

## THE IMPACT OF MODERN TECHNOLOGIES ON LIFE IN A PANDEMIC SITUATION

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### ABSTRACT

**Aim.** The Covid-19 pandemic situation has affected all sectors of our society that have been in direct or indirect contact with humans. The virtual world, which did not concern many people until the onset of the pandemic, began to be a major part of the solutions to everyday situations in life.

**Concept.** This study addresses the advantages and disadvantages of using modern technology and points to a number of studies that positively or negatively affect a person's personality through the virtual world. The authors of this study



worked with specific texts, using textual analysis, analytical and synthetic methods, and pointed out important studies that draw attention to the connection between the social situation and the use of modern technologies.

**Results.** The study confirms that the pandemic situation requires constant access to virtual reality through modern technological devices that allow all people in society to contact each other, regardless of age, gender, job classification or position, role. At the same time, it is very important how we will incorporate modern technologies into our lives and what impact modern devices will have on survival and on the real world.

**Conclusion.** The scientific articles and contributions offered in this study point to the use of technological devices, and their advantages and disadvantages for the development of human personality. It is understandable that the virtual world can interfere with our personal and family life, while it is necessary to realize its basic functions, which it offers us for our benefit.

**Key words:** modern technologies, disadvantages, industries, pandemic situation, risks, advantages

## INTRODUCTION

During the two decades of the 21st century, we can see that we live in a world that has been largely penetrated by state-of-the-art technology. A large number of people take advantage of it: technology companies regularly develop new technological procedures, on the basis of which top engineers renovate modern technical equipment, programs and applications to perfection. People use these devices and it affects their quality of life.

The pandemic situation of Covid-19 has also brought a modern phenomenon – a constant connection to the virtual world through modern technologies that should make our daily lives easier. The school world, education, training, health and work have moved more into a virtual world in which, to be honest, not everyone feels confident.

Excessive and timely use of modern technology on a daily basis can have a negative impact on both children and adults; children especially as they watch the environment closely, have a natural need to get acquainted with something new and test it. Even adults often fall under the spell of modern technology some because they have to, others because they want to.

## ADVANTAGES AND DISADVANTAGES OF MODERN TECHNOLOGIES

The advantage of smartphones is that they can connect us to people who are far away from us in a short time, in several ways – by phone call, video call, SMS or through the use of mobile internet and chat applications (Spitzer, 2016).

Since the launch of the Internet, its speed has been steadily increasing. In this way, we can perform many more activities online in less time. Accord-

ding to Jordan Grafman (as cited in Carr, 2011), our brains adapt to multitasking through the use of the Internet. Everyone needs to be involved in social events and through the virtual world (Maturkanič et al., 2021). Although quite frequently this world seems unrealistic and unable to really work in (Čerget'ová Tomanová et al., 2021; Mahrik et al., 2020).

Young people learn foreign languages online, search for information needed to study, book travel trips and shop online (Dočekal, 2019). According to Susan Greenfieldová (2016), the Internet offers a variety of opportunities for entertainment, education and personal development.

Social networks are a medium that provides a large amount of diverse information. Each has benefits that are especially appreciated by young people who are trying to live a modern life with everything that goes with it. In addition to young people, we can networks can also see a generation of middle-aged and older adults who do not want to be embarrassed.

Appropriate use of social networks has a positive impact on people's lives. They are happy when they can communicate with each other easily and quickly. Despite their physical distance, they maintain contact. Among the positive aspects of the use of social networks, it is possible to distinguish the opportunity to start building positive relationships in the real world, the opportunity to gain important information on how to improve health, community building, emotional support, presentation and building one's own identity, self-expression. (Dočekal, 2019).

Other benefits of social networking, according to Susan Greenfieldová (2016), are direct marketing to the consumer; the opportunity to meet; gradually build a career and contact forgotten friends from the past.

The Internet has great potential. At present, it is inconceivable to obtain and send information without the use of Internet search engines, emails or chat applications. They could not be used without the internet (Kormošová, 2015).

Upon receipt of the email, our ego will rise. Emails with attachments can be sent to an individual or a larger group of people in a fraction of a second with a high-speed Internet connection. Email facilitates and speeds up work performance, and helps students study, especially in situations where the online study is necessary. Mutual email communication is a confirmation for an individual that he belongs to a group (Kubíková, 2019).

As stated by Petr Květoň (2020), online games can help children get into a new team, make new friends and improve existing friendships. Adequate time (maximum 5 hours per week) spent playing games brings these benefits of improved visual skills, improved attention and distraction resistance, improved cognitive skills, and makes them able to think more critically in the real world (Květoň, 2020).

Mark Griffiths (as cited in Gránska, 2019) found that teenagers who spend playing games a reasonable amount of time – a maximum of 4 to 5 hours weekly at irregular intervals – have more friends, do schoolwork and find time for sports than students who do not play at all.

The more we use some technology, the more we adapt to its functions. Norman Doidge (2007) argues that when people get used to typing on a PC keyboard and reading e-mail on the screen, the ability to type by hand is greatly reduced and can disappear from our culture.

Insufficient movement and restriction of outdoor activities have an adverse effect on the physical and mental condition of people. The lifestyle that determines the screen disproportionately affects thoughts and feelings, which has an impact on the absence of activities that people should carry out outdoors. The visible consequence of a sedentary lifestyle is that we are gaining weight. The new CT strengthens the individualistic focus on oneself (Carr, 2017).

As mobile internet smartphones are constantly available to us, they have a much stronger impact on us than TVs, PCs and game consoles. They detach us from things and people in our immediate surroundings (Spitzer, 2016).

A large number of studies show that spending time in front of the screen has a negative impact on the brain as well as the social and emotional development of children. Children are unable to function in the relationships necessary for a happy life because they are unable to concentrate. They will carry out such behaviour into adulthood. If we are surrounded by technological devices that constantly offer new stimuli, employ us and satisfy us, we are not ready to succeed in the real world. Children, adolescents and young adults lose patience by performing activities that are strenuous. Modern technologies allow them to find everything they need immediately. The ability to be patient disappears (Chapman & Pellicane, 2016). The negatives of excessive PC gaming include:

- high probability of addiction;
- impaired perception;
- impairment of communication skills;
- bad impact on motor skills;
- the occurrence of sleep disorders and impaired concentration;
- playing in an online space sought after by paedophiles and thieves;
- practising inappropriate behaviour in online games, which may manifest itself in real life in the form of vulgarity and violence against others;
- playing games on a mobile that you always have with you distracts;
- you can unknowingly download a virus to your computer when downloading chat codes (Dočekal, 2019).

Studies have shown that playing violent video games leads to increased aggressive behaviour, greater ruthlessness, and reduced prosocial behaviour (Greenfieldová, 2016).

Gaming has become a social activity and the action in games does not end with turning off the game on one PC, which significantly increases the addictive potential (Blinka, 2015).

It has been confirmed several times that Mark Zuckerberg, who operates Facebook, Instagram, Messenger and WhatsApp, strives to constantly

monitor every user of its applications. To more effectively spy on users, Facebook patented several technologies in 2018 (Harris, 2019).

## COVID-19 PANDEMIC AND MODERN TECHNOLOGIES

The pandemic situation has meant that modern technologies and e-learning will go hand in hand not only in all types of primary and secondary schools but also in higher education (Tomková & Valentová, 2020; Kobylarek et al., 2022). Peter Schmidt (2021), points out that we do not have to view the Covid 19 pandemic in all its aspects only negatively. There are areas where the situation has managed to move things forward. One of them is education and, in particular, new forms of the educational process at all levels of schools. Many forms of e-learning and distance learning through information and communication technologies have been here for several years, but they have not yet seen such a step forward as in the past.

As stated by Qurbanbayeva Nilufar Ilkhamovna and Ismoilova Manzura Sultonovna (2020), they help to develop students' knowledge and skills, their personalities and interest in learning. Devices have built-in features that support communication and multimedia use. They offer students an effective way to work with both written and spoken language. They can be used to connect to the Internet and make teaching more interesting.

Viera Labudová (2021) adds that the education systems had to adapt very quickly to the new situation, and they did so, and on the basis of this situation, they switched smoothly to online education. As Tatjana Samkina stated (2021) The materials should not only be interactive but also satisfying, especially during the COVID-19 pandemic, when we are forced to stay at home for months 'in the classroom

The pandemic situation affected not only digital world and modern technologies; it had impact on the human body as well. Physical activity is one of the methods with the greatest impact on a good quality of life. The broadly understood movement is used in the prevention and/or treatment of many psycho-physical diseases. In addition, it improves the functioning of all human physiological systems. Nowadays, people use modern technologies such as smartwatches to keep them active during the working time (Rottermund et al., 2020). While fighting against Covid-19, it is impossible not to use other available forms that increase the vitality and immune strength of the human body. Physical activity is a good way of prevention and therapy. A commonly used term in the literature is any form of exercise that increases metabolic demand (Rottermund et al., 2021). According to study by Eugen Ruzický, Ján Mašán, Miron Šramka (2021), artificial intelligence can support rehabilitation for post-COVID-syndrome and many tools capable of providing assistance in this health emergency have been developed.

The pandemic situation has also brought changes in the trend of shopping and surfing culture for the purpose of selling goods. As stated by Ľudovít Nastišin (2021), Peter Malega, Juraj Kováč and Vladimír Rudy (2021), brands must adapt to the new changed conditions and thus they must adapt these skills to the new trend - online shopping.

At the same time, however, we know from the practical experience of a social worker and a health professional that the biggest effect of a pandemic situation is the psychological burden on a person, especially when working with the sick, elderly or people in difficult life situations. It is pointed out by, for example, Peter E. Wu, Rima Styra and Wayne L. Gold (2020), Jianbo Lai, Simeng Ma, Ying Wang, et al. (2019), Han Xiao, Yan Zhang, Desheng Kong et al. (2019), Gloria Rambaldini, Kumanan Wilson, Darlyne Rath et al. (2005).

The use of mobile devices has also a great benefit in healthcare. Eveline Hitti, Dima Hadid et al. research into the use of mobile phones (2020) has found that they enable better coordination of healthcare between healthcare providers and are beneficial in patient care. The use of these devices by healthcare professionals has changed many aspects of clinical practice. They have become a common part of healthcare delivery, leading to rapid growth in the development of medical applications. These applications help with information and time management; maintenance and access to patients' medical records; communication and consulting; references and information gathering; patient reporting and monitoring; clinical decision making; medical education and training. They have also brought many benefits that allow them to make faster decisions with lower error rates, increase the quality of management and data availability, and improve the efficiency of practice and knowledge. These benefits have been shown to have a positive effect on patient care outcomes, as evidenced by a reduction in a hospital stay. Some patients who were not helped by morphine tried to treat severe burns using the PC game *Snow World*, which is played with virtual reality goggles. The result was pain relief in the range of 60 to 75% (Kubíková, 2019).

Modern technologies are part of daily life activities and they also help to improve and increase active citizenship, especially during the coronavirus pandemic. Many of the volunteering activities started from basic human initiatives to professional social and health care (Radkova & Cintulova, 2017).

The pandemic era has also brought religious expressions into the virtual world of modern technology. While in other areas of social life it was possible to some extent to replace the impossibility of personal encounter and direct contact, in religious manifestations this phenomenon proved to be on several levels. The use of modern technology has helped to overcome the barrier created by measures to help eliminate the possibility of an infection. Another level of this situation is the fact that the online contact of believers with their clergy has, in several cases, raised the question of the need for

personal contact for a full understanding of the manifestation of faith. As for the Catholic Church, or other Christian communities, the essential need for meeting in the context and the etymological basis of the word “church” can be clearly seen. In Greek, the term Εκκλησία, which is used to refer to the Christian faith, has been used since the days of the Greek city-states to express the people’s assembly. Even the oldest Greek philosophers sought the truth in joint meetings and debates (Ďatelinka, 2021). The name’s understanding of the Church makes it possible to understand the important dimension of the gathering of believers professing a Christian worldview. The influence of the pandemic situation made it possible to understand that the believer’s inner perception of other members of the Church, expressed by the desire to meet, is not only an effort for psychological-human enjoyment but is an essential and significant element of Christian communities as such. Modern technologies have to some extent helped to come out of isolation in the religious field as well, but the need for human contact can never be fully replaced by anything other than a personal encounter with the Church (Petrovič et al., 2021).

## MODERN ADDICTIONS

Modern addiction is a disorder that has been noticeable to people for the last two decades and it included gambling, internet addiction, addiction to excessive TV viewing, mobile phoneism, workaholism, shopolicism (Vasilescu et al., 2011).

Internet addiction is the inability of an individual to control how he or she uses the Internet. It leads to feelings of distress, anxiety and functional impairment of daily activities. It is excessive use of the Internet, in which people experience psychological and social complications, especially when performing work activities or studying. It is a psychological non-substance addiction (Holdoš, 2013).

Disorders associated with the use of the Internet and technological equipment can be classified in MKCH-10 under category F.63 habits and impulse disorders and in subcategory F.63.8 – other habits and impulse disorders (Národné centrum zdravotníckych informácií, 2021). In May 2019, the WHO included IDC-11 addiction in online gaming (Kubíková, 2019).

Psychologists are anxious and alarming when they compare Internet addiction to alcohol or drug addiction. Research conducted (Greenfield, 1999; Morahan-Martin & Schumacker, 2000, 2003; Chou, 2004, Wang et al., 2003; Šmahel et al., 2009) on the topic of internet addiction shows that during a long and uncontrollable “stay” on the internet, changes in the state of consciousness and in the functionality of the brain take place. Gradually, this leads to a loss of the ability to learn and think deeply.

According to the research by Juraj Holdoš, Róbert Ďurka et al. in 2015, 3% of children in Slovakia were dependent on the Internet. Internet Matters

(non-profit organization) ranked among the most addictive games *Roblox*, *Overwatch* and *Star Wars Battlefront*. In the PC world, it is about cyber addiction, t. j. addiction to playing PC games and addiction to social networks. We also know the morbid fear of losing a mobile phone and the concept of FOMO. There is still an addiction to sick search and sharing, addiction to news, which can lead to excessive brain overload with various information from all available websites, addiction to watching online videos, addiction to watching porn sites (Dočekal, 2019).

Nomophobia is the fear of being detached from a cell phone. The mobile phone becomes an integral part of the addict's life (Koničková, 2020).

Gerald M. Fenichel argues that Fb can also create its own version of addiction. The influence of Fb puts important daily activities behind. He also introduced the term FAD failure, t. j. a condition where people spend so much time on Fb that it affects their health and balance of life. It affects 350 million people.

## CAUSES OF MODERN ADDICTIONS

Excessive use and visiting of social networks, frequent checking of notifications, liking, watching photos and videos as well as excessive playing of online games on devices can be common causes of modern addiction (Šavrnichová et al., 2020).

A key factor in understanding why social networks are attractive is that there is the opportunity to reveal their privacy through them. Man as an animal species has a great desire to open up to others. Diana I. Tamir and Jason Mitchell In Susan Greenfieldová (2016) proved that sharing personal information on social networking activates the reward system in the human brain similar to quality food or sexual intercourse.

According to statistics, 50 million users had access to a cheap internet connection in less than 5 years in the first decade of the 21st century. Apple has sold 50 million iPhones in 3 years. If we compare this data with radio broadcasting, it took almost 40 years to gain 50 million listeners (Spitzer, 2016).

All technology companies are looking for a way to keep the attention of their users while avoiding allegations that their actions cause harmful dependence on a large number of people around the world. Technology giants – Google, Facebook and Twitter – admitted for the first time in 2018 that they are causing dependence on their users. Their business model is built to keep their customers online (Harris, 2019).

Lusting on social media is like cigarette plucking, says David Greenfield (2009) in his studies of Internet addiction. He points out that social networks are intentionally created to create dependency. He believes that technology companies should pay for contributing to the deterioration of the health of the general public.



## CONCLUSION

Modern technologies in a pandemic situation not only help to make life easier but also become an essential part of everyday life. The pandemic situation has caused many activities previously carried out in the outside world to begin to move into families and small individual communities that require connection to the virtual world. Modern technologies have many advantages that we may not have used before and that we had no idea about. However, they are also responsible for the emergence and negative consequences of the emergence of modern addictions, which can have tragic consequences not only for the individual but also for the wider group.

There are several studies that have compared changes in the brain of drug addicts and the Internet, and pathological changes have been similar. When we do not reach dopamine levels, there are psychological consequences sadness, aggression, despair, abandonment, nervousness. There are no physical withdrawal symptoms. Changes in the brain, yes. (Holdoš, 2013, p. 53)

Dependence on some part of the Internet or on technological devices can manifest itself in various communication variants, maladaptation, intolerance, different principles of coping with stressful situations or broken family relationships. It is typical to constantly go to the Internet and regularly buy new technical equipment (Kormosova, 2015).

Among the main manifestations of the symptoms of prominence were most often identified thoughts of the current online day, spending a lot of time online and craving. In the mood change dimension, respondents described the most common categories of relaxation and excitement/joy. Tolerance manifested itself in excessive spending time online, connecting anywhere and creating new accounts and profiles. The most common categories in the symptoms of withdrawal symptoms were identified: nervousness/restlessness and anger/irritability. In the field of interpersonal conflicts, these were the categories of conflicts with close people, restrictions on social contact and deception. Intrapersonal conflicts manifested themselves in the general conflict to be online and not online, and in specific conflicts such as online work/study or online duties. The reported time span of the relapse ranged from the previous few days to several months (Vondráčková et al., 2015).

New technologies gradually dominate our entire society, so we cannot call modern technology exclusively positive, but also purely negative. It has become an integral part of our daily lives. New technologies and new technological devices increasingly control production and consumption, control our thinking, our behaviour and shape our lives. Therefore, we cannot resist them, we cannot ban them, we cannot ignore them, but we must learn to use them wisely to our advantage.

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