DIGITAL HEALTH AND THE GAMIFICATION OF LIFE

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DIGITAL HEALTH AND THE GAMIFICATION OF LIFE: HOW APPS CAN PROMOTE A POSITIVE MEDICALIZATION

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INVESTOR IN PEOPLE

Contents

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List of Figures and Tables

Figures

Tables

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Introduction

Nowadays, gamification, simply defined as the use of game elements in a non-game context, seems to be a winning strategy in multiple dimensions of human life. Through games or playful elements, people's motivations are strengthened. Therefore, it becomes easier to carry out heavy and difficult activities.

When we type the word "gamification" into the Google search engine, approximately 8,050,000 results come up. In the first three months of 2018 about 1,860 articles mentioning the word gamification were published.

In March 2018, the University of Copenhagen posted a position for Associate Professor in Game Development. According to the job posting the candidates must have good qualifications in several aspects such as existing competence in games research and teaching, along with knowledge about technical aspects of playful experiences and games.

Gamification has been presented in the education sector for a long time; however, in recent times, it seems to be booming. As stated in the report drafted by Cambridge Analytica (2016), "*Gamification and the future of education*" it can be conceived as:

> a new mode of teaching and learning, the principal appeal of gamification is the liberty that it provides pupils and teachers, as encapsulated by the four freedoms: the freedom to fail, the freedom to experiment, the freedom to fail and the freedom to self-express. These freedoms represent a welcome pedagogical shift for those students whose educational potential is being hampered by conventional teaching methods. (p. 3)

Using game elements can also be seen as an efficient strategy in the sphere of work. For example, "many employees compete for various positions and promotions in organizations; organizational rule structures serve to construct, constrain, and evaluate their activities, thus establishing a kind of game" (Oravec, 2015, p. 1). The organization of races and quizzes might increase the productivity of the employees by keeping their motivation up. Despite the real purposes (increasing the worker's efficiency), this practice is powerful because it does not seem too invasive. To provide an example, Lopez (2011) reported the experience of hotel workers at Disneyland. The workers themselves defined this practice as an electronic whip (Lopez, 2011).

> Employees in the Anaheim hotels are required to key in their ID when they arrive, and from then on, their production speed is displayed for all to see. For instance, the monitor might show that S. Lopez is working at an efficiency rate of 37% of expected production. The screen displays the names of several coworkers at

> once, with "efficiency" numbers in green for those near or above 100% of the expected pace, and red numbers for those who aren't as fast. (Lopez, 2011, para. 6)

Another fertile ground, in which gamification practices spread more rapidly and intensively, is health. On the one hand, this circumstance is mainly due to the changes that have occurred, at least in Western societies, in last decades concerning main health risks. Chronic diseases are the main cause of death. Unhealthy habits and lifestyles (a sedentary lifestyle and excessive consumption of alcohol and tobacco) are considered important risk factors. In this context, stimulating the subjects to acquire healthy habits can be considered a strategy: "health and well-being strongly depend on the individual's health behaviors, motivation is a major factor of health behavior change, and intrinsically motivated behavior change is desirable as it is both sustained and directly contributes to well-being" (Johnson et al., 2016, p. 89). Within digital health studies, there are two opposite currents, generally divided into technoenthusiasts and critical thinkers. There is no doubt that some aspects of digital health are beneficial to patients and their families. On the other hand, it is clear that digital health can lead toward new forms of social exclusion. In this book, we give ample space to both positions. Using a paradoxical expression, it is our opinion that both are 100% right. Analytically, the book is organized into seven chapters.[1]

In the first chapter, "Self-tracking and the quantification of everyday life," we analyze the alluring rise of quantification in contemporary society. Digitization, new public management, and other factors related to neoliberalism have fueled and nurtured the incessant collection, production, and processing of numbers. The growth of the "indicator culture" (Merry, 2016) closely connects the governance of any organization to numerical data and parameters. As pointed out by Espeland and Stevens (2009), "quantification has never been so intensively central in our society as it is today. Perhaps it is so important that we take it for granted" (p. 406). The transformation of information of various types into numerical data, the quantification of society is also spurred by the huge amount of data that are produced today through computers and technological devices (big data and data-deluge). Clearly, self-tracking is a powerful engine of quantification. Self-tracking can serve as a tool to virtually quantify all aspects of our life: physiology, emotions, and behaviors. Several authors, mainly following the Science, Technology, and Society perspectives, have shown that objectivity and neutrality of numbers are the result of social practices, micro-negotiations, and political choices. Numbers have such huge authority because we consider them objective, but they are not. This characteristic of apparent objectivity is also shared by standardization, a social phenomenon closely related to quantification. Standards, indicators, and parameters are at the base of what Rose (1990) called "distant government." Often, individuals and organizations must modulate their actions to respect

[1]While the book is the result of several discussions between the authors, Antonio Maturo wrote chapters 1, 2, 3, 6, and the Conclusions; whereas, Veronica Moretti wrote chapters 4, 5, 7, and the Introduction.

the (apparently) aseptic and neutral numerical values. Consider the importance of the gross domestic product or credit score. Moreover, the authority of numbers is hardly questionable: "The community of believers gives added credit to the indicators and renders the skeptic more isolated" (Merry, 2016, p. 31). Additionally, we aim to show how quantification and gamification can become tools to build individual scores that, at a later stage, can produce social-exclusion effects. According to Fourcade and Healy (2013), society is becoming structured as a "world of scores rather than classes" (p. 568). We believe that this "dry" sentence is becoming increasingly true.

In the second chapter, "Getting things done: Gaming and framing," we focus on the new phenomenon of gamification. Gamification can be defined as the use of game design elements in non-game contexts (Groh, 2012). It is hard to deny that games play a cognitive function. Games and play allow people, not only children but also adults, to learn important aspects of the world (Erikson, 1963; Freud, 1920; Mead, 1934). However, gamification also plays a performative function: it allows us to not only to know things, but to do them. In apps, gamification serves to support people in pursuing goals and improve performances: running faster, eating healthier, and quitting smoking. The apps involve a high level of self-surveillance with incentivization and pleasure rather than risk and fear shaping desired behaviors (Whitson, 2013). Strengthening our motivations, gamified apps help us to modify harmful habits, for example. According to McGonigal (2011), one of the most enthusiastic supporters of gamification, through gamification we could solve some of the world's problems like cancer and climate change. The transition to a post-Fordistic economy probably created the right context for the rise of gamification. The dimension of weisure (work and leisure together) characterizes post-Fordism (Conley, 2009). That is a transition from an economy and a social context mainly based on the imperatives of production, asceticism, and hierarchy – to a post-Fordist economy based on consumption, leisure, and flexibility. Under a more radical stance: "gamification is one mechanism through which post-Fordism capitalism appropriates such non-alienated activity [leisure] and renders it useful to the capitalist goal of wealth accumulation" (Rey, 2014, p. 280). We conclude the chapter by the proposal of the concept of endoptikon. The endoptikon can be defined as a specific form of surveillance of self-tracking data. These data can be related to all the dimensions of the subject: behavior, body, psyche, soma, and bìos. The subject of surveillance can be an organization, an algorithm, or even the quantified self "herself." The aim is often to become more productive and to optimize one's performance – gamification acting as nudging.

In the third chapter, "How apps foster medicalization," we analyze the phenomenon of medicalization in the digital society. Medicalization can be defined as the process by which some aspects of human life come to be considered as medical problems, whereas before they were not considered pathological (Conrad, 2007). We also find this unconventional definition to be sharp:

> Once upon a time, plenty of children were unruly, some adults were shy, and bald men wore hats. Now all of these descriptions might be attributed to diseases – entities with names, diagnostic criteria, and an increasing array of therapeutic options. (McLellan, 2007, p. 627)

Medicalization occurs in several spheres of health: mental health, pregnancy, and cosmetic surgery are the most common. Yet, a new dimension is becoming increasingly central in our times: risk. Being at risk is a new turf of medicalization. Therefore, the medicalization of prevention is also booming, fostered in part by genetic tests. However, probably, the most appropriate example is the lowering of the level above which one can be considered "at risk" in the case of cholesterol and blood pressure. When a medical committee did it with the level of cholesterol, over the course of one night millions of people were transformed into patients and, most of all, into consumers of pills. This mechanism is also called disease mongering. Hofmann (2016) makes a distinction between medicalization and overdiagnosis. Medicalization occurs when something non-medical is transformed into a disorder (like shyness becoming social phobia); overdiagnosis is a biomedical condition that in the absence of testing would not cause symptoms or death in the person's lifetime (like high blood pressure). In the chapter, we show how digital health can be seen as an engine of medicalization. We try to demonstrate it by analyzing some apps from a sociocultural perspective (Lupton, 2014). For example, the app What'sMyM3 perfectly represents the quantified diagnoses promoted by the last versions of the *Diagnostic and Statistical Manual of Mental Disorders*, based only on symptoms without any reference to external events that may affect mood. The functions and the design of the app results in a high pathologization of normal mood shifts. In addition, the ease of use of the app stimulates a continuous self-scrutiny and therefore amplifies the process of the pathologization of sadness. The features of gamification of a diet app promotes medicalization by fostering an idea of obesity totally defined by the parameter of the body-mass index. Therefore, apps can give rise to an individualistic conception of health totally separated from social factors.

In the fourth chapter, "The self of the quantified self," we discuss the role of the subject of self-tracking. What are the features and the connotations of the self-tracker? What are the connections between self-tracking and economic actions? We start our analysis by describing the idea of acceleration proposed by Rosa (2010). According to Rosa, contemporary society is characterized by extreme acceleration. Time has become a scarce resource and individuals are forced to adhere to the demands of speediness. This condition is connected to the increased performance now required in many areas of daily life. Therefore, the subject of the accelerated society looks like a self-entrepreneur, who acts on the basis of the data he or she collects by self-tracking. In order to act as entrepreneurs, the subjects need a large input of useful information to allow them to plan the "investments" and attain the expected development of profits. As far as the individual is concerned, this basically translates as a strong accentuation of introspective tendencies. The principal characteristic of the neoliberal subjects is a marked form of reflexivity aimed at exploring their own desires and aspirations, revealing their potential, weaknesses, and margins for improvement, and, lastly, assessing the results of their performances (Maturo, Moretti, & Mori, 2016). Therefore, the self of self-tracking is pursuing the optimization of her performances as if she were an enterprise or a Research & Development (R&D) unit. Self-tracking is a building block for human (economic) enhancement.

In the fifth chapter, we explore "The dark side of digital health." The chapter starts with a critical analysis of the concept and the practices of surveillance in modern and postmodern societies. We show the changes in the systems used to monitor individuals and emphasize the transition toward soft surveillance systems, probably stimulated by digital technologies. This switch from top-down control to "lateral" monitoring systems enclose surveillance practices with suggestive names like interveillance, synopticon, and dataveillance. The dark side of digital health has a bright start. According to Topol's vision of the future, we will soon be the "consumers," the real protagonists, of the management of our health, thanks in large part to the practically endless data about our bodies, behaviors, and lifestyles, we will be able to collect and analyze. Laboratory tests, digital X-Rays, biomarkers, genetic, and lifestyle data will all converge (and remain) in the memory of our mobile phones, available to us upon a mere touch. We will share our health information in real time with the doctors whom we will choose based on their score in clinical rankings (here, too, quantification rears its head). In turn, these doctors – thanks to evidence-based medicine and sophisticated algorithms – will be able to process our data and intervene in a precise, accurately predictive, and personalized way. Unfortunately, this one-dimensional representation of health (the biological or behavioral data evident from self-tracking) breathes life into the practice of "technological solutionism" (Morozov, 2013). Therefore, this simplified version of health makes it seem that the algorithm always can supply some solutions so long as it has enough information. Moreover, in the United States some health-insurance companies have started to offer a discount on premiums to members who agree to collect and share self-tracking data with them. Clearly, the discount is given only to the workers who have healthy habits. At first sight, this can seem like a win–win trade off. Yet, what is presented today like an individual option can easily become a requirement tomorrow.

In the sixth chapter, "The positive medicalization: Digital meditation," we discuss the results of a study carried out on a large sample of students of an elite university in the northeast of the United States. The focus of the research was the interpretations students gave to a period of digital meditation. Meditation, yoga, and mindfulness are booming in recent years. Probably, we all need to unwind. Several factors are responsible for our "age of anxiety." The de-standardization of life trajectories makes people freer (at least apparently) but requires more choices, and thus reduces the sense of security. According to Rosa (2010), anxiety has intensified due to social acceleration. Therefore, it is not surprising that we sleep less than before. However, sleep loss is not just due to stress. According to Crary (2013), capitalism produces a consumer who should be able to buy "7/24," consequently, chances to consume should not have temporal boundaries. In short, it is not surprising that there are numerous apps to cope with anxiety. Going back to the study, one result should be mentioned: several students have used biomedical jargon to talk about the effects of meditation. Someone spoke of "digital therapy" when referring to meditation. Moreover, some affirmed that the perception that they had of their own body had changed and they were more keen on the quantifiable aspects of bodily

health. In general, students found meditation to be a very useful "therapy" for having a quick fix for the many stresses of college. This is why we called it "positive" medicalization.

In the seventh chapter, "Exercise is (also) medicine," we present two projects aimed at increasing physical activity among individuals. Some epidemiological and behavioral trends are not exciting. We are living increasingly in an aging society. We are becoming fatter (globesity). Moreover, we are facing an alarming decline in physical activity worldwide. In this context, chronic diseases are booming, as are health expenditures. It is necessary to move more, in order to slow down this escalation. Stimulating physical activity is the best way to reduce the burden of disease and increase the social, psychological, and economic well-being of a community. The key point of the two projects is that they medicalize physical activity. The first project was carried out in Italy. A series of doctors started to "prescribe" physical activity as if it were a medicine. Therefore, physical activity is presented as a real cure to treat diseases and pathologies. The other project was supported by a private enterprise. The "concept" of the project is summarized as follows:

> the quantity and quality of the physical activity carried out by the patient should be considered by the general practitioner as a clinical parameter as well as other parameters, such as blood pressure, weight and glycemia.

It is possible that the success of these two initiatives stems from the fact that the biomedical complex has a strong influence on part of the population. It is an expert system and a trusted way of communicating, not only about diseases, but also about good habits (Sztompka, 2000). It is very effective to use a reliable source to spread a health promotion message. It becomes medicalization without pathologization and a form of medicalization without pharmacologicalization. In Conrad's (2007) words, it becomes a conceptual medicalization.

In the concluding chapter, we try to show how medicalization – partly promoted by apps – can in some cases be seen as a positive phenomenon. As stated, in summary, there may be conceptual medicalization without clinical aspects.

In our opinion, the challenging aspect in the study of digital health developments is to avoid the total adhesion to very optimistic or very critical visions. They both present perfectly developed formats, and the arguments of one and the other follow precise and quite predictable thinking patterns. In short, bringing critical thought to an extreme level can produce inertia or Neo-Luddism, while adhering fideistically to the rhetoric of progress, implies moving toward certain phenomena of social exclusion such as the denial of the role that inequalities play within the social context. This becomes more dramatic if we consider the realm of health. The two positions cannot be easily integrated. Probably, the result will leave both of them dissatisfied. Unfortunately, there is not yet an algorithm that predicts our intermediate position ….

Writing this volume has been very demanding.

For Antonio Maturo, it has meant many days away from Francesca and little Anna. Serendipitously, this has made it possible to see that families are resilient and patience and understanding make divorce more unlikely.

For Veronica, major support came from three people who in these years have always supported her: two of them (Andrea and Stefania), with a good app for translations, will better understand the content of this book. The third person I thank has a natural predisposition in judging my work. Thanks, Andrea.