



Regaining control – the “quantified self” movement and the creation of the postmodern human

Oana-Ruxandra Constantin¹

Abstract

In this paper I understand “quantified self” movement as a product of the postmodern society. The present paper is an extensive literature review on the topic, drawing upon previous empirical research on QS movement. The aim is to describe the current knowledge on the subject, and to offer further and deeper insights that could explain the phenomenon. I argue that the self-tracker can be described as a postmodern human that voluntarily engages in an act of self-surveillance to search for deeper meanings and make sense of the unpredictability of the postmodern society. Self-tracking may be described as an individualized and self-reflexive phenomenon where people are concerned with finding and cultivating their own happiness. I observe that self-tracking may start as an individualistic practice that also has a social and collaborative dimension, with self-trackers being part of a larger but diffuse informal network (Lupton, 2014; Crawford et al., 2015; Rooksby et al., 2014). I further describe self-tracking as a practice orientated to self-improvement, that questions the traditional authorities and societal norms by finding new ways of regaining control over the body. I argue that the QS movement can be understood as a new lifestyle movement that has the chance to evolve in a more structured social movement.

Keywords

Quantified self; postmodernity; reflexive modernization; self-tracking; postmodern human;

¹ Faculty of Sociology and Social Work, University of Bucharest, Romania, ruxandra.oana3k@gmail.com.

Introduction

The term ‘quantified self’ became popular in 2007 when Kevin Kelly and Gary Wolf, editors at *Wired* magazine, founded the Quantified Self website (<https://quantifiedself.com>) and community. The Quantified Self Movement (known and referred to as QS) refers to individuals that engage in keeping track of their daily activities systematically, in an attempt to better understand their bodies and their needs, ultimately seeking fulfillment. The data tracked can take many forms: it can be “biological, physical, behavioral, or environmental information” (Swan, 2013, p.85).

The movement became more structured as mobile apps dedicated to keeping track of sleep, mood, health related issues, and smart watches like Fitbit became available. In 2017 Fitbit had 25.4 million active users around the world, according to their 2018 News Release Report, and today you can see people wearing them on their wrists all around the city of Bucharest. Self-tracking is inherently an individualized enterprise, started to be described as a social practice by many authors that researched the topic (Lupton, 2014; Crawford *et al.*, 2015; Rooksby *et al.*, 2014). There are international communities of self-trackers that focus on data sharing. According to Meetup, there are over 97 000 members of the QS movement organized in 211 groups around the world in Europe, North America, Asia and Oceania. One of them is in Bucharest: *Bucharest Quantified Self Meetup Group* with 167 self-quantifiers that gathered together in March 2015.

This paper focuses on self-tracking as a social practice and movement symptomatic for a postmodern society, where individuals are searching for and re-defining their identity. The self-tracker can be further understood as a postmodern human who trusts the objective data and engages in a self-reflexive process of self-knowledge. Quantitative data is seen as an infallible source that is not liable to the risks of subjectivity. The postmodern self-trackers are able to track not only their weight or calorie intake, but their mood and productivity, data that will ultimately make them better humans. Moreover, they now become the observers of their own lives and questions the traditional authorities – what Nafus and Sherman (2014) call ‘soft resistance’ – as they now have the perfect instruments (digital devices) to better understand their body and desires. The subversive effects of digital self-tracking like maintaining the mechanisms of biopower (Sanders, 2017) are managed in different ways as Big Data becomes Personal Data.

Technological changes also have an impact on the QS movement. People have been documenting their lives in different and creative ways for a long period of time, sometimes using just pen and paper to record their daily activities, thoughts or other habits that they had to keep track of. Self-monitoring was further internalized in daily-practices with the production of the domestic weight scale in 1925 (Crawford *et al.*, 2015), or the popularization of heart rate monitoring devices that could be used without assistance (Pantzar and Ruckenstein, 2015). These changes were possible as technology became closer to individuals, allowing them to integrate it in their daily lives.

If we think about the way Fitbit first started, we can observe that their products were designed for specific categories of people – runners. One of their first products were the Fitbit pedometers, devices that runners or professional athletes would use in their training to count their steps, time and monitor their heart rate. After that, Fitbit started to produce wearable devices that were designated not only to professionals or fitness enthusiasts, but to everybody. The Fitbit Flex model was the first Fitbit product designed to be worn on the wrist, resembling a watch.

The technological change was visible, and after that, Fitbit started to produce not only trackers, but smartwatches as well, as we can see on their official website. The smartwatches can be connected to the users’ smartphone, and users can even access their social media accounts through the watch. Fitbit understood that in order to attract more customers, they had to make their products more aesthetically pleasing, to better serve the postmodern human needs. Some models no longer resemble a sport watch, and are more elegant and easier to integrate in a casual or even office outfit. All of these changes in the way self-tracking is understood, starting from pen and paper to Fitbit smartwatches, were possible because of the modernization and technological change the society went through.

Methodology

To examine the current state of knowledge about the “quantified self” movement I conducted a literature review of the topic, analyzing previous empirical studies explaining the phenomenon. The articles reviewed were collected using the Google Scholar scientific database, conducting the search with the following keywords: quantified self, “quantified self” movement, self-tracking, self-tracker, self-tracked data. After evaluating the articles based on their relevance for the theme, I ended up using 23 papers published between 2013 and 2018 in scientific journals (15), or presented at different scientific conferences (4). I also included in my analysis 3 book chapters and one thesis. The articles reviewed used different types of methodology, including interviews or extensive ethnographic methods (9), descriptive analysis (8), qualitative or quantitative content analysis (5) and survey (1). Furthermore, I then used social movement theory and some other sociological perspectives, in order to extend the scientific approach to the “quantified self” movement. The aim was not only to summarize the already existing knowledge on the topic, but to broaden the interpretation of the QS movement, describing it as a new social movement produced by the postmodern society.

Why do people self-track?

Many authors have expressed interest in the Quantified Self movement and tried to explain why so many individuals are voluntarily starting to quantify their own life and produce such amount of data about themselves (Rooksby *et al.*, 2014; Choe *et al.*, 2014; Lupton 2014a; Lupton, 2016; Pfeiffer *et al.*, 2016; Piras and Miele, 2017; Sharon and Zandbergen, 2017; Lyall and Robards, 2018). Being a self-reflexive practice, people engage in self-tracking for many reasons, some of them do it only for documentation purposes,

while others are engaging in ‘directive tracking’ – seeking some sort of personal improvement (Rooksby *et al.*, 2014).

Probably one of the main motivations for self-tracking is monitoring calorie intake, where the body appearance is subjected to attention. Didžiokaitė *et al.* (2018) studied what they call ‘everyday calorie trackers’ and observed that self-trackers are not always part of the larger movement, especially when the body image is in the center of attention, as the main reason for tracking calories is weight loss. Didžiokaitė *et al.* (2018) observe that the goal of calorie-trackers was more specific and directly tackled by counting their meals. Self-tracking can be also used for monitoring health (Lupton, 2013), or fitness or physical activity (Lupton, 2018). The practice can take the form of clinical self-tracking, in the case of patients who suffer from chronic diseases like diabetes (Piras and Miele, 2017).

But many other aspects of the personal life can become the subject of self-tracking, including sexual or reproductive activities. Lupton (2014a) observes that almost all the apps designed to keep track of fertility and reproductive functions are designed for women’s use. The apps can easily shift between promoting tracking for avoiding or facilitating pregnancy, depending on the result users desire (Lupton, 2014a, p.11). Lupton describes this practice as an enjoyable ‘self-imposed surveillance’ as it is directed to a personal goal (Lupton, 2014a, p.13).

The wearable self-tracking device can perform different roles. As Lyall and Robards (2018) observe, depending on the users’ involvement in the practice and the importance they attach to the data, the device can play the role of ‘tools’, ‘toys’ or ‘tutors. While the first two roles are somehow self-explanatory, the ‘tutor’ role refers to “a reciprocal relationship between devices and users: through advice-giving, devices are endowed with an agential quality” (Lyall and Robards, 2018, p.118). Studying individuals that identified as self-trackers, Lupton and Smith (2018) grouped the reasons why they choose to monitor themselves, into three categories that are related and in line to Lyall and Robards’ (2018) findings: “self-improvement, exerting control, identifying patterns and achieving goals” (Lupton and Smith, 2018, p.64).

Data visualization plays a key role in how meaning is extracted from quantitative data. Ruckenstein (2014) suggests that one of the important aspects that keeps users captivated in the self-tracking practice is the ‘agentive force’ of being able to visualize your data in an attractive way, because “‘seeing’ makes knowledge reliable and trustworthy” (Ruckenstein, 2014, p.77). Pfeiffer *et al.* (2016) analyze the criteria of pre-adoption of self-tracking devices using empirical data. They identify perceived usefulness, enjoyment, and a sense of innovativeness as being strong drivers that shape users’ intention to wear such devices (Pfeiffer *et al.*, 2016).

Opposition to accepted social norms and expectations

The post-modern society is a society where individuals try to redefine who they are. This is usually done by rejecting the pre-existing traditional norms, and finding new ways to define one’s self. Self-tracking, beginning from the simple idea of keeping a diary to track

mood swings using apps, is a sign of individualization (Beck and Beck-Gernsheim, 2001). If we think about it in this way, people have been self-tracking their lives for a long period of time, as they have shown interest in meticulously documenting their lives through different methods: personal diaries, to-do lists, calendars and many others. Similarly, within the QS movement, individuals use quantitative data in an attempt to better know themselves, be prepared for the unpredictable and better foresee changes.

Giddens (1991) describes modernity as a post-traditional order. This process is also described by Beck, Giddens and Lash (1994); they call it ‘detraditionalization’ – the process of detraditionalization doesn’t involve a society without any traditions, but a “social order in which tradition changes its status” (Beck, Giddens and Lash, 1994, p.vi). The pre-existing social structure and traditional norms are being questioned by individuals as they become more and more reflexive about their identity and their place within society. Self-tracking is a reflexive enterprise especially when conducted as a private activity (Lupton, 2014, p.80), when the final goal is finding ways to use the information for improving one’s life (Lupton, 2017, p.1).

In the QS movement, the social norms are being questioned, as individuals are starting to assume new roles that were prior performed by other traditional authorities. One of the examples portrayed in Nafus and Sherman’s qualitative study (2014) is Angela, who made an important life decision after consulting her self-tracked data: she quit what she thought was the job of her dreams after her mood data showed her she wasn’t happy. Would Angela have done the same if it weren’t for the reliability in her data? Probably not. A lot of time would have passed for Angela to discover this *by herself*.

Nafus and Sherman (2014) describe self-tracking as “an important modality of resistance to dominant modes of living with data” (Nafus and Sherman, 2014, p.1784). They use the evocative term ‘soft-resistance’ to describe modalities of using and managing data, as individuals now integrate it in their routines as a personal choice to ease and facilitate their lives. The soft-resistance does not mean rejection of social norms, but rather adjustments that better serve personal needs for knowing and learning about one self: “soft resistance happens when participants assume multiple roles as project designers, data collectors, and critical sense-makers” (Nafus and Sherman, 2014, p.1784).

One of the questions I would like to raise here, that was inspired by Nafus and Sherman’s (2014) work is, can Big Data be personal? And the answer I would suggest is yes, as self-trackers have changed the way we understand big sets of data and what they are capable of (Nafus and Sherman, 2014, p.1785). The self-tracked data “creates both material and social resistance to traditional modes of data aggregation” (Nafus and Sherman, 2014, p.1785). As Nafus and Sherman (2014, p.1786) observe, Big Data can have a subjective dimension, and can be beneficial for individual use, not only for institutional mechanisms. Self-trackers individually generate a huge amount of data that approaches the ‘bigness’ of Big data (Nafus and Sherman, 2014, p.1790).

Moreover, self-tracked data is often useless for Big Data measurements. Self-tracking is an individualistic practice where individuals track what they consider to be interesting to them, so their data, even if it measures the same dimension, cannot be combined (Nafus and Sherman, 2014, p.1791). Because individuals have so many different

personal definitions about what is interesting and useful to them, often their data doesn't fit in the preset categories. The soft-resistance can take many forms, as some self-quantifiers create their own measurement instruments and do not rely solely on digital devices preset categories or available apps (Sharon and Zandbergen, 2017).

Sometimes self-tracking can be a liberating act as it is constructed on values opposed to traditional and socially accepted norms about how one should live their life. It gives self-trackers a sense of autonomy as they become the observers of their own lives and needs. They resist social norms and conventions and express autonomy “vis-à-vis a larger society, its institutions and corporations” (Sharon and Zandbergen, 2017, p.1702).

One of the participants in the ethnographic study of Sharon and Zandbergen (2017) created and designed her own self-tracking project to overcome the grief after the death of her mother. She tracked any experience that acted as a reminder of her mother and then used them in what the authors call an “attempt to cultivate a greater mindfulness or awareness” (Sharon and Zandbergen, 2017, p.1701). Her personal project *Leaning into Grief* “opposes and proposes an alternative to a society that does not make enough space for grief and loss” (Sharon and Zandbergen, 2017, p.1702).

Questioning the traditional authorities

What was once let in the hands of specialists, it is now directed to devices that are able to better do the job. Self-trackers are empowered by the unlimited possibilities these devices give them. Pantzar and Ruckenstein (2015) did a social and historical analysis of the way heart rate monitoring devices went through technological and social changes, ultimately taking the form of a friendly device that can be easily used without assistance. They talk about the ‘normalization of heart rate monitoring’ as this becomes a daily practice that used to only take place in specific environments, like hospitals or the physician’s office (Pantzar and Ruckenstein, 2015, p.97). Because heart rate monitoring became so accessible to individuals, they started using the technology to keep track of fitness activity and monitor their stress levels.

Lupton (2013) looks into health monitoring devices and observes that they gave people more power over their own body. Because of them, individuals now have access to a load of information that used to be denied to them by different specialists that assumed the role of the expert. Lupton (2013) also acknowledges this important turning point in hierarchy: “using these technologies represents a paradigm shift from ‘My health is the responsibility of my physician’ to ‘My health is my responsibility’, and I have the tools to manage it” (Swan, 2012, p.108 cited by Lupton, 2013, pp.397-398).

Another great example of how self-trackers often find meaningful insights in their own data by questioning and eventually going over traditional authorities like medical doctors, is the story of Larry Smarr: he went over his doctor’s opinion that assured him nothing was wrong with his body, and continued to track his daily symptoms in order to find out what was wrong with him. His self-tracked data eventually led him to a correct diagnosis of Crohn disease (Sharon and Zandbergen, 2017, p.1702).

The limited knowledge of the postmodern human

In this part of the paper I will explain how self-tracking can be used to compensate for the limited knowledge of the postmodern human. The postmodern human possesses a limited ability and knowledge for making the right decisions, being influenced by the late modernity's uncertainties precisely. Berg (2017) looks into two wearable self-tracking devices that basically become the body's extension once attached to clothes or directly on skin. Berg (2017, p.8) calls these devices 'smart jewelries' to emphasize their role in assisting users in the reflexive journey of finding about themselves through self-gathered data.

Moreover, the way these devices are being advertised suggests that the users' inability to keep track of their emotional responses to daily activities or general mood swings by themselves, is located outside the individual (Berg, 2017). The outer society is to blame for their helplessness. These devices are “a remedy for a broken relationship between the individual and society” (Berg, 2017, p.8). Interestingly enough, the insecurities and risks created by the postmodern world can be tackled by integrating technological devices in daily life. Ruckenstein (2014) analysis is eloquent for the way individuals tend to have more trust in the objectivity offered by numbers as they are more accurate to predict and explain personal changes.

In an ideal set, an individual would be able to make rational and informed decisions based on a great knowledge and understanding of a particular situation. But this never happens in real life, and individuals end up using 'approximate rationality' when making decisions (Simon, 1955, p.114). Self-tracking devices can substitute this dreadful human inability. They provide a superior and reliable form of knowledge that could never be reached by the individual only (Lupton, 2014, p.84). As individuals cannot rely on their memory and sense of interpretation, they “require the assistance of machines to extend their capabilities” (Lupton, 2014, p.82), exactly as in Berg's (2017) example, where the device becomes an extension to the body.

However, Sharon and Zandbergen (2017, p.1695) are contradicting the idea that the main reason behind self-tracking is the users' unquestionable trust in data. As they show, data-fetishism (a trust in numerical data) is not enough to explain the involvement of individuals in the Quantified Self movement. There are other factors that make self-tracking so interesting, and it's not always just about the numbers, even if they do play an important role by providing the user with a sense of reliability. The data also makes the individual autonomous and able to self-govern.

The relation between self-tracker, the devices and the data is often reduced to the simplistic idea of human – non-human interaction. The process is much more complex and involves “humans, other humans with whom they engage, the technologies they take up to monitor themselves (which may be digital or non-digital), the information that is generated by these technologies, the spaces and places in which they enact their practices and the broader discourses and idea that animate and motivate their practices” (Lupton and Smith, 2018). Mixing humans and nonhumans together creates a never-ending venture of transactions and negotiations (Johnson, 1988). The interesting part

here is that the human body and the machine work together in this process of constructing the better and improved self.

Self-reflexivity, self-knowledge and identity

Bauman (2000) refers to the process of individualization that happens as the technological and social change liquefies social bonds between individuals. As Bauman pointed out in many of his works (2000, 2001), the post-modern society involves some kind of transformation from solid to liquid that can be understood as a search for new ways of coping. In the times of erratic human interrelations, individuals are searching for something *solid* to grasp on – in this case, quantitative data about themselves that will help them in the journey of becoming the self they desire.

The data gathered by self-tracking can act as an extension to the self. Many authors that observed the QS movement claim that it leads to the creation of a mirrored self, a datafied self – Swan (2013) calls it an extended *exoself*, Ruckenstein (2014) a *data double* and Bode and Kristensen (2016) use the term *digital doppelgänger*.

Lupton (2014, p.80) reflects on the idea that self-tracking can be used by individuals as a mean to regain control over their bodies, in a society where traditional social structures and social connections and bonds between people are being eroded, or in Bauman's (2000) terms, *liquefied*. Lupton (2014, p.80) observes that the hazards of living in the contemporary society determines people to become responsible for finding their own sense. They cannot rely on others to make the best decisions for them because as Giddens (1990) shows, one of the consequences of modernity is that the systems of trust are being interrelated with systems of risks. As one of the respondents of Lupton and Smith (2018, p.66) suggestively summarize: "I'm responsible for myself. I can't ask anyone else to look after me".

A postmodern human would be one that takes active action and works on the personal process of creating a better self that Giddens (1990, p.114) describes as a reflexive project of self-enquiry. Self-exploration can be interpreted as a response to a liquified society where social bonds are being weakened and people become self-responsible over their own happiness. Objective numerical data can play an important role in this process because it offers individuals exactly what they lack – a sense of stability and control. Numerical data are more trustworthy and reliable than their own subjective senses. Rowse (2015) shows that in self-tracking there is a 'scientific' approach to reflexivity, as quantifiers use technologies "that are external to the mind and body to analyze the self" (Rowse, 2015, p.36).

Self-tracking is a process that implies not only data gathering, but also reflection. The data can offer guidance, but the decisions still have to be made by the individual. This process of attaching meaning to data in the interaction between individual and the digital technology is described by Lupton (2014, p.82) as a constant feedback loop. Self-tracking offers people the chance to look back on their data, but also to use this knowledge to make decisions for the future, which is an example of reflexive awareness (Lupton and Smith, 2018, p.71).

The normalization of surveillance

As Big Data becomes Personal data, there are many concerns about how self-collected data can become part of larger institutional surveillance mechanisms. Many authors reflect on this recurrent theme of how QS movement is responsible for the normalization of surveillance. Sander's (2017) paper is an example of critical digital health studies literature, where the author argues that self-tracking may have subversive effects like enhancing the mechanism of biopower.

The movement's initiators are aware of this constant threat of personal data being integrated in a bigger mechanism of mass surveillance. Sharon and Zandbergen (2017) observe that QS conferences are trying to compensate for users' concerns related to the privacy of their data. There are special sessions dedicated to data ownership and privacy because this is one of the main themes that produces worry and anxiety among self-quantifiers (Sharon and Zandbergen, 2017, p.1703). One of the creators of QS website and movement, Gary Wolf, states that even if it seems QS is ultimately normalizing surveillance, the movement is permanently concerned with how to protect the users and create a sense of security for them (Sharon and Zandbergen, 2017, p.1703).

Some self-trackers may not be aware that the data they self-collect in a personal attempt to self-examination can be further used by third-parties for completely different reasons. They should be more aware of the implications of their data collection as they voluntarily engage in what (Lupton, 2014a) calls self-surveillance. Self-tracking helps people overcome some risks, but at the same time it creates others, like privacy and security concerns. These privacy threats can be overlooked by self-trackers because the process of self-tracking is entertaining and addictive as it becomes a daily habit (Lupton, 2014a, p.13).

Lupton (2016, 2018) observes that there are many forms of self-tracking and not all of them are voluntary. 'Pushed' and 'imposed' self-tracking where bigger agencies encourage people to engage in self-tracking is a form of surveillance in which users have little control over their data. One of the examples Lupton (2018, p.574) offers here is the situation where employees are asked to engage in self-tracking corporate programs that claim to improve wellness and work satisfaction.

Rowse (2015, p.16) draws attention to the fact that as self-tracking becomes more popular there will be an important impact on the users' control over who can access their data. Lupton (2018, p.563) also considers that self-tracking may have political implications because institutions and organizations like companies and government bodies are able to exploit the impressive amount of data self-trackers are generating (Lupton, 2018, p.569).

But as it was shown earlier, the relation between self-tracker and their data is so personalized that sometimes the data generated cannot be used for bigger purposes as it doesn't fit in any pre-settled pattern. Individuals can be so creative about what they track and sometimes the data collected, even if it's an incredible amount of data, only has meaning for the individual and cannot be synthesized in larger mechanisms of surveillance.

Can the QS movement be considered a new social movement?

In this part of the paper I will draw upon some of the main characteristics of social movements that we can find in QS movement as well. I argue that we can further understand the QS movement as a lifestyle movement that has the chance to evolve in a more structured social movement.

We often think of social movements as being centrally organized. The QS movement mostly operates as a diffuse network (Haenfler *et al.*, 2012), where people are connected as part of a growing online community. The QS movement is mostly a network of individuals who share the same interests, but engage in self-tracking in many different personalized ways. Wolf and Kelly, even if they are the initiators of the movement, do not have the capabilities to become formal leaders, but an interesting aspect Sharon and Zandbergen (2017, p.1697) observe is that the article Wolf published in 2010 in New York Times, *The Data-Driven Life* acts as a manifesto of the movement, inspiring new adherents.

Another important characteristic of social movements is that it creates a sense of collective identity among adherents as they interact in informal networks (Diani, 1992, p.1). Collective identity means that self-quantifiers have to share the same beliefs (Diani, 1992, p.8) – for example the idea that quantitative data will help them create a better version of themselves. They also share a sense of belonging to the group or online community they are part of, that can work as a solidarity force between users. There is a constant flow of interactions, communication and negotiations between users. As this usually happens inside a social movement, self-tracking can further shape the individuals' sense of identity, as they begin to be emotionally involved (Melucci, 1995, p.45).

Many authors that examined the QS movement observed that self-trackers are part of a larger community they identify with (Nafus and Sherman, 2014; Lupton, 2014; Lupton, 2016; Rowse, 2015; Rooksby *et al.*, 2014; Crawford *et al.*, 2015). The QS community is not a community per se, as users interact with each other mainly using online instruments and not all of them participate in offline meetups or conferences. They are more of an informal 'diffuse network' (Haenfler *et al.*, 2012) and their interactions are most of the time intermediate by websites, online groups or apps, where they are encouraged to share their personal data with others in order to make it meaningful by comparisons.

Even if the 'self' is in the center of the QS movement, authors like Lupton (2014) observe that self-tracking is a social practice that is starting to be "incorporated into many areas of social life and social institutions" (Lupton, 2014, p.78). There are various modes for self-tracking, and one of them identified by Lupton (2014) is 'communal self-tracking'. This particular mode of self-tracking is the one that produces the idea of collective identity of self-trackers. They interact, share, combine and learn from other's data and this leads to a creation of a collective identity.

The interaction between self-trackers is an important aspect because the data they self-collect becomes meaningful in relation to others. Self-quantifiers often need others to extract meaning out of their data, and they depend on comparisons. Even if

there are situations where their data can be meaningful on its own, self-tracking devices and apps encourage users to compare and analyze their data in relation to others (Crawford *et al.*, 2015, p.494). Some authors like Didžiokaitė *et al.* (2018) and Crawford *et al.* (2015) use empirical instruments to particularly study those self-quantifiers that are not part of a larger community and only engage in self-tracking for individualistic purposes.

One of the main characteristics of social movements refers to aiming for institutional change. Lupton (2016) looks into how self-tracking data can have an impact on the local community and local agencies, suggesting that these large data sets generated by self-trackers can be further used in civic endeavors to challenge social policies as part of efforts to sustain projects like ‘healthy city’ or ‘smart city’ (Lupton, 2016, p.109).

On the other hand, Haenfler *et al.* (2012) consider the distinction between lifestyle movements and social movements. They describe self-oriented movements like “quantified self” movements being “more individualistic rather than collective, personal rather than social” (Haenfler *et al.*, 2012, p.3). The adherents of lifestyle movements may “occasionally express themselves collectively and may affiliate with a social change organization” (Haenfler *et al.*, 2012, p.6). I believe this definition better explains the way QS movement evolved as more individuals started to become interested in self-tracking their daily activities.

QS movement is mainly a product of the postmaterial age so we can understand it either as a lifestyle movement or a new social movement (Pichardo, 1997). Self-tracking cultures do not have a fixed definition as many self-trackers are still not part of the larger community. Self-tracking can be a purely individualistic phenomenon directed only to self-improvement. But most of the self-quantifiers start to connect with each other and find different meanings in their data and acknowledge the fact that there is a possibility to use the self-gathered data to promote collective action and political change.

Discussion and conclusion

In this paper I understood the QS movement as a product of the postmodern society. The motto of QS movement, *Self-knowledge through numbers*, eloquently describes the main motivation for self-tracking: the creation of a better self. Quantitative data becomes more trustworthy and reliable and it’s being ultimately used to question societal norms or traditional formal authorities like doctors. The individuals take control over their bodies in an attempt to become self-responsible over their own happiness and wellbeing.

In this paper I argued that as individuals become the observers of their own lives, they start to question traditional authorities and manifest a ‘soft resistance’ (Nafus and Sherman, 2014) to societal norms. The pre-existing social structure and norms are being questioned by individuals as they become more and more reflexive about their identity and their place within the postmodern society.

The question I raise here is not why people engage in self-tracking, but if the QS movement can be described as a new social movement that was made possible exactly by the technological changes that characterize the postmodern world. The technological

advancement is remodeling the self-tracking phenomenon. It all started with the personal journal, and soon people brought into their houses the domestic weight scale (Crawford *et al.*, 2015). It all continued with minor but important technological changes that made possible the elegant and intelligent Fitbit smartwatches that we attach to our wrists today.

Furthermore, I also looked at the motivations of self-trackers in an attempt to explain the mechanisms behind the self-tracking culture and movement. There are many reasons to self-track, but most of them share a common theme – self-improvement. When is directed to the fulfilment of a personal goal – losing weight, becoming more productive or healthy – self-tracking becomes an enjoyable activity, more of a ‘self-imposed surveillance’ (Lupton, 2014a). Data visualization, being able to see your progress, is another important aspect that keeps self-trackers engaged in this practice (Ruckenstein, 2014).

Further, I explained how self-tracking is used to compensate for the limited knowledge of the postmodern human. The postmodern individuals are now drawn to rely on technological devices to make better and informed decisions about their life. This inability is usually located outside the individual’s personal forces – into the outer society (Berg, 2017). In contrast to subjective experiences, quantitative data is a more reliable and superior form of knowledge reserved only to technological devices.

I argued that self-tracking gives people a sense of autonomy over their own body stimulating them into being more self-reflexive. They can use the data in many ways, either to reflect on past decisions, or to make better informed resolutions for the future. Drawing on Bauman’s terms (2000), I explained the process of self-tracking as a direct response to a liquified society where social bonds are being weakened. In this liquified society, people have to work on their awareness and become the creators of their own happiness.

The discussion about the QS movement wouldn’t have been complete without observing the subversive effects of self-tracking, for example, the subtle ways in which Big Data becomes Personal Data. Individuals are now tracking and gathering a huge amount of information about themselves. However, I argue that even as this data comes to resemble the ‘bigness’ of Big Data, it is still mainly individualistic and meaningful only in relation to the individual who gathered it.

Ultimately, I used social movement theory to draw attention to the potential of the QS movement to become a larger social movement. Self-tracking creates a sense of collective identity among its adherents. Mostly, they interact with each other in diffuse online networks (Haenfler *et al.*, 2012), conferences or meetups. The interaction between self-trackers is important because it represents a way of discussing and comparing self-gathered data. The meaning of data is mostly created in interaction with others. I argued that self-tracked data can be further used to militate for institutional change or to serve the community’s interests (Lupton, 2016).

A further discussion can be made on how self-tracking is responsible for the normalization of surveillance and how individuals can resist the subversive effects of self-tracking that may appear.

WORKS CONSULTED

- Ahmed, N. M. 2010. *A User's Guide to the Crisis of Civilization, and How to Save It*. London: Pluto Press.
- Bauman, Z. 2000. *Liquid modernity*. Polity Press, Cambridge.
- Bauman, Z. 2001. Identity in the globalising world. *Social anthropology*, 9(2), pp.121-129.
- Beck, U. & Beck-Gernsheim, E. 2001. *Individualization. Institutionalized Individualism and its Social and Political Consequences*. Sage, London.
- Beck, U., Giddens, A. & Lash, S. 1994. *Reflexive modernization: Politics, tradition and aesthetics in the modern social order*. Stanford University Press, Stanford.
- Berg, M. 2017. Making sense with sensors: Self-tracking and the temporalities of wellbeing. *Digital health*, 3, pp.1-11.
- Bode, M., & Kristensen, D.B. 2016. The digital doppelgänger within: A study on self-tracking and the quantified self-movement. In *Assembling Consumption: Researching Actors, Networks and Markets*, pp.119-134, New York, Routledge.
- Choe, E.K., Lee, N.B., Lee, B., Pratt, W. & Kientz, J.A. 2014. Understanding quantified-selfers' practices in collecting and exploring personal data. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp.1143-1152.
- Crawford, K., Lingel, J. & Karppi, T. 2015. Our metrics, ourselves: A hundred years of self-tracking from the weight scale to the wrist wearable device. *European Journal of Cultural Studies*, 18(4-5), pp.479-496.
- Diani, M. 1992. The concept of social movement. *The sociological review*, 40(1), pp.1-25.
- Didžiokaitė, G., Saukko, P. & Greiffenhagen, C. 2018. The mundane experience of everyday calorie trackers: Beyond the metaphor of Quantified Self. *New Media & Society*, 20(4), pp.1470-1487.
- Fitbit Press Release. 2018. *Fitbit Reports*. [Online] Available at: <https://bit.ly/3c3MvJ8> [Accessed at 4.01.2020].
- Giddens, A. 1990. *The Consequences of Modernity*. Polity Press, Cambridge.
- Giddens, A. 1991. *Modernity and self-identity: Self and society in the late modern age*. Stanford University Press, Stanford.
- Haenfler, R., Johnson, B. & Jones, E. 2012. Lifestyle movements: Exploring the intersection of lifestyle and social movements. *Social Movement Studies*, 11(1), pp.1-20.
- Johnson, J. 1988. Mixing humans and nonhumans together: The sociology of a door-closer. *Social problems*, 35(3), pp.298-310.
- Lupton, D. 2013. Quantifying the body: monitoring and measuring health in the age of mHealth technologies. *Critical Public Health*, 23(4), pp.393-403.
- Lupton, D. 2014. Self-tracking cultures: towards a sociology of personal informatics. In *Proceedings of the 26th Australian Computer-human interaction conference on designing futures: The future of design*, pp.77-86.
- Lupton, D. 2014a. Quantified sex: a critical analysis of sexual and reproductive self-tracking using apps. *Culture, Health & Sexuality*, 17 (4), pp.440-453.
- Lupton, D. 2016. The diverse domains of quantified selves: self-tracking modes and dataveillance. *Economy and Society*, 45(1), pp.101-122.

- Lupton, D. 2017. Self-tracking, health and medicine. *Health Sociology Review*, 26(1), pp.1-5.
- Lupton, D. 2018. Lively data, social fitness and biovalue: the intersections of health self-tracking and social media: In *The Sage Handbook of Social Media*, pp.562-578, SAGE Publications Ltd.
- Lupton, D. & Smith, G.J. 2018. 'A Much Better Person': The Agential Capacities of Self-tracking Practices In *Metric Culture: Ontologies of self-tracking practices*, pp.57-75, Emerald Publishing Limited.
- Lyll, B. & Robards, B. 2018. Tool, toy and tutor: Subjective experiences of digital self-tracking. *Journal of Sociology*, 54(1), pp.108-124.
- Meetup. *Quantified Self*. [Online] Available at: <https://bit.ly/2VIWoLI> [Accessed at 4.01.2020].
- Melucci, A. 1995. The Process of Collective Identity. *Social movements and culture*, 4, pp.41-63.
- Nafus, D. & Sherman, J. 2014. This One Does Not Go Up To 11: The Quantified Self Movement as an Alternative Big Data Practice. *International Journal of Communication*, 8(11), pp.1784-1794.
- Pantzar, M. & Ruckenstein, M. 2015. The heart of everyday analytics: emotional, material and practical extensions in self-tracking market. *Consumption Markets & Culture*, 18(1), pp.92-109.
- Pfeiffer, J., von Entress-Fuersteneck, M., Urbach, N. & Buchwald, A. 2016. Quantify-me: consumer acceptance of wearable self-tracking devices. Presented at the *Twenty-Fourth European Conference on Information Systems (ECIS)*, Istanbul, Turkey.
- Pichardo, N.A. 1997. New social movements: A critical review. *Annual review of sociology*, 23(1), pp.411-430.
- Piras, E.M. & Miele, F. 2017. Clinical self-tracking and monitoring technologies: negotiations in the ICT-mediated patient-provider relationship. *Health Sociology Review*, 26(1), pp.38-53.
- Quantifiedself.com. (***) *What is Quantified Self?* [Online] Available at: <https://bit.ly/3ecyz1b> [Accessed at 4.01.2020].
- Rooksby, J., Rost, M., Morrison, A. & Chalmers, M. 2014. Personal tracking as lived informatics. In *Proceedings of the SIGCHI conference on human factors in computing systems*. pp.1163-1172.
- Rowse, L.M. 2015. Statistics of the self: Shaping the self through quantified self-tracking. *Scripps Senior Theses*.
- Ruckenstein, M. 2014. Visualized and interacted life: Personal analytics and engagements with data doubles. *Societies*, 4(1), pp.68-84.
- Sanders, R. 2017. Self-tracking in the digital era: Biopower, patriarchy, and the new biometric body projects. *Body & Society*, 23(1), pp.36-63.
- Sharon, T. & Zandbergen, D. 2017. From data fetishism to quantifying selves: Self-tracking practices and the other values of data. *New Media & Society*, 19(11), pp.1695-1709.
- Simon, H.A. 1955. A Behavioral Model of Rational Choice. *The Quarterly Journal of Economics*, 69 (1), pp.99-118.

Swan, M. 2013. The Quantified Self: Fundamental Disruption in Big Data Science and Biological Discovery. *Big Data*, 1(2), pp.85-99.

Oana-Ruxandra Constantin is a MA Student in Sociological Research at the Faculty of Sociology and Social work, University of Bucharest. She holds a BA in Sociology, obtained in 2019. Her current research interests include digitally mediated communication, online dating environments and feminist studies.