:

> IR: Did you try to set your daily goal higher?
>
> 21-f-MiBand/MiFit (E): No. I'm fine with 10 000 because I've recognised that I can't do more. That 10 000 is a borderline for a usual day, not when I go for a walk or a trip. 10 000 is an optimal point. And when I had 11 000, I haven't had it completed every day.

Apple Activity app was described by its user as constantly setting the challenge higher, in order to improve physics of a person who uses it. 30-year old doctoral student deals with it by setting a goal on a relatively low level and has the setting to higher the goal only when it is overdone on 400%. Nevertheless, sometimes he can't manage to complete the challenge, which makes him disappointed on himself because he realises that his limit is not so high. But another specific of this perfectioning aim of Apple Activity is changing the character and feeling of the process of physical exercises:

> IR: Do you experience your physical activity differently after you started to use it [Apple Activity]?
>
> 30-m-Apple Watch 3/Apple Activity (E): Of course, of course I experience it differently, I tend to better my results, to run longer, run faster, and so on. And it is of course counterproductive, because after I am angry when I'm not achieving it. Or bad thing is when you don't do it for several days, or not, a week you don't put yourself together, and then I am angry that it's a lot lower. But as always… the higher and higher it becomes, then always I have this feeling that it's not just some fun anymore, that at once… You want more.
>
> IR: So it takes away the enjoyment from exercising a little bit?
>
> 30-m-Apple Watch 3/Apple Activity (E): Well I think yes.

It is visible from this quote how exactly a challenge and personal grow are re-framed by the app, evoking in user some sort of addiction to this pleasant moral reflection as a better person. Avoiding a perception of himself or herself as lazy was the reason expressed my many respondents why they started to use sport tracking, especially among 'engaged' group. This unsatisfied feeling actually was admitted before using the app, so sport tracking apps are considered as a tool to improve self-perception and well-being, although sometimes it backfires. Modern people, as it is presented in the data, have an urge of 'doing something' in contrast to 'doing nothing', which means, nothing in some field important to them:

> 20-f-MiBand/MiFit, mapy.cz (S): ...For example two years before I didn't do nothing approximately year and a half in a row, so I felt that I was losing my breath... That's why I wanted to do something.

The 'feeling that I did something' is what most of users of the app seek. Although in a sportsmen group, the development via app might not be taken seriously or even doubted, as respondents from that group do not take the application as a main beacon of their physical activities. 21-year old female student, who ran four marathons before, stated that Sports Tracker app helps her to know her performance and how to better her speed due to quantified feedback. However she does not always even take mobile with herself and takes a daily running more as a relaxation and necessity, to the point that resist to the urge to be constantly better in everything as it creates a harmful pressure on individual:

> IR: Do you look at your results and try to improve them? What tables exactly are there?
>
> 21-f-none/Sports Tracker (S): Well anyway, I don't think that life is about a constant endless perfectioning, and I totally don't think that the more you run, the better you will be. It is maybe interesting to look how grows and fades the performance, when someone get away from it [sports] for some time - that is interesting for me. And after some pause, I will appreciate that in this table is registered, after which period I am back on my point. But it is not about overcoming yourself.

Often only achieving this mental state of doing something, person is morally allowed to let himself or herself some reward, like a good rest or eating according to burned calories, which are also counted in MiFit and Apple Activity.

3.1.4 App as dominant actor & app as a reality

Interesting thing that in a manifestations of some respondents application was presented not as just something, which arranges a data about physical activities and provides feedback - but as an actor, something which does things. The main agenda of the application was to motivate users to sport – therefore even dominate over some of the respondents. Unsurprisingly it was mostly presented as such in a speech of 'engaged' participants:

> 21-f-MiBand/MiFit (E): I think when you have it, application or tracker, you just try to do some more. It compels you... Or not compels, but you'll just think: „Well, 300 steps and I'm done for today". So to me it does motivate you.
>
> ...
>
> IR: And this application obliges you to do that or not?

30-m-Apple Watch 3/Apple Activity (E): Probably yes! If it wouldn't peep to me, that I should finish, or I don't see that it's enough, I won't do that.

The importance of app as an actor is supported by perception of application feedback a primary reality to the person's own feelings. This importance of quantified data appeared in some of manifestations of 'sportsmen' group:

IR: All your goals, which you set for yourself are completed, and you become better in tennis... What would you feel, would you be satisfied?

22-m-MiBand 2/MiFit (S): Definitely yes. At least, when I will take those devices, when I will really see it, like yes, I did it, I can control that I really did it, that I'm not daydreaming.

With transferring of the body performance to quantitative data, subjective insights come through a process of objectification, so may be referred to and be treated as objective reality. It is another projection of user to the setting of the application, which is part of user's dependence on the visibility of the results. Own experience appears uncertain, at the same time user can lean on the app data as solid objectified knowledge.

3.1.5 Biocapital

Particular manifestations of respondents referred to their physical exercises in connection to the app itself as a way to achieve something in the other fields of social. With constant engaging themselves in a physical activity, using the digital technology to track and register their activity, some of respondents were able to use it as some kind of resource which is prosperous not only in terms of health. To frame properly the implications of person's physical performance on other spheres of life, I propose to use the notion of biocapital, described in the theoretical part.

The app "*Pomáhej pohybem*" (or "*Help with your movement*" in English) works in a way that tracked activity can be donated to one of the non-profit projects, proposed by app as a money transfer. In the following excerpt one of the ex-users this app describes how it works and her engagement in it:

21-f-none/Sports Tracker (S): It works in a way that person obtains kind of virtual score, application will generate for you how much did you ran, and you can donate it in different categories, you help someone there with the condition that those money won't go enywhere but on a good deed... I would run regardlessly to anything anyway. So I donated to sick people suffering from oncology, but there was plenty of those [categories], even for some chairs for disabled, lots of it.

This is an interesting example of how biocapital may be generated in the application and with the help of sponsors of application can be transferred to economic capital, however only using framing and limited ways prescribed in the setting of application. Also particular to it is the moral dimension of donations, presented as a "good deed" for a society. The next respondent proposes more broad and individualised example of what biocapital may be – unbounded from the tracking as itself:

22-m-none/Fitocracy (S): Yes. It [self-disciplination] is a part of sports. As long as you discipline yourself through doing sport, it may be applied in your life in general: in a work, during studies, or simply in other things, where discipline and attitude are important. And I think that you learn how to be disciplined mainly through sports, at least I have it like that. After sport, you can get better in any field.

Through practice person may change its habitus and attitude to any sort of labour when sports changes the aim to achieve better results and goals regardlessly of wasted body resource. More sophistical interpretation of speech of the respondent may be that through sports practice person receives self-confidence – including symbolical level of identity as a sportsman or a person, who doesn't fear challenges; as long as sport is considered as one of individual's life priorities and essential part of lifestyle. This kind of treatment of a self, obtaining power over own body (when „obedient body" then can be applied anywhere) may be considered as an example of biocapital which is not dependent on quantification, provided by self-tracking technology.

3.2 Discourse analysis

3.2.1 Healthy lifestyle discourse keywords analysis

Because of differences in genre of two datasets such as appeal to the reader like you, yours, in media dataset and using a connecting conversation words like just, maybe, keywords in journal articles tended to be exact or more abstract, objective, with more broad use of the terms. As keywords describing how this kind of texts speak to the reader I've chosen following: wearable tracker (62), movement (37), to can (35), application (34), activity (26), to track (23), steps (22), frequency (19), you will (18), pulse (15), walking (13), better (11), sleep (11), sport (10), regime (10), health (9), motivation (8), performance (8), information (7), , to start (7), body (7), overview (6), to feel (5), goal (5), to monitor (4). Fitness was one of most popular words (55), not used by respondents at all.

For respondents' speech I've chosen following main keywords:, steps (47), application (42), to see (31), to run (27), to walk (21), pulse (18) to strive (16), (so) I would (15), good (15), 10 000 (19), wearable tracker (12) motivation (11), feeling (10), results (10), calories (8), really (8), activity (7), to want (7), sport (7), to can (14), overview (5), (to) sleep (5), health (5).

In this list, I consciously tried to exclude words, which often appeared in the speech of only one respondent. Respondents' speech – 9 543 words, from which 4 797 were speeches of 'engaged' respondents and 4 746 – speeches of 'sportsmen' group; Articles – 5 321 words, which is comparable to two separate groups respectively. From results of analysis, however, keywords in speeches tended to be more disperse, at the same time internet media sources used more of common words, therefore presented more solid manifestation of discourse.

In the table below, media articles and respondents' speeches are compared by keywords which should bring the inside in the data of two separate kind. Additionally, respondent's group of keywords is divided according to our categorisation of sport tracking users on 'engaged' and 'sportsmen'. Differences between those two groups are marked with an orange (lower count) and green (higher count of appearance in the speeches) – to constant the difference, I have accepted rule of thumb of difference in at least 5 counts. Keywords were ordered according to number of appearance and

gathered in the small groups of thematically connected. "X" symbol stands for a number of appearance of a keyword.

Comparative table of media keywords and speech keywords

Media	x	Respondents	x	'Engaged'	'Sportsmen'
Wearable tracker	62	*Application*	42	16	26
Application	34	*Wearable tracker*	12	6	6
Movement	37	*To run*	36	10	26
Walking	13	*To walk*	21	17	4
		To strive	20	9	11
To can	35	*To can*	14	5	9
		To want	8	8	0
You will	18	*(so) I would*	25	15	10
Activity	26	*Activity*	7	4	3
To track	23				
Information	7	*To see*	31	18	13
To monitor	4				
Overview	6	*Overview*	5	0	5
Frequency	19	*Pulse*	18	1	17
Pulse	15	*Frequency*	4	0	4
Sport	26	*Sport*	12	5	7
Health(y)	24	*Health(y)*	16	10	6
Better	19	*Good*	19	10	9
Goal	15	*10 000*	17	15	2
Sleep	11	*(To) sleep*	16	9	7

Health(y)	24	*Health(y)*	16	10	6
Calories	10	*Calories*	7	5	2
Performance	8	*Results*	10	5	5
Motivation	8	*Motivation*	14	5	9
To feel	5	*Feeling*	10	6	4

Keywords which does not correspond between media and speech:

Media	**x**
Fitness	55
Regime	10
To start	7
Body	7

Due to different character of two types of énoncés: subjective character of speech and appealing to the reader, more abstract character of media, keywords were matched to correspond with themselves. This stands for match between for example "performance" – abstract word used by the media, which in speech discourse transformed to the "results"; or words "to track", "information", "to monitor" appeared to be objectified character of what user of the application can "see" – which is shown in the table. However differences between speech and text language are substantive, those are not the objects of this study.

As important differences between those two types of language are taken into account, we can see that online journals successfully manage to appeal on both category of respondents by using keywords speaking to both kinds of users. With the abstraction "movement" texts speak to app users both to engaged, who used keywords "to walk" more often and to sportsmen, who preferred keyword "to run" instead. Sportsmen group shown themselves as aspiring professionals, which like to use quantified categories in relation to sport as "overview", "pulse" and "frequency". Articles at the same time tend to be promising about the advantages of the sport tracking – which speaks to 'engaged' group in words "to can" and "you will", stating "goals" to engaged group, which they perceived concretely as "10 000" steps.

Occurred difference between preferred words in two groups of respondents confirms the analytical usefulness of division of them in two categories. 'Engaged' respondents associate themselves more

with walking than running activity, describe what they "want" to achieve and what they will be, using the sports tracking. Also they tended to be oriented on goals proposed by app far more. 'Sportsmen' group tend to use an app more for running than walking, they less care about inner application goals and more convicted to use quantifying words regarding own physical activity, such as 'overview' and 'pulse'. Terms 'sport', 'health', 'motivation' and 'sleep' were equally important for both categories of users of the app according to analysis' results.

As keywords which didn't correspond to the speech of the respondents, keyword "fitness" was mentioned big count of times due to its belonging to the section of fitness on websites, however respondents didn't perceive themselves as doing fitness activity, rather doing sports and/or fulfilling daily goals. Also application users almost didn't refer to their bodies, when preferred to describe changes to their bodies with referring simply to 'me'. 'Regime' is more peculiar case, which will described in the next part of discourse analysis. 'To start' refers to an articles' proposition to a reader to engage oneself in a sports tracking activities.

3.2.2 Foucauldian discourse analysis of healthy lifestyle

For an analysed discourse of health, connection of health with a lifestyle was quite natural for media articles. The most crucial elements of health discourse appeared: disciplination, considering health as a resource and strategy of setting goals. Here is an example:

> During the successful achieving goals in health, fitness and weight reduction, it is good to stick to a constant regime and make a record of activities. The more often and more detailed record you make, the more success you will achieve during those activities. Fitness trackers will handle this for you. They track and record every necessary details – measured data, values and afterwards synchronise them with mobile devices or cloud services, so that you would always have overview about your health. (*Smart hodinky a fitness náramky - proč je začít používat - electroworld.cz*)

Article from electroworld.cz presents health as a struggle for success, which is not granted but deserved by sticking to the regime and performing some special activities. Tracking and quantifying receives particular importance in discourse, presented by the article, as it enables to frame health as not only a field which should be a matter of control, but also a field of setting and achieving particular goals – health discourse encourages to do that, and offers a concrete ways to experience health 'success':

> - 5 times per week 30 minutes dedicate to your health
>
> That's why mentioned devices would be for you motivation for movement, investments made are definitely insignificant in comparison to which amount of money we leave during the casual shopping in the pharmacy, when we have a health problem.
>
> Let's then prevent health maladies and at the same time to develop an addiction to the movement, which is the right way to the health… or endorphins for free. (*Zdravý životní styl za pomocí mobilních aplikací - viviente.cz)*

In this excerpt interesting are strategies of involvement of a reader (using "we" as a way to create friendly relationship between author and the reader and state that they both have the same purposes

and wishes). Still, health is treated as a matter of money investments, therefore persuading the reader to buy a fitness tracker is performed in terms of market and again, as a resource that might exhaust. Mentioning of 'addiction' on a movement resonates with one of respondents' statement, presented above, when he confessed that as soon as he gets better with his results, he wants more. But he didn't connected it strictly with a good feelings or emotions, on contrary to the strategies of articles, where 'feelings' are mentioned.

Disciplination of own body also was an important part, presented in health lifestyle discourse. Tracking devices and applications were perceived as a tool to observe and effectively compel body to performed activities, prosperous for health. After the struggle with laziness, articles propose satisfaction and pleasant subjective feelings. Here are some examples how disciplination is manifested in the discourse:

> Do you have a feeling, that you should start to move, but you don't want in no way? We know how to compel yourself. (*Nesnášíte pohyb? Víme, jak to překonat - zena.aktualne.cz*)

‚Compelling yourself' is a literal embodiment of technology of self in a discourse. This shirt statement presents two imaginable persona: a lazy persona, which nevertheless feels a moral pressure that she should be better, which with help of fitness trackers transforms into a person, which wants to better herself, and therefore engages in a self-disciplination. Then article convinces to engage in the activities with appealing to the authority (head fitness coach of Herbalife) who as an actor in discourse proposes concrete activities to be a ‚fitter, happier person', to start slowly in order not to be discouraged and finally promises some good feelings at the end in form of ‚endorphins'.

Apart from disciplination as itself, concrete proposed technique of disciplination was mainly fulfilling of goals in a constant strive for success:

> Other people as well use fitness trackers, and they as well want to brag with their achievements. Thanks to the fact that you can compare yourself to them, fitness tracker can motivate you to better results. Similarly it can evoke in you competing with your own self. When you will see, that you can fulfil goal you've set and you can track with how many efforts, you can possibly set for yourself further goal, more challenging. *(Pro a proti fitness náramků - nejfit.cz)*

In the respondents' statements, good feeling was evoked interestingly not by engaging in a process of physical activity, but concretely by completing goals (as respondents described, „doing something" as itself):

> 21-f-MiBand/MiFit (E): Well... Because I'm working right now till evening and I don't have time to go to a gym, so it gives me the feeling that I've did something, that just, even though I don't do exercises, that I'm behaving in a way of healthy lifestyle, at least like this.

„Doing something" or „doing something for myself" were frequently used expressions by respondents describing why they continue to use a fitness tracker. It gives to user a goal, she has some work to do because nothing is given just like that, and then after completing it gives a feeling of satisfaction from making some labour, dedicated to herself – as investment of time and efforts in

health. The good feeling for them was connected not with endorphins or good state of body (several times respondents rejected the point that they actually have feeling, that their health became better), but a satisfaction of fulfilling a goal. An urge to "do something" is therefore connotated with moral pressure to oneself, to not be lazy and not to "sit on the ass" as in the expression of same respondent quoted above. Lazy persons are objects of moral blame, in which analysed health lifestyle discourse takes its part. Moral dichotomy of lazy and self-disciplined person is therefore accepted by most of 'engaged' respondents as natural and serves as the negative stimulus. They should "do something" to avoid moral pressure, and fitness trackers propose them necessary objectification of their activity and results, possibility to control and a relatively easy track to make sense in their everyday activity, some sort of continuous way to better health. It should be noted that the described case does not appeal to most of "sportsmen", who can let themselves to be lazy sometimes, avoiding moral pressure and deviating from goals, proposed by application since their goals are not in a field of healthy lifestyle but sport. This is expressed in a words of one of 'sportsmen' respondent, consciously opposing herself to a discourse of healthy lifestyle:

> 21-f-none/Sports Tracker (S): Like I observe at some of hospital patients, how they sometimes have a feeling that if they digress from healthy lifestyle, then everything will be ruined. And it this way evolve some serious feelings of guilt, this psychic insecurity, and maybe that's the reason why I don't follow those things at all. Because I see about this lifestyle, that it can be a good servant, but also it can get a person into worries.

Appearance of keyword 'better' in the articles serves as a reminder to better oneself, to strive for an increase of results and functionality of the body. "Better" reminds of incompleteness of a person's health project and shows a track, which reader might take:

It is proven that there is a casual link between held overview of what we are doing and our health. Since we are tracking our own activities, [fitness trackers] can help us constantly retain more healthy feeding, increase quality of sleep and least but not last more exercising. Conscious of our weaknesses, we can better them thanks to fitness tracker in real time. (*Smart hodinky a fitness náramky - proč je začít používat - electroworld.cz*)

In the given quote it is visible, how discourse categorises healthy lifestyle in terms of rush, striving for something better and reduce weaknesses by using quantifying device. While word "better" in this context represents future possibilities, in the speech of respondents it was represented as more self-sufficient "good":

> 26-f-Pulse/Pulse (E): Even though you like sit all day in the office, and then you would go for a run and do 11 000 of steps, it is adequate physical activity, which just retains you in a good healthy condition.

Mostly respondents of both groups resigned on constant struggle for 'better', preferred merely "good" condition or feeling. In this case, respondents' speech rather opposes a race for betterness to which articles refer, with the exception of case of users' addiction to the app, which one of the 'engaged' respondents confirmed.

Articles also often refers to the correct “regime”, including the feeding and drinking regime. It is a notion that helps in fact reframing the daily life of individual to a set of observable activities, organised and differentiated in time. It is another embodiment of rationalisation and disciplination in a healthy lifestyle discourse. “Regime” did not appeared in a speech of respondents with one exception in a ‘sportsmen’ group. They mostly stated that usage of the app had no effect on their daily life, except the cases when they feel the need to finish the daily goal.

Conclusion and discussion

As main conclusion of the diploma thesis may be considered that impact of self-tracking technologies is different on different individuals, which depends on how people are making sense of digital technologies in practice. At least in a sample of inhabitants of student dormitory, there were discovered two main patterns, two standpoints of how people may relate and in which way they may be engaged in self-tracking. Particular group saw fitness applications as a way to increase their health as a part of healthy lifestyle, and this group was highly engaged in the fulfilling application goals, perceive application as a dominant disciplinating actor over themselves, were 'hypnotised' by extension of their selves in a new media. Engaged users, as McLuhan wrote, are "fascinated by any extension of themselves in any material other than themselves" (Mcluhan, 1964: 41). This extension of physical exercises can involve students even to the point that they consider physical exercises uninteresting without it, - which resonated with Fritz et al. (2014) insides that person engaged in the app may perceive performing other physical activities as unnecessary, since they cannot be tracked and take a part in their "digital reality".

Considering 'engaged' group of respondents, they weren't as centralised on a fitness of their body as it presupposes healthy lifestyle discourse, presented by analysed media articles. As the most attractive feature of quantification, provided by self-tracking, was not the abstract "bettering myself" (since respondents in most of cases preferred just to feel "good", vis. keyword analysis) but the possibilities to constant fulfilling goals using simple, transparent way to do this, which propose self-tracking application. Assuming this, healthy lifestyle may be seen as only part of a neoliberal moral demands of modern age. People are engaged in a various "lifestyle projects" which may be presented as constant bettering oneself. Digital technologies though propose for a user a set of small goals, and engaged user becomes satisfied in ordering his activity, which actually enables to feel "some sort of progress", feel oneself morally adequate to the age of governmentality and feel responsible for themselves. As one of the strongest examples of this may be expressed urge by various respondents "to do *something*": this something may be manifested in healthy discourse, or ecological discourse and any project-type discourse. In "doing something", as well as in constant "betterness" there is no a global finishing goal – this is substituted for a constant, ongoing goals posed by society with numerous responsibility discourses, which in fact never end. Among with the negative consequences of a reality, when discourse put people into struggle for betterness implying moral obligation to do so, engaging in any sort of activities provides people with meaning of life, sense of well-being when goals are fulfilled and simply putting in people's lives a sense of competitiveness, and these small victories are important to them.

'Sportsmen' sub-group of respondents was also engaged in a fulfilling goals, however they were lying elsewhere – in a field of (half-) professional sports. Therefore, they approached self-tracking

differently – as an interesting device with a feedback from their exercises. They didn't let app to take control over them as much, though still some of them perceived quantified data as a legit reality (more legit than their subjective experiences). Sportsmen could use the app's functions fully, but they weren't oriented on goals or competition, proposed by the app, but used quantified feedback to solve their life problems and tasks. This approach to self-tracking constructs application and device as a peculiar "toy", which is not the key to a healthy lifestyle or a sport, but rather a helping hand or particular approach to their sporting agenda with more or less important feedback.

Discourse definitely shaped perception of respondents of themselves as well as self-tracking technology, but not fully. While discourse connected motivation of 'engaged' respondents in fulfilling goals with promises of 'sportsmen' outcome as fitness and pleasure from exercising, statements of 'engaged' group about the latter were rather ambivalent. Respondents in some were deviating from too hard disciplinative pressure on themselves, proposed by discourse, denying their adherence to the daily regime and struggle for betterness. Media discourse may be evaluated as promising attractive goals and drawing an image of an "ideal user", which of course in reality doesn't appear in this way. Pleasure from exercises seems to be maximal when person is unbounded from healthy lifestyle discourse – and starts to enjoying the process as itself, not chasing the result and getting to the risk of frustration with not performing according to the expectations.

Passages above were dedicated to answering the research question, while this passage opens a field of discussion. Considering limitations of a research sample, other types of approaches to the application may be discovered in other social groups. In the data one female respondent was engaged in a Pulse competition, when teams of work colleagues inside of pharmaceutical corporation where she works were competing between themselves in order to go the most number of steps. An ordinance of fitness tracker as well as particular corporative spirit of "survival of the fittest" may result in a new, different approach to self-tracking, when corporative discourse may shape it in a different way than healthy lifestyle discourse (although those two may be interconnected). Unfortunately I didn't manage to gather respondents for social group, but it may be a promising track to future research. Other possible development of a topic may be widening of usage of proposed framing of what persona may get from self-tracking as biocapital and application of Bourdieu's habitus and symbolic capital theory to study of digital technologies of self-tracking.

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Master's Thesis Summary

In this paper, a question of influence of a self-tracking technology was observed and discussed using recent theoretical literature on the topic in context of biomedicalization. According to the research question – "**How self-trackers perceive the impact of the technology of self-tracking on their physical activities and lifestyle, respectively differentiated among themselves in terms of impact and usage of self-tracking technology, and to what extent they perceive it similarly to the way self-tracking is presented in Czech internet media portals?"** users of self-tracing technology in the sample, containing students-inhabitants of Švehlova student dormitory in Prague, were categorised on two sub-groups by the difference in attitude to self-tracking. 'Engaged' users performed sport activities mainly in the context of the application and did not perceive themselves as doing sports, rather keeping healthy condition. They were far more engaged and motivated in the context of application to collect virtual points and fulfil goals. Keeping in a fitness condition by them was perceived in terms of a self-responsibility. 'Sportsmen' sub-group are engaged in the sport and would do it with or without the application, they may be professional sportsmen. They often were not so concentrated on the tracking as itself as 'engaged' respondents, most of them associated themselves with sports as a lifestyle. Discourse analysis of media have proven that respondents perceive self-tracking technology indeed in terms of analysed media articles, however denied being engaged too intensively in healthy lifestyle, as Czech media self-tracker discourse supposes.