

The Disease of 21st Century: Digital Disease

Olkan Betoncu ¹, Fezile Ozdamli ²

¹ Near East University, Computer Education and Instructional Technologies, Nicosia, Cyprus, Mersin 10, Turkey

² Near East University, Computer Information Systems, Nicosia, Cyprus, Mersin 10, Turkey

Abstract - Constantly changing and developing technological life eases life on one hand, and creates new risks on the other. In the 21st century which is termed as “the age of technology”, computer and internet usage have become indispensable elements of life. Internet addiction has recently emerged as a new type of addiction which came to the agenda with technological developments. Failing to impose restrictions on internet usage, continuing to use it despite its social and academic damages and suffering from excessive anxiety when access to internet is restricted are symptoms of this new type of addiction and is one of the first examples of digital disease types which entered psychiatry literature as of 1990s. These types of recently-defined digital diseases which can be seen at almost every age have turned into a risk factor especially for 12-18 age group. The purpose of this article is to examine the types of digital diseases which emerge out of social media usage and problematic usage as a result of digitalization.

Keywords: Digital Disease, Nomophobia.

1. Introduction

In the 21st century when information is rapidly developing and technological studies are increasing, adapting the innovations introduced by technology to life and using and following newly launched technologies so as to catch up with the age is

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Corresponding author: Fezile Ozdamli,
Near East University, Computer Information Systems,
Nicosia, Cyprus, Turkey

Email: fezile.ozdamli@neu.edu.tr

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extremely important [1]. Technology makes life easier and allows for easy communication, and it is highly important for the people of our age. With technology being adapted to every moment of our lives, digital media, telephone, television etc. merged with new generation technological development and our life improved and changed with these innovations [2]. The changes and developments in technology reflected on communication tools and new communication means added to the literature several new concepts such as media, internet, social media, social networks and internet games. These newly added terms paved the way for sociological, psychological, cultural, global, industrial and economic changes and developments. With the new generation developments experienced in communication tools, psychological changes began to be observed in users. Psychological changes have led to unwitting addiction and even more serious types of disorders in the users [3]. Unconscious usage of social media and the popularization of communication tools altered technology addiction and marked the birth of a new generation of diseases called “digital diseases”. Digital diseases vary according to the internet usage habits of individuals [4]. This new type of addiction, which can be witnessed at almost all ages, has become an important risk factor especially for young users [5]. The literature search revealed that there was very limited number of studies on the research concerning digital diseases.

As a result of the research it has been determined that there were very few studies which aimed at performing a literature search on digital diseases. In this context, it is believed that this study will be beneficial for future studies on digital diseases. It is expected that the data to be obtained will be useful in obtaining information on the progress of diseases of new generation and psychological outcomes.

2. Digital disease

Internet is a huge web which ensures that millions of networks on earth are combined and communicate and work in harmony. The structure of the technology age that we are witnessing today has changed since the internet became popular in the

society. Although new technologies play an essential role in the changes of human life, it is basically internet which continues to alter the entire social structure [5]. It resulted in changes in human personality as well as human structure. These changes created a new generation that we can call “virtualism” and its followers, “virtualists” as well as their unique life style. The new generation of life, virtualism, created its own disease: internet addiction” [6].

Virtualism managed to attract people of every age, especially the young generation, and resulted in the emergence of “digital disease” problems which can be experienced by almost everyone. The ease of access to virtual platforms attracted the attention of people and allowed for performing various works with little effort. If one suffers from loss of sense of time, antisocial behaviour, isolation from the community and entering into many more emotional awareness when he/she becomes distant from virtual platforms, it can be said that he/she is in the midst of virtualism [5]. Constant development and being included in daily life of technology ensures more sense of usage and satisfaction in its users which, in turn, resulted in the need for internet and mobile devices that we always want to have with us. Digital devices which completely change the periodic structure of the society can be compared to the opium addiction which affected the entire world in late 1800s and early 1900s, the heroin addiction in 1970s and the ecstasy addiction in 1990s. 21st century brought about different and new addictions. “These are: talking on the phone, texting, internet, computer or computer games, iPod and similar smart devices. Just like heroin or drug addiction, these new technology products enslave the entire personality and turned into a disease called “digital disease” which claimed its place in life.” [6].

3. Popular digital disease types

The developments in technology, popularization of digital devices and unconscious usage of social media negatively affects human health and resulted in the emergence of several digital diseases. Developments in mobile devices made sure that they fit in the palm of a person, and the fact that all platforms can now be used as both phone and computer, has increased the addiction for digital services, increased the addition for screen and mobile devices and the benefits of technology were outweighed by some negative digital disease types. The widespread types of digital diseases can be listed as follows:

Nomophobia: short for “no mobile phobia”, nomophobia is defined in clinical psychology as “the involuntary fear experienced by a person when

he/she cannot reach mobile device or communicate through his/her mobile device” [7]. Nomophobia basically indicates to the behavioral disorders, anxiety disorders or changeable mood that occurs as a result of addiction of persons to mobile devices. A nomophobic individual begins to feel fear and anxiety when they do not have their mobile device with them which affects them negatively [8]. Nomophobic individuals can suffer from sleeping disorders as they constantly check social media platforms with their mobile devices and focusing problems as their anxiety level increases [9]. The concept of nomophobia was first introduced to the literature by a study on mail management which was conducted in England in 2008. The study found out that more than half of the 2100 mobile smart phone users suffered from nomophobia. An examination of the research data shows that male participants were subject to higher nomophobia risk compared to female participants. “58 percent of male participants and 48 percent of female participants stated that they felt anxiety of running out of battery or airtime units, or having their phone stolen, or being out of coverage area.” Further examination of the study showed that “more than half of the users “it became clear that more than half of the users never switched off their mobile phones and in every five minutes they checked if their phone was working or if they received any call or text. In another study it was found out that participants checked their phones 34 times a day on average” [10]. Another study was conducted with 1000 participants in England in 2012 and concluded that 66% of participants suffered from nomophobia disease. A majority of the participants stated that they took their smart phone everywhere they went, and kept it in proximity even when they were sleeping. The results of these two researches conducted in England show that there is significant increase in the ratio of people suffering from nomophobia. The latter research indicated that females (70%) had higher risk of catching nomophobia than males (61%) which is its main difference with the former study. “According to the studies, the observation rate of nomophobia among females in England increased faster compared to males in four years and surpassed the ratio of males. The study conducted in 2012 showed that 18-24 age group was subject to higher risk with the rate of 77% followed by 25-34 age group with the ratio of 68%. It was also found out that the 55 above age group ranked third in terms of exposure to the risk” [7]. The study conducted at Mingle company in France in 2012 examined 1500 mobile phone users and 22% of the sample stated that they could not spend even one day without their mobile phone. This ratio increased to 34% in 15-19 age group and 29% of the participants confessed that they could spend 24 hours

away from their mobile phone but this would be a “very difficult situation” whereas 49% stated that it would not be a problem [11]. Studies conducted on the topic in Turkey used an adaptation of Problematic Mobile Phone Usage Scale developed by Bianchi and Phillips [12]. The scale was adapted to Turkish by Şar and Işıklar [13] but did not report any findings concerning problematic phone usage. Another study used the adapted version of another problematic phone usage scale developed by James [14]. The adaptation was performed by Sevi et al. [15] and named as Mobile Phone Inventory (CTE) and looked into the relation of mobile phone usage in Turkey with personal characteristics. The mentioned study found out that increase in mobile phone usage was related to being passive aggressive, diffident, socially incompatible, obsessive, addicted or anti-social, frequent depression and anxiety.” A study which was conducted in Turkey with 537 undergraduate students used the Turkish version of nomophobia scale developed by Yildirim and Corra [16] and aimed at measuring the prevalence of nomophobia among undergraduate students for the first time. As a result of the study, 42.6% of undergraduate students showed nomophobia disease and stated that their biggest fear was being unable to communicate and reach information.” Further examination of the research data shows that female students displayed more nomophobic behavior compared to male students, and that age and smart phone usage history did not have any significant impact on nomophobia. Another study conducted on 312 undergraduate students showed that there is negative relation between nomophobia and academic achievement of undergraduate students [17]. Studies show that nomophobia in the world is spreading rapidly as an important psychological problem of our age. Nomophobia causes damage to human health considering the stress, anxiety and worrisome it creates in the individual and its pace of spread [18]. Detailed examination of the study shows that “the symptoms of nomophobia are: 1. Using smart phone regularly and spending too much time with it/them, possessing one or more mobile device and always keeping around their chargers, 2. Feeling anxiety in case of losing mobile phone, being away from it, being unable to locate it, being out of coverage area, and running out of battery or airtime units and trying to avoid places and situations where mobile phones are not allowed, 3. Frequently checking the screen of the mobile phone for calls or texts, 4. Keeping the mobile phone open for 24 hours and sleeping with the mobile phone in bed, 5. Keeping face-to-face social interaction limited as it causes anxiety and stress and preferring to communicate using new technologies, 6. Suffering from huge costs and debts due to using smart phone” [18].

Cyberchondric: hypochondria is a situation when a person believes in having a serious disease although he/she has none or a few of the symptoms of that disease. The term “hyperchondria” refers to almost the same of that disease with the difference that the person uses internet in order to search the symptoms; it involves the idea that there is a disease despite it does not exist in reality. Thus, although collecting information from internet is a beneficial tool from a number of perspectives, this modern disease can increase anxiety in individuals and lead to financial problems due to attempts to find a diagnosis of an imaginary disease [19]. According to Taylor [20], cyberchondric is a type of disease which leads to anxiety in individuals based on even well-mannered symptoms that cause excessive researching and misinterpretation of health information in virtual environment. Cyberchondric can lead to baseless anxiety in individuals for their health, or lead to self-diagnosis or requesting special treatment from different providers for an existing disease [21]. Studies show that searching health-related information on the internet caused anxiety and mood disorders in some individuals [22]. “Cyberchondria and the intolerance of uncertainty” makes other resources talk in this process. The study conducted by Fergus [23] addresses a variable defined as the intolerance of uncertainty. Fergus used a scale consisting of 12 items which examined the way respondents answered the question “I would like to know what future is preparing for me” and aimed at determining their cyberchondric situations [23]. The scale effectively displays the extent to which individuals are cyberchondric. “Hypothesis is that in the United States of America it is in direct proportion with anxiety in adults.” The study aimed at measuring the impact on health of checking diseases in internet environment. The design of the study is to take 512 “medically healthy adult” samples and compare them with their cyberchondric anxiety levels [23]. The hypothesis of the study was supported and it was concluded that the cyberchondria levels of examined individuals indicated higher anxiety levels which displayed significant differences [23]. White and Horvitz [19] conducted a study in 2009 and found out that approximately 38% persons who sought medical information on the internet suffered from heightened medical anxiety. Despite experiencing problems which increase parallel to health-related information seeking, several people continue to perform online research repeatedly. Starcevic and Berle [24] claimed that individuals exposed to cyberchondria can abuse internet for other purposes as well. Abuse of internet “problematic internet usage” is indicated by Shapira et al. [25]. In his study, Davis stated that both types of abuse of internet increased subjective problems.

Considering similarities, they claim that cyberchondria could be seen as another type of PIK.

Fomo (Fear of Missing Out): Fomo is defined as a result of the studies conducted by American scientists and translated as “the fear of missing out” in Turkish [26]. With the popularization of internet and mobile devices in human life, Fomo emerged as a new type of addiction which resulted in individuals spending too much time on social platforms with the fear of missing or not being informed of the developments on social platforms [27]. Dossey [28] defines fomo as the widespread anxiety of being able to possess rewarding experiences on social platforms. Fomo is basically defined by the desire to be in contact with what others do; thus, being unable to follow the updates of their friends or themselves disturbs individuals with fomo. People with fomo state that they always feel lonely when they are not spending time on social platforms, and they try to complete the love, compassion, information sharing and spreading which they lack in their relationships [29]. According to Przybylski, fomo is seen as the most important element concerning the increase of usage of social platforms. Fomo “levels are mostly found to be higher in young people and males, and it reduces general life satisfaction and contentedness” [27]. Studies show that fomo is popular among drivers and students who use social media during class. Social media usage causes fomo individuals to usually avoid people. They prefer social media to face-to-face communication which makes their loneliness deeper [28]. Studies show that, as is the case in the world, the ratio of regular internet users and the days spent on social network increases on a daily basis in Turkey. “We are social” agency conducted a study in 2015 and shared detailed information on internet, social and mobile world of 30 countries; the study reported that in Turkey there were 37.7 million active internet users, 40 million active social media accounts and the active social media accounts showed an increase of 11% compared to the previous year. It is also reported that users spent 4.5 hours a day on average on internet and approximately three hours on social media [30].

Further examination of the literature shows that there are too many types of digital diseases. Most studies conducted globally seem to examine nomophobia, fobo and cyberchondria; however, different types of digital diseases can be encountered. According to the news published in the *New Scientist*, one of the leading medical magazines of England, internet which binds millions of people to computers causes several interesting diseases such as ego surfing, blog exhibitionism, YouTube narcissism and wikipedialism. As an example, ego surfing emerges as a type of digital disease. Ego surfing

indicates the tendency in some individuals for researching their names online and following their own actions in certain intervals as a result of the development of technological devices. This type of individuals caught a new generation of digital disease which is called ego surfing or online narcissism. In other words, ego surfing is the disease of not being able to restrain oneself from following the shares, likes and comments of others about themselves [31]. Another disease is Google Pursuit. Google Pursuit basically involves an individual constantly searching the people in his/her environment in search engines and pursuing what they do online. Further examination of the literature explores another digital disease called Myspace Impersonation. Myspace Impersonation is defined as the will of a person to act as if he/she is another person and play a different role on social media platforms [33]. Another type of disease, Photolurkig, is defined as being stuck in the visual content of social media accounts for hours, losing sense of time [34]. More detailed examination of studies explores another type of disease called Cheese podding. Cheese podding disease is defined as downloading “mp3” or music from various internet platforms during the time spent on the internet. In Cheese podding disease the individual does not listen to the music that he/she downloads [35]. Another type of digital disease, Infornography, is derived from the word pornography and indicates the effort to appease one’s hunger for information on the net” [33]. In the digital disease type called Facebook Depression, Facebook and similar social media platforms result in a tendency for depression on some individuals [36]. Facebook Depression mostly includes young girls constantly talking about their disappointments and similar topics which has a negative impact on others [37]. Another type of disease, internet nerve, is explained as an essential source of stress on individuals caused by low performance due to mobile and computer devices or other problems [35]. The digital disease type called YouTube-Narcissism is defined as a disease of constantly loading one’s videos so that he/she can be known better by others [34]. Another type of disease, wikipedialism, consists of making contributions to the internet encyclopedia, sending one’s own contents to Wikipedia platform and reviewing the existing texts [34]. Finally, another type of digital disease is Crackberry disease. CrackBerry is the nickname used for obsessive BlackBerry users. The user name reflects the coercive nature of BlackBerry. This ensures that with wireless coverage e-mail messages can be sent to and received from everywhere [38].

4. Discussion, Conclusion and Recommendations

Technology is basically the sum of tools, applications and components developed for serving one's goals and "the engineering applications and tools in the hands of a culture". In short, it is the rebuilding of technology in accordance with the periodical needs of users [32]. Identifying the needs of users and developing appropriate and convenience tools makes the concept of technology acceptable and usable without questioning. Accepting and using technology without questioning is the most important evidence that it has an essential power of influence on the society. Developed technology establishes a connection between its users and their lives. This connection is classified as biological and technological. The research attempts to emphasize the biological evolution dimension, which is realized in accordance with the relation established by the individual with his/her environment. For example, as we can show examples from both communication theory and interaction theory, "people want to affect each other, and realize mutual interactions; they also have a preference of how they want to be perceived, as a result of which they desire to use social media network, internet network, technological tools more". This is due to the fact that people want to be a part of a group or belong to a group, not to be held back by others and always be one step ahead of others, which is a utopia created by themselves [3]. As a result of these utopias created by a person, they begin to think that technology and digital devices make them more modern and popular which will make a difference between them and other people. Considering 21st century, it can be seen that the judgments presented enjoy a high rate of accuracy as in the century that we are in, a lack of digital devices is seen as an essential deprivation. Based on this opinion of individuals, in the 21st century users of digital tools give much more value than other life priorities and promote them to the post of most important part of their lives. This, in turn, results in addiction in users. Using internet is not seen as addiction; however, abusing it and using internet for long hours can bring the users to a dead-end. These dead-ends appear as digital diseases which lead to various psychological disorders in individuals. Although the individual feels free in digital society, he is actually double caught in a trap [3]. Further studies on digital diseases would provide essential data on their symptoms on individuals. It is believed that the literature review will make useful contribution to the new studies in the field and provide guidance. An overview of the literature shows that most studies examine nomophobia, fomo and cyberchondria. It is thought that new studies which will be conducted on

other types of diseases would make essential contribution to the depth of the research.

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