

On Social Media Addiction and Negative Effects in Southeast European University Students During the COVID-19 Pandemic

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ABSTRACT

Students of Southeast European University in distance learning during the COVID-19 pandemic had few opportunities to socialize in person, resulting in a significant rise in the use of smartphones and technology. For educational purposes the use of smartphones generally represented an alternative and turned to be useful but, however excessive use may promote addictive tendencies towards social media use, and at the same time with negative consequences for students' psychological health. Furthermore, with this study, we examined the occurrence of smartphone and social media application use in first year students in distance education at Southeast European University during COVID-19 pandemic. Respectively, we investigate the impact of different social media applications on self- described tendencies toward social media addiction. Respectively, the prevalence of smartphone and social media application use and its relative impact of different social media applications was based on self-reported tendencies by students toward social media addiction. I have interviewed 95 students of both genders who spoke on the use of the smartphone and social media applications, specifically WhatsApp, Facebook, Twitter, TikTok, Instagram, Snapchat, Telegram, Messenger, and YouTube. The whole research was administered during the second wave of the COVID-19 pandemic. Differences in social media addiction with different patterns of social media use were investigated. On average students using WhatsApp and Viber reported the lowest social media addiction compared with students using Facebook and TikTok. In general, we found time spent on smartphone using Facebook.

Keywords: Distance learning, Smartphone, Social media use, Addiction

1. INTRODUCTION AND BACKGROUND OF THE STUDY

Nowadays, the lives of many students at universities in South East Europe are increasingly influenced by new technological devices, including smartphones. When the coronavirus disease 2019 (COVID-19) pandemic hit, digitalization was advancing in all aspects of author's university. Additionally, many students have experienced conflicting psychological and behavioural impacts due to the COVID-19 pandemic, largely due to increased time spent at home and heavy use of technology. Therefore, through this study, we sought to assess the health and social consequences of excessive smartphone use among SEEU students during the COVID-19 pandemic, analysing usage patterns and purposes, and finally, dependency and scope.

This research has been based on self-reporting and anonymous questionnaires was submitted to 95 SEEU students during the second wave of the COVID-19 pandemic. The test has been explained electronically (email) and sent directly from the lecturers to the students. All participants in author's three groups voluntarily participated in the present study. The conducted survey as presented in the next section aims at discovering the purposes of heavy smartphones usage. Moreover, it aims at revealing conflicting results and associated parental behaviours as well as possibilities and degrees of abnormal dependence of young people on such a life style. This research, illustrates students' experiences with smartphone usage during pandemic and pre-pandemic periods, using their corresponding self-reports and answers in the survey questions. The role and goal of this research is to provide a framework for understanding behavioural characteristics and their causes as well as for identifying possible treatments of such phenomena. Such a framework could be easily modified according to their needs and utilized by lecturers while such digital media are in use in their classrooms and where most of the students are busy with smartphones and not with lectures content and studying activities. We will discuss the findings in detail, but this paper will mainly focus on careful analysis of student's experiences.

Students shared their experiences with smartphones before and after the pandemic. Therefore, it is necessary to consider the real causes of smartphone addictive use with students as coordinators or models. And since the COVID-19 situation around the world hasn't completely cleared up at current times, understanding how to effectively deal with smartphone addiction and mental intoxication is of practical importance. It is important to consider students' approaches and practices to smartphone usage. Extrapolating data from student self-reports and questionnaires will help discover new approaches and improve existing ones towards applying more intensively digitalization of teaching in the classroom in general, making, moreover, efforts to inform and educate students about smarter use of smartphones. In addition, this study has assessed the social impact of SEEU students' smartphone addiction and overuse during the COVID-19 pandemic, comparing usage patterns and goals, and the eventual presence and level of addiction with the findings of other relevant studies. There is no doubt that such phenomena are closely related to the social distancing measures implemented by governments during the months this study was performed. Moreover, this study outlines the changing patterns and goals in student smartphone use. A significant increase in addiction to overuse was eventually noted.

2. THE LITERATURE REVIEW ON SMARTPHONE ADDICTION AND ITS NEGATIVE EFFECTS

Many people lives, including students, are now more and more affected by new technological advancements regarding devices and communication methods (smartphones, tablets, social networks and the Web). Clearly, smartphone usage has grown rapidly over the past years globally. In North Macedonia, the number of users is growing steadily, and it is expected to reach approximately 2 million subjects by 2025. Overuse of smartphone services may lead to negative social consequences. The pandemic of Coronavirus disease 2019 (COVID-19) occurred during the frame of a global digital aging of humanity, characterized by rapid connectivity between people with fast and colossal information exchange around the world. Although students and adolescents suffer from lower COVID-19 morbidity and mortality rates than adults, on

the other hand, according to all recent studies, they always present associated adverse psychological and behavioural effects due to the home quarantine and social distancing-imposed policies, including closing of schools or minimum sharing of public spaces.

All of the above measures lead to students spending more time at home and taking full advantage of technical equipment usage. Several literature research reports illustrate that smartphones have become an important part of people's daily life and gradually become popular and regularly left unguarded [1]. COVID-19 provides context for smartphone addiction and, more seriously, mental intoxication to exist. People in the first half of 2020 were living in isolation for several months, and Universities and primary schools could not reopen as planned. In this background, electronic products such as smartphones are particularly important and applicable as digital assistants to adolescents and adults [1-12].

Several studies confirmed the prevalence of smartphone addiction among students to be 27.1% [10] and between 23.3% and 38.9% among adolescents at [4] and, therefore, investigating smartphone addiction from a smartphone's perspective of aims and frequency of use makes sense [2, 13]. Concerning the aims of smartphone use several studies have shown that people of different ages use smartphones for different purposes. For example, adolescents seek to establish an identity, while students expect love and fulfilment as noticed by [12] and at [13-15] Most researchers categorize smartphones Addiction as behavioural addiction, defined as immaterial obsession caused by excessive devotion Various smartphone-mediated activities lead to psychological disorders and altered social functioning as mentioned at [13]. People who are generally at risk for smartphone addiction exhibit negative emotions such as submissiveness, inactivity, depression, hopelessness, blame and self-pity in the face of stress. They often behave withdrawing from social interactions and experiencing adverse effects [9, 10]. As a result, people can misuse smartphones and neglect other areas of life leading to serious smartphone addiction [1]

In March 2020 (severe epidemic period), a published research shows that the per capita consumption of smartphone usage was 30.8h weekly online, in the periods from June 2019 (pre-epidemic stage) and March 2021 (epidemic control stage) Smartphone addiction also shows similar trends. Mobile phone addiction was discovered during the severe outbreak period to be much higher than the baseline control period CNNIC 2020 report [16] and [4]

Other investigations regarding the use of the smartphones during the pandemic, outlined that involvement in communication, social networking and entertainment (video, games, etc.) is the main purpose of why people are using smartphones [11]. Also, previous research has identified characteristics and influencing factors for the frequent personal smartphone use during the pandemic Based on the above situation and community interests, the research in smartphone addiction becomes clearly essential.

3. SETTING OF THE STUDY

COVID-19 and the associated acute respiratory syndrome caused by infection with the novel coronavirus (SARS-CoV-2), was very fast worldwide spread since the end of 2019, starting from China. Then, Italy joined the outbreak, ranking first among European countries during February 2020. The outbreak was then, followed by a rapid distribution to other continents. On March 11, 2020, the World Health Organization (WHO) was forced to declare a pandemic. The present study took place over 2 months,

from February 2021 to March 2021 at that period of the pandemic. At that time, North Macedonia was in the midst of a second wave of the pandemic, it suffered frequent lockdowns due to major epidemiological risks decided by the North Macedonian commission of Infectious Diseases and Epidemiology. Certain approaches to control the spread of the disease were taken and tuned, based on diverse risk scenarios. When the overall risk of transmission of COVID-19 was increased then, the movements of people and the economic and social activities were more limited, in conformance with the Commission on Infectious Diseases and Epidemiology regulations, varied and depending on that specific period infection statistics. Teaching and educational activities and services were irregularly provided. For the students' remaining weeks of attending lectures, seminars and laboratories, distance education (online) has been the only means to assure education delivery at that times.

3.1 Selection of the Study Participants

In this study, an anonymous questionnaire was used to manage two of authors small groups online during the second wave of COVID-19 Pandemic. This test was written by an English teacher. question created in Google Forms They explained it in detail electronically (email, WhatsApp), along with the relevant research objectives and they sent it directly to students 60 in total Students participated and responded in this research. All students spontaneously and willingly participated in the conducted surveys. Their answers were saved in Google Sheets forms and subsequently were analysed.

4. DATA COLLECTION

The relevant questionnaires have been designed to understand how the survey entities regarding smartphones usage including descriptive statistics and research objectives would take place. The use of the smartphones, their impact and their harmful effects on daily life as well as their behavioural implications revealing possible psychological incidents and facts related to uncontrolled addiction and mental intoxication occurring during COVID-19 pandemic will be investigated. The study included Questions about the frequency of smartphone use (i.e. how long a smartphone is used per day, the time between waking up and starting its use, as well as relevant frequencies and descriptive statistics) and the modes and effects of their previous usage before and during the pandemic. The investigation is based on evaluating answered expressions like "most often functions used", "aims of use", "adverse effects "characterising smartphone use. The most frequently used functions included: "telephone call", "social network" *Facebook, Instagram), "games" "education", online chat (WhatsApp)", "photos "videos" and "music". To investigate the aims of smartphone use, we included the following items "boredom", "habit", "pleasure", "game, "communication", "learning", "stress" relied" and "adaptation to others". As for the adverse effects, the answers included "superficial approach to learning", "distraction", "mood modification", "loss of interest", "isolation", "sleep troubles", "ocular adjustments ". Participants gave to each of these four items a score, ranging from 1 (never) to 5 (always). The last few questions were related to the evaluation of eventual occurrence and degree of smartphone addiction, measured by the Smartphone Addiction Scale Short version (SAS-SV). Questions included daily-life disturbances, overuse and tolerance. Responses are rated on a six-point Likert scale ranging from "strongly disagree – 1" to "strongly agree – 6," with higher scores indicating more addictive smartphone behaviour. This

study used the Smartphone Use Motivation Scale compiled by Chen and others [2] based on the theory of IT addiction.

4.1 Statistical Analysis

Data analysis was performed using R version 4.0.4 (Foundation for Statistical Computing). Simple descriptive statistics were presented as frequencies and percentages for categorical variables, and mean and standard deviation (SD) were used for continuous variables. Paired-samples t-tests were utilized to compare smartphone usage trends and data among target populations before and during the COVID-19 pandemic P values less than 0.05 were considered statistically significant.

5. RESULTS

95 participants were included in the study and they came from different regions of the country. Their mean age was 19.84 and the sample comprised of 28.3% males and 71.7% females. All respondents owned a smartphone, see Table 1.

Table 1. Patterns of smartphone use and related adverse effects and parental behavior, before and during the COVID-19 pandemic

Items	Range	Before the pandemic Mean \pm SD	During the pandemic Mean \pm SD	P value
Most frequently used functions				
Telephone calls	1–5	3.33 \pm 1.09	3.80 \pm 1.16	< 0.001
Social network	1–5	3.81 \pm 1.27	4.07 \pm 1.20	<0.001
Game	1–5	2.57 \pm 1.20	2.85 \pm 1.43	0.001
Education	1–5	2.87 \pm 1.26	4.13 \pm 1.05	< 0.001a
Online chat	1–5	3.32 \pm 1.53	3.61 \pm 1.63	< 0.001a
Photos	1–5	3.29 \pm 1.21	3.15 \pm 1.24	0.1
Videos	1–5	3.43 \pm 1.20	3.70 \pm 1.31	0.002a
Music	1–5	3.79 \pm 1.22	3.94 \pm 1.25	0.043a
Aim of use				
Boredom	1–5	3.32 \pm 1.10	3.99 \pm 1.29	< 0.001a
Habit	1–5	3.32 \pm 1.12	3.65 \pm 1.24	< 0.001a
Pleasure	1–5	3.47 \pm 1.10	3.59 \pm 1.20	0.17
Game	1–5	2.55 \pm 1.28	2.82 \pm 1.48	0.001a
Communication	1–5	4.21 \pm 0.93	4.53 \pm 0.80	< 0.001a
Learning	1–5	2.99 \pm 1.09	4.16 \pm 1.03	< 0.001a
Stress relief	1–5	2.95 \pm 1.33	3.34 \pm 1.39	<0.001a
Adaptation to others	1–5	2.37 \pm 1.23	2.52 \pm 1.40	0.082
N effects				
Distraction	1–5	2.80 \pm 1.06	3.32 \pm 1.33	< 0.001a
Mood modification	1–5	2.23 \pm 1.13	2.85 \pm 1.44	< 0.001a
Loss of interest	1–5	2.21 \pm 1.10	2.80 \pm 1.39	< 0.001a
Isolation	1–5	1.94 \pm 1.09	2.57 \pm 1.48	< 0.001a
Sleep disturbances	1–5	2.29 \pm 1.29	2.88 \pm 1.35	< 0.001a
Ocular alterations	1–5	1.94 \pm 1.07	2.78 \pm 1.51	0.001a

5.1 Most Frequently Used Functions

During the COVID-19 pandemic, the participants used frequently than before the following functions: “telephone call”, “social network (Instagram, Facebook)”, “game”, “education”, “online chat (WhatsApp)”, “music” and “videos”. Conversely, for “photos” a statistically significant difference was not observed as mentioned in Table 1.

5.2 Aims of Use

The respondents did not show a variance in the aims of use “pleasure” and “adaptation to others”, before and during the COVID-19 pandemic. They indicated as aims of use more frequently the following ones: “habit” “stress relief” boredom” “communication”

5.3 Adverse Effects

All adverse effects related to smartphone usage were significantly more frequently reported in the study population during COVID-19 pandemic, compared to the pre-epidemic period: “distraction”, “mood modification”, “loss of interest” “isolation”, “sleep disturbances” and “visual alterations”.

5.4 Smartphone Addiction

In the pre-epidemic COVID-19 period, among the study respondents, 58 (31.5%) were found at high risk of addiction, and for 48 (26.1%) of them addiction has been recognized. During the COVID-19 pandemic, addiction was charted in 86 (46.7%) of the participants, while those at high risk were 50 (27.2%), see Figure 1.

6. DISCUSSION

Although Although the current survey was addressed equally to both men and women as it herein presented the engagement of women was significantly greater than that demonstrated by men. This may reflect the increased girls' level of concern and interest in related initiatives compared to that of boys' regarding technology effects. Despite the limitations of unbalanced representations for the population analysed, either regarding gender or geographic origin, however, the validity of the results obtained is most likely to be unaffected, again given the overlapping conditions of different student backgrounds, with regards to financial, social and school context status during the pandemic period, when the average daily smartphone usage of students has been increased significantly. This behaviour can be explained due to the widespread use of smartphones for playing many different roles during the COVID-19 pandemic. This is of course expected given the potential and versatility of smartphones as sources of communication, information and entertainment In fact, smart phones deliver a combination of services provided by the web as well as services related to unique mobile phones operations, permitting remote and distant communication and information flow in the users network. At this period of confirmed social separation, as outlined in this research, people relied more on these useful aspects than on normal conditions. Therefore, our research shows that during the pandemic, there has been an increase in Smartphone functions such as phone calls, phone calls with video, live chatting and social media networking. Of course, this attitude shows a reflection of physical relationships and ties within family members as well as a reflection of friends related relationships, due to strict social conditions affected by the Quarantine measures taken by the authorities. Usually, during COVID-19 pandemic communication devices

seem to be the only medium for keeping intact human relations, which has almost replaced face-to-face interaction, becoming gradually the only channel for socialization Connections, especially among young people and students.

In addition, smartphones somehow give students the opportunity to continue their schooling and education. Indeed, the partial and sometimes total closure of schools during the COVID-19 pandemic has forced us to create and use online learning platforms, which have had an educational and psychological impact on the lives of students and families, as improved technical skills are required, as well as new learning methodologies become prerequisite together with sufficient digital infrastructure including Internet availability and connectivity of all required digital devices. All online learning sessions lead to more screen time consumption behaviour, which in turn increases the likelihood of students being distracted via social media. Additionally, increased digitalization has widened the “education gap” between households, with poorer students particularly affected, as they are less likely to have a quiet place at home to study and study online, or as they don't have their own Digital devices to connect with easy and quick access to online education As a result, many students report that the COVID-19 pandemic has impacted their learning, while the quality of online teaching is perceived to be lower than what actually is provided, and pandemic-related anxiety has had a negative impact on students' academic performance. Our survey clearly confirms that smartphone usage for entertainment purposes has become more common during the pandemic. The amount of interaction between family members or friends due to the SARS-CoV-2 coronavirus increases the students' level of anxiety. They then reported that smartphones were helping them to tolerate and manage negative emotions, stress and feelings of isolation. However, smartphone addiction has become more common than it was during the pre-pandemic period. Coupled with the many negative effects of its overuse such as depression, social problems, anxiety, low self-confidence, stress, and poor academic performance, it leads to poor classroom concentration and a more superficial learning style. Indeed, our students have experienced sleep disturbances and eye changes during the COVID-19 pandemic. Overall, student screen time consumption attitude has increased dramatically during the pandemic, and this is the driving force for the students to be addicted and become mentally intoxicated. Figure 1 depict the subject at high risk before and during the COVID-19 pandemic.

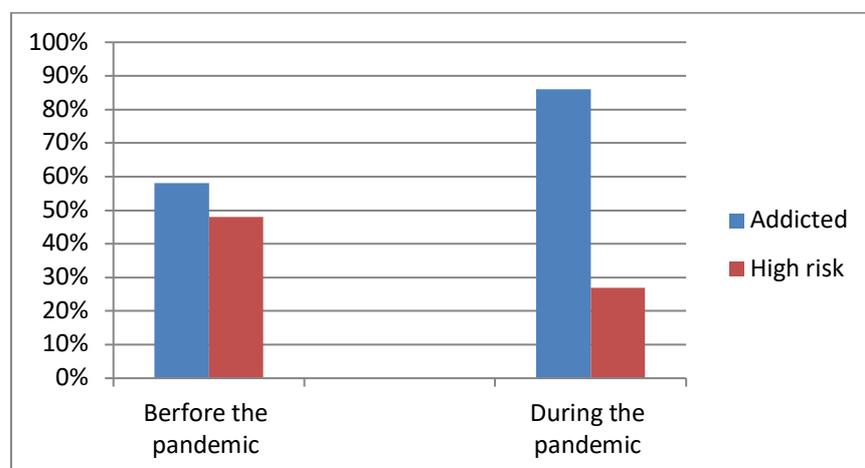


Figure 1. Subjects at high risk and with smartphone addiction, before and during the COVID-19 pandemic

7. CONCLUSION

Current research focuses on smartphone addiction during and before the COVID-19 pandemic. A survey of 95 students found that SEEU students use their smartphones more frequently during the COVID-19 pandemic than before the pandemic. This is unconditionally linked to the social distancing measures taken during the months of this study. At the same time, the study revealed changes in the pattern and purposes of student smartphone use, which limited some of the impacts of the crisis. In fact, smartphones have been used for many purposes, such as relationships, learning and entertainment, providing psychological and social support, But at the same time, overconsumption and addiction have also increased significantly. All this leads to new, very unfavourable situations, such as sleep disturbances, mood changes, loss of interest, superficial learning methods, isolation Teachers or healthcare professionals should already be aware of the risks associated with inappropriate and excessive smartphone usage during the pandemic Teachers should also work with parents to monitor adverse effects to identify early signs and symptoms of high-risk behaviour for addiction.

8. STUDY LIMITATIONS

The present research explores the effects and aims of smartphone use during the pandemic and pre-pandemic period and its addiction and as such has important theoretical and practical implications. However, it also has some limitations, which permit further reflection in the future. First, the study takes age of students as representation sample to investigate the smartphone use and addiction.

However, Erikson divides human development into eight stages due to the development of electronic technology, people's needs so in the future we can make a more detailed division of age, such as children', adolescents, middle aged and elderly.

CONFLICT OF INTERESTS

I confirm that there is no conflict of interests associated with this publication and there is no financial fund for this work that can affect the research outcomes.

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