



Proceedings of the  
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**Path to a Knowledge Society-**  
**Managing Risks and Innovation**

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Stanković, M. and Nikolić, V.

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# **PaKSoM 2022**

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# The Influence of Mobile Phones on Children and Youth - General Overview

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**Abstract**—The impact of technology on society and the individuals has increased rapidly in the last thirty years and has reached the stage to shape both society and the individual. The paper studies the impact that mobile phones exert as mobile phone devices and all the technological extensions it has gained. It focuses on the impact it has on children and young people as groups that, unlike previous generations, grew up or were born with this technology. The impact is produced in the social sense and at the level of the individual, in social, cultural, educational and all other impacts that arise from the above.

**Keywords** – mobile phones, children, youth, education, violence

## I. INTRODUCTION

In the last two decades, the digital revolution has unstoppably conquered the world, creating new generations that are significantly different from the previous ones. Young people and children, born at the end of the last century towards present, consider a mobile (smart) phone as part of their living space. The mobile phone has become an indisputable source of entertainment and information in terms of individual and collective games, a medium for music, movies, for creating photos and videos (and also uploading them to social networks), video chats, surfing the Internet and more in addition to its basic functions—conversations and text messages. That is why they spend a large part of their time with a mobile phone in hand. These are the generations to whom the Internet, computers and mobile phones were given at birth, and they grow up with them, almost unaware of the world in which these gadgets did

not exist. Their habits are different and structured in terms of information technology. Dependence on these gadgets is increasing, and as this drastic change happened in a short period of time, part of the older users (i.e. parents of children and youth) remained insufficiently informed about the advanced capabilities of mobile phones or it is difficult for them to follow the rhythm and content of the novelties.

The issue of the consequences of using mobile phones has become a new and very dynamic area of research, so more and more is being written about the consequences of using these innovations on the intellectual, emotional and social development of children and youth. However, the opinions that can be found in the professional literature are often polarized. Many believe that mobile phones can lead to significant successes in the education of children, as well as being a useful tool to establish communication between young people from different cultural and linguistic backgrounds. Contrary to them are those who express the fear that the use of mobile phones can lead to a weaker mastery of basic operations (reading, writing and calculation), and there is also a fear that children and young people who spend too much time with a mobile phone can become isolated and end up in a situation where the mobile phone is their “best friend”; therefore, they might be deprived of the social relations that are necessary for their normal development in the social sense. “Namely, the media can have both positive and negative impact on different areas of children’s development. Whether the negative effects will occur, depends on numerous factors and the way

the media are used” [1]. The same goes for the mobile phones.

## II. PSYCHO-PHYSICAL DEVELOPMENT OF CHILDREN AND YOUTH AND MOBILE PHONES

“In developed and moderately developed countries (such as Serbia) a great deal less children spend the dominant part of their free time outside, playing with peers, while an increasing number of children spends hours with their mobile phones, in the so-called virtual world, with contents and programs that are not usually adapted to their age and needs” [1]. This is also related to a growing concern of the public (especially professional one) about possible harmful effects of electromagnetic radiation that the mobile users are exposed to, with children being the most vulnerable since they are in the stage of physical development [2,3].

Just like a television program, the mobile phone has the power to hold the user's attention often much longer than he would really like, and that is useful for him. This is true for adults, but even more so for children. Because, if adults, despite their greater level of development and experience, are not immune to the “charm” of mobile-smartphones, why should we assume that children are able to resist it and focus on the advantages of using them... Children mostly choose to communicate with their peers, watch short video content and play video games. In this way, the media and their channels increasingly become the main agent of socialization, from which they displace school, family, and even peers from school, thus influencing the entire formation of values and behavioral styles of the young generation. With the Internet (which children and young people primarily follow using mobile phones), concern for others “dies” - the quality of dialogue between peers is drastically reduced, the boundaries of time are lost because the Internet is available (almost) everywhere and is present non-stop. With Internet one has no limits regarding the amount of information and manipulations. Practice and experience show that socially and emotionally insecure children are more prone to media addiction. In contrast, communicative youngsters put the media on the back burner and spend more time interacting with people [4]. Thus, this condition produces Internet addicts, which modern medicine has long recognized as a disease... This gradually leads to “digital narcissism” [5].

The study of one Internet company, which included 2,200 mothers of children aged two to five, namely from the United States, Canada, Japan, Australia, New Zealand and some European countries, has provided interesting but also disturbing results, although one cannot regard these as being too surprising. Almost 19% of these children know how to use the applications on smart phones, while only 9% of them can tie shoelaces, and only 20% can swim. Thus, tested children cope better with computer games and managing smartphones than independently tying shoelaces or entering the pool without any swimming aids [6].

Despite concerns about the health effects of long-term exposure to RF radiation, the popularity of the use of wireless devices among young children is growing rapidly, even in case of very young children. Nineteen per cent of children aged two to five would be more likely to use a smartphone than to spend time doing some other activities. Almost the same number of children aged two to three (17%) use smart applications, as well as children aged four to five (21%). One quarter of all children aged two to five know how to make a call using mobile phones. Many phones are specially designed for small children, some even with applications for pre-school children [2].

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Do not use abbreviations in the title or heads unless they are unavoidable.

Many researches and studies emphasize that children should not use mobile phones at all, because the thin bones of the skull, skin and subcutaneous tissue do not present any obstacle to the penetration of electromagnetic radiation [7]. But smart phones have become an integral part of school activities. A concern about the health risks for children from mobile phone radiation has led to the prohibition of the use of mobile phones in schools. For instance, the Israeli Ministry of Education decided to ban mobile phones during the school day in 2016. In France, the policy came into effect during the beginning of the 2018–2019 school year and impacted students over 15. In 2019, four states in Australia banned smartphones for students up to 18 years. Also, mobile phones in schools are banned in Greece, Iran, Turkmenistan and Malaysia. Governments pursue two main goals with this type of policy intervention: improving

academic performance and reducing bullying, which are precisely the impacts that we address in this paper [8]. According to the current Law on the Basics of the Education System, in Serbia, the use of a mobile phone in class is considered a serious violation of the student's obligations. The same Law prescribes the autonomy of the institution, which includes autonomy in adopting the statute, development plan, program, annual work plan, rules of conduct in the institution, the use of mobile and other electronic devices for educational purposes. In practice, a trend can be observed that Serbian schools are beginning to ban the use of mobile phones during classes.

### III. USING MOBILE PHONES FOR EDUCATIONAL PURPOSES

“Increased interest in mobile devices and their use for teaching and research can be attributed to a number of factors: rapid expansion and advancement of wireless broadband networks, exceptional growth in of power and capacity of each next generation of mobile and PDA devices, but also the fact that these appliances are deeply embedded into daily life” [1].

The design of educational applications for mobile phones and PDA devices has led to the fact that they are increasingly being used among children of all ages and at all levels of education. Due to this, the term m-learning-mobile learning originated. Teachers and administrators use these devices and applications to record class attendance, send pupils and students teaching material, homework, exams and a great deal of information related to school and extracurricular activities. Mobile learning connects formal practice (e.g. class attendance, participation in workshops and etc.) with the informal or so-called situational learning (e.g. while the student rides the bus, subway or train or while queuing for healthy, control) and mobile devices are used as translators, encyclopedias and digital libraries. It is very important to note that this model does not necessarily imply Internet connection in order to learn because downloaded materials or information can be used in off-line mode [1].

One of the commonly used options of m-learning are language courses. For example, the Ectaco Company in the USA offers linguistic games for mobile phones, as well as software for dictionaries and books with certain phrases in order to improve the language skills of the users. The company has released seven generations of dictionaries so far, as well as solutions for

learning languages and translation applications for forty-five languages, including Serbian [9]. “On the other hand, an important lack of m-learning lies in the way it is used, which is mostly spontaneously organized, and thus this kind of learning profile usually takes place in a shorter period of time and with frequent interruptions. Furthermore, interruptions are caused by one inescapable, but very important factor. This is the basic function of mobile phones and the way they are used-the use them to a great extent for different forms of communication (in addition to traditional calls and messages there are extremely widespread services such as Viber, WhatsApp, and the social networks Tic-Toc, Instagram, YouTube, etc.), and plenty of notice and information by which all of these overload their customers and this interferes with the work because it requires a kind of self-control which is not peculiar to most young people” [1].

The options and technical possibilities for using mobile phones in teaching and education are expanding rapidly and educational systems would have to use the medium and tool-mobile phone intensively and in creative ways, so that the overall effectiveness of learning could be increased. Also, society that is based on knowledge and at the same time regarded as the society of lifelong learning, implies that education in general should be viewed in a broader context, i.e., through different educational policy, methods and techniques, with e-learning and m-learning being those that stand out today [10].

### IV. VIOLENCE AND MOBILE PHONES

More and more often, we are witnessing films recorded with mobile phones by children or young people whose goals are to ridicule or blackmail their peers. Furthermore, one can freely talk about an epidemic of the above, although schools and the school system often try to cover it up, among other things because it is difficult to find a solution for this because it is a sociological phenomenon. Considering that every child has his own mobile phone, and only a small number are in controlled conditions, the danger of violence that uses a mobile phone as a technical tool is increasing [11]. The element of abuse includes harm as an outcome of violent behavior, which is often more difficult to recognize in the virtual world [12]. Namely, young people who behave violently do not see the person they are harming, nor the consequences of such behavior, thus maintaining

an emotional distance and showing a lack of empathy [13]. The fact that millions of videos made by children aged 12 to 16 are removed from the Internet every year is worrying. The results showed that sending instant messages is associated with participation in electronic violence, while greater use of social networks is associated with more frequent experiences of violence. In Serbia, for instance, every third pupil has experienced some sort of violence through Internet in last twelve months, while cyberbullying has experienced 16% of them [14].

Since cruelty on the Internet can be intensified by the distance between the perpetrator and the victim, the concept of violence is changing. Nowadays, it is easier to become a target of peer violence. It cannot be said that it is because of mobile phones, but because of the radical changes in society that have been registered since the end of the last century. Nevertheless, the fact is that mobile phones have significantly facilitated the aforementioned. Children have access to each other twenty-four hours a day and can commit violence at any time of the day or night. The effect is further enhanced by the fact that children use mobile phones to surf the Internet much more than they use standard and laptop computers, so it is more difficult for parents to monitor and control them in this regard. Continuous professional development of teachers is necessary, which would provide them with an insight into the nature of the so-called cyberbullying and ways to prevent and curb it, because the role of the school has proven to be successful in dealing with school violence. Therefore, every school must have its own plan of action that is adapted to the specific conditions of that school, and it cannot be completely adopted from another school. The process or path of creating your own way of fighting violence is as important as the result itself. "The school must set clear rules that do not allow violence and define the consequences if such behavior occurs." It is necessary that these rules are applied daily, because that is the only way violence will stop or at least be limited [15]. Also, parents should be introduced to the methods of cyberbullying and how to properly position themselves in case of the same.

## V. CONCLUSION

Since the beginning of the new millennium, digital (r)evolution has created new generations, the generations whose life is considerably

different from the previous ones from the very start. These generations are distinguished by knowledge and widespread use of media, digital technology and information. It is quite natural to them to receive much more data than previous generations, to learn what they choose by themselves, to communicate simultaneously in a number of ways [15].

Today's children perform better in the virtual world than in the real world. On the other hand, they know little or nothing about some ordinary, everyday things, because they spend a whole lot of time with a mobile phone or in front of a screen (computer or television), with much less physical activity than is recommended. All of this happens in the period of life when it is especially important to be physically active as much as possible. Today's children are adept at understanding technological achievements, but have increasingly poor social relationships with their peers. However, schools and school systems that do not adapt to the fact that a mobile phone is an "extension" of the average student will not be able to progress as much as those that adopt the use of mobile phones in their teaching processes. The former is more likely to be condemned to declination.

Furthermore, the risks of excessive Internet surfing or playing video games on a mobile phone begin when selectivity in the choice of content is lost. It goes without saying that it is not possible, nor would it be desirable, to isolate children from mobile phones, but it should not be allowed to be their dominant way of spending time. We live in an imperfect world where children are in greater danger than ever before, because in addition to the dangers in the real world, there are also dangers in the virtual world. Furthermore, as young people with a higher degree of internet addiction are more likely to participate in electronic violence (whether they experience it or commit it), it is important to emphasize the education of both young people and their parents, because mobile phone addiction and electronic violence are the result of a lack of control in the virtual world.

Certainly, the media literacy is one of the best ways to prevent misuse of the mass media and to improve the efficiency of their strengths in order of educate and up bring youth and the youngest. To make someone media literacy would mean to enable one to understand and use popular as well as educational and scientific contents, to be able to express his or her ideas in the form of media,

to be able to communicate through channels of mass media in order to acquire knowledge and notify his or her own attitudes [16].

“Education for the media, i.e. the media literacy is a prerequisite for critical reading and media use. It is necessary to be media literate in order to use the media and global information networks, while on the other hand the media and networks provide the opportunity to gain media literacy” [1]. According to the European Framework of Key Competences, digital competence has the status of one of the eight key competences in education. It is defined as the ability to use technology critically and safely at work, in leisure and communication. “The government primarily has the responsibility for this by conducting certain educational and cultural policy which, among other things, increases the level of digital literacy of all involved participants in the analysis of this study: the school, parents and children, as well as the society in its broadest sense. Finally, all relevant documents of educational policies in the world emphasize the importance of the development of media and technological literacy” [1].

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