

DIGITAL ASPECTS OF MODERN EDUCATION REALITIES: AN ATTEMPT OF PROFILING THE BULGARIAN INTERNET USERS

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Abstract. The aim of the article is to show the role of digital skills of people of different ages as a consequence of the processes of digitalization in Bulgarian society. Different dimensions of digitalization, attitudes towards online learning and levels of positive attitudes towards it are analysed. Trust in Internet content is monitored, as well as cases of cyberbullying as consequences of digitalization and the presence of digital skills. The methodology is based on an online survey conducted by the authors of the article among the Bulgarian population in 2023. Different opinions and assessments are shown regarding digital skills, mobile learning. The determinants of trust in Internet content and the effect of experienced episodes of cyberbullying on Internet use are presented. The main conclusion of the article is that in Bulgarian society there is a relatively good availability of digital skills, which are important for modern processes.

Keywords: digitalization; digital skills and literacy; COVID-19; online learning; Bulgarian society

Introduction

In the modern age, digitalization has actively entered people's private and public lives. Digitalization plays a very important role of the activities of institutions at different levels and in different areas. Business, the public and the non-governmental sector systematically use various digital tools and services in their activities. Digitalization is ubiquitous and global; it changes generations and their thinking, their attitudes and qualities, their skills and reflexivity (Ferrari et al., 2013). It affects and reformats social structures and relationships, imposing on them the requirements of digital technologies. The digitalization of society is an indisputable fact and is a prerequisite for social development and transformations because it means provid-

ing new opportunities for the development of institutions, as well as for the formation of new skills and qualities. Today, digital technologies compete with family and school as a significant socialization agent. All possible digital technology procedures of mastering and exploiting social experiences acquired online are viewed as mediating digital socialization (Soldatova et al., 2018). As more individuals use the Internet for school, employment, and social purposes, more people utilize it to vent their frustrations and aggression. In recent years, one type of cyber violence has captured the attention of both scholars and the general public: cyberbullying. Cyberbullying is commonly characterized as aggression directed at a person who cannot easily defend himself or herself in an electronic context (e.g., e-mail, blogs, instant chats, text messages) (Kowalski, 2016). Many studies have found that cyberbullying is prevalent among teenagers and adults, with approximately 75% of school-age children (Juvonen et al., 2008; Katzer et al., 2009) experiencing this form of aggression at least once in the previous year. Cyberbullying has been linked to a variety of negative outcomes for both individuals and organizations (e.g., schools), including anxiety, depression, substance abuse, difficulty sleeping, increased physical symptoms, decreased academic performance, absenteeism and truancy, dropping out, and murder or suicide (Privitera & Campbell, 2009; Ybarra et al., 2008). The research questions formulated in the article are: What are the main dimensions of the digital skills of the Bulgarian population? What are the main determinants of trust on the internet? Have possible past episodes of cyberbullying had any effect on this trust? Our understanding is that today's conditions require multifaceted digital skills and literacy that include both technological capabilities, as well as the ability to distinguish between true and false news, and the ability to be safe and countering to cyberbullying in the Internet environment.

Literature Review

There are many concepts about digitization in the literature. Our article is focused on two concepts of these concepts. The first one refers to digitization as the process of digitizing, that is, the conversion of analogue data (e.g., images, video, text) into digital format (The Oxford English Dictionary, 2019). The second one is related to the process of developing social capital and improving individual skills (Pinto, 2020). These two separate states are a characteristic of the digital world, where digital information is „discrete and pure,“ while analogue information is „continuous and noisy“ (Robinson, 2008). Robinson defines his analogy much more in detail when he notes that it is analogous to smoothly changing, possessing the properties of the apparent impeccable and untouchable credibility of space and time. It compares analogy with space and time, which allows for infinite division, and in association with them (space and time), connects something authentic and natural to the artificial and arbitrarily truncated precision of the digital. Digitization can also be understood as a process that, in addition to being symbolic, has material

dimensions and generates information that can be expressed in many different ways, through many different types of materials and in many different systems. Van Dijk (2006) points out that the conversion process occurs through precise technical mechanisms and requires a specific technical infrastructure that re-aligns the original signal itself. While popular belief often describes digitization as a technical process, people have made certain choices about what to keep and what to discard on algorithms that perform the digitization process (Van Dijk, 2006). Digitization also generates data with a series of distinctive characteristics, or, as Negroponte (1995) points out, it is the universality of digitized information. In this context, Van Dijk (2006) boldly argues that digitization by reducing communication to its essential components produces a *lingua franca*, capable of facilitating universal communication. Digitized information can be easily stored and transmitted due to a lack of errors, repetition, and statics, which also enables easy manipulation and display of this data. Digitization allows for a considerable measure of interactivity between the user and information, and in the new social reality demands the presence of digital competence.

In the last few decades, the expansion of the Internet and Information and Communications Technologies (ICT) has profoundly transformed society. Although the internet and other ICT have many beneficial elements and provide a great potential to better people's lives in general and adolescents' lives in particular, they also have a negative side. One of the major issues associated with the increased use of ICTs, particularly among children, is the potential involvement in harmful online behaviours. These are behaviours that encourage the appearance of situations that harm the adolescent's mental and physical well-being and/or development, either through self-exposure or by exercising them on others (Montiel & Carbonell, 2016). Cyberbullying has been defined as a 'negative or harmful, repetitive behaviour, by means of electronic communication tools, involving an imbalance of power, with the less-powerful individual or group being unfairly assaulted' (Smith et al., 2008). Unique features of cyberbullying have been identified: Perpetrators can conceal their identities; perpetrators have constant access to targets; the potential audience is huge; the perpetrator does not see the target's immediate reaction; there are no nonverbal clues to the meaning of a message; the power imbalance is altered (the perpetrator may have little power in the real world but superior technological skills), and content that is posted online is permanent (Campbell, 2005; Dooley et al., 2009). As noted earlier, most researchers agree that cyberbullying involves the use of electronic communication technologies to bully others. The media through which cyberbullying can occur are equally diverse, including instant messaging, e-mail, text messages, web pages, chat rooms, social networking sites, digital images, and online games.

Data and methods

The research presented in this article is based on data from an online survey done in March 2023 with 1018 persons aged 18 and higher. The online survey enabled us to reach a larger number of respondents, but it also had the disadvantage of being filled out mostly by digitally active people. The descriptive statistics were performed using SPSS.

The summarized information provided an opportunity for various analyses, as well as for deriving critical reflections. These empirical sources offer a variety of information about the institutions and educational levels studied, as well as about the time axis and the scope of the included target groups. This creates an enriched picture of the state of digitalization and the digital environment in Bulgarian social and educational conditions.

Evaluation of youth life chances was carried out by using the following socio-demographic variables: gender, age, place of residence, education, employment status, and income level. At the initial stage, for the data analysis, different methods of descriptive statistics were used (frequencies, standard deviation, mean, median). The further data analysis was aimed to reveal how young people's assessments of life chances differ taking into account various sociodemographic variables.

Before specifically assessing the level of trust in the internet contents and the number and role of cyberbullying episodes experienced when using internet, information about the levels of digital skills and the opinion about online education are reported. They allow us to better interpret the subsequent results.

Digital skills:

The most active age group in the sample are people up to 40 years old, "digital natives" (Prensky, 2001; Thomas, 2011), those who are digitally predisposed to the acquisition of digital skills and digital culture people. This is the generation of individuals who, as students or as parents of young children, are actively involved in various forms of interaction with information technology. From the received data, it is clear that the digital literacy of the Bulgarian population has reached an average level, according to the respondents. 69.9% of the respondents rated the digital skills of their fellow citizens as average. Only 11.6% of the respondents give a high assessment of the digital skills of the Bulgarians (Fig. 1).

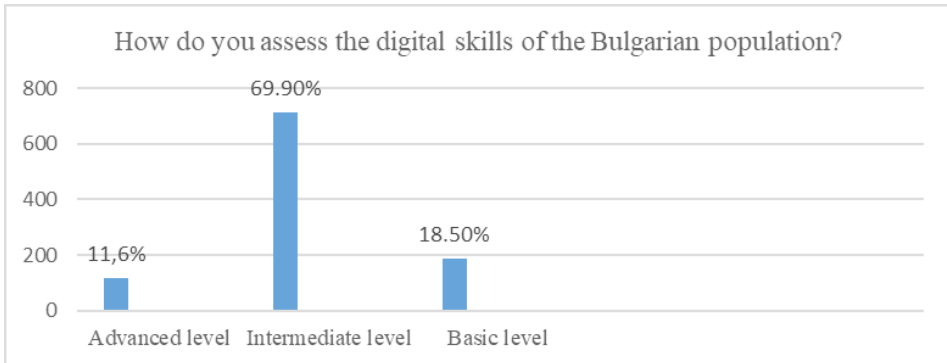


Figure 1. The Bulgarian population's level of digital skills¹

Source: Authors' elaboration on their own data.

Respondents' digital skills include: using the Internet, connecting to a Wi-Fi network, opening a new tab in the browser, downloading and installing applications, downloading and uploading files, filling out online forms, and more. 99.7% of respondents say they can use the Internet, 98.2% say that they can connect to a Wi-Fi network, 95.8% can open a new tab, 95.9% can download an application, 93.8% can install an app, 96.3% can download files, 94.4% can download files, 94.4% can upload files, 87.5% can adjust their privacy settings in their accounts, 95.1% can fill in an online form, 82.3% can create a Facebook page, 96.2% can work with an Internet search engine (Fig. 2).

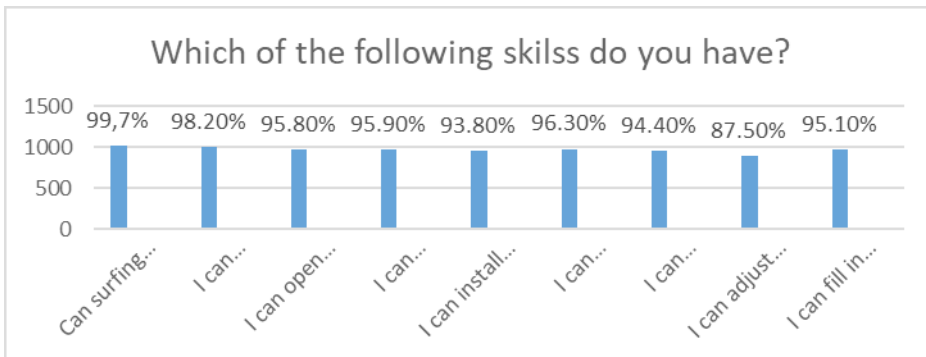


Figure 2. Skills of Bulgarian population

Source: Authors' elaboration on their own data.

Despite the stated high number of young respondents who have relatively good digital skills, their parents still do not use social networks very often or almost. This in turn imposes the need to develop the digital skills of the Bulgarian population.

Education and the use of internet services most are highly educated respondents online education regarding the opinion of the respondents about online education, the indicator of online education appreciation constructed starting from the information collected through the questionnaire shows a minimum value of 0 for those who do not have at all positive thoughts about online education, and a maximum value of 6 for those who have positive assessments for all the aspects investigated by the survey. They are 18.07% and 22.20%, respectively (Fig. 3). The mean value for this indicator is 3.4, with a standard deviation of 2.19. Those who have a positive opinion on online education are mainly the youngest ones (the mean value of this indicator is 3.58 among those less than 29 years old while among those more than 60 years old it is 2.34), there is a slight prevalence of females (with a mean of 3.12 for females and 2.86 for males) and of those with a medium or low level of education (with a mean of 3.78 among the low and medium educated and of 2.61 among the high educated).

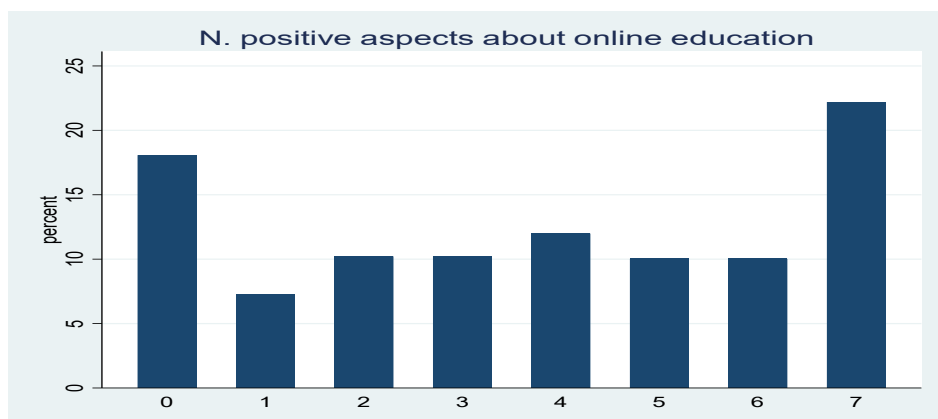


Figure 3. Number of positive aspects related to online education declared by the Bulgarian population

Source: Authors' elaboration on their own data.

Trust in the internet content

The share of those who do not trust at all in the internet content is 48% of the total sample while those who trust all the social networks' contents (Facebook, Twitter, YouTube, Instagram, Tik Tok, Snapchat, Facebook Messenger, Apple Imessenger, and other) are only 1.18% (Fig. 4). The mean value of this indicator is 1.48, with a standard deviation of 2.01. Young people are those who trust more,

with a mean score of 2.09 while the oldest people (60 years and more) are the less confident, with a mean score of 0.85. The trust in internet content is higher for men (the mean score is 1.70), compared to women (1.40). Finally, people with a high level of education are less confident, with 1.30, when compared to those with a low or a medium level of education, showing a mean score of 1.80.

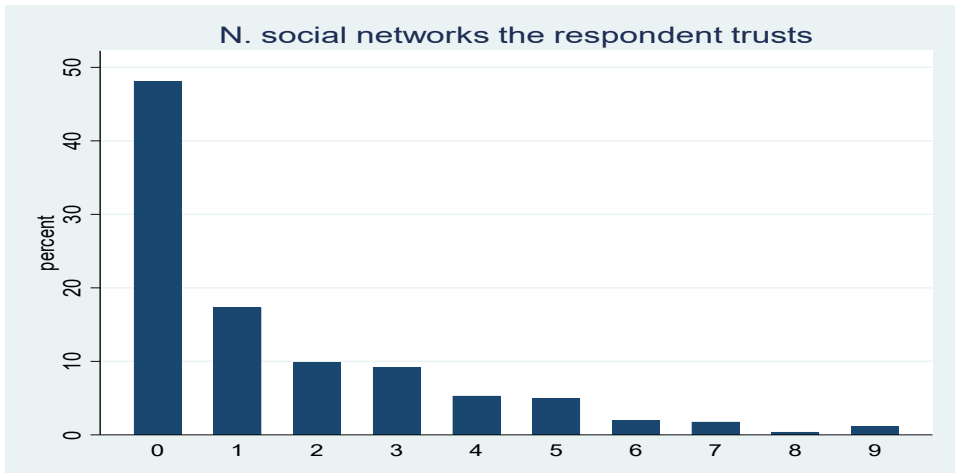


Figure 4. Indicator of trust in social internet content (0 no trust at all; 9 trust in all the social networks content)

Source: Authors' elaboration on their own data.

Cyberbullying episodes

Cyberbullying is observed as a completely new “acquisition” of modern society with the introduction of electronic means of communication. Cyberbullying is a form of harassment that uses the means offered by modern communication technologies – the Internet and mobile phones. Cyberbullying is considered to be a continuation of social (indirect) harassment. When asked about cyberbullying, almost half of the 49.7% of respondents answered that they did not fall. 35% of respondents received insulting comments, 25% profile theft, 24.6% spread false news and rumors, 15.4% received threats, and 1.2% said other. To the question: You personally found yourself in a situation in which you were: received offensive comments about your posts, most of the respondents (72.1%) answered “no”, as opposed to those who received offensive comments – 27.9%. Those of the respondents who received malicious messages are 30.8%, compared to those who did not receive such, and whose number includes more than half of the respondents – 69.2%. 19.4% indicated profile thefts, and 80.6% of all respondents had not encountered profile thefts. Regarding the use of photos by other users on social

networks, 17.3% of respondents stated that they were victims of this type of cyberbullying, and 82.7% did not face it. 81.7% of all respondents said they had not yet been the victim of rumors on social networks, while 18.3% said they had been the subject of rumors. Analyzing the synthetic index finalized to resume the types of episodes of cyberbullying suffered by the respondents, the mean number is 2.05, with a standard deviation of 2.54 (Fig.5). These episodes have been more frequent among the younger and the older respondents (with a mean score of 2.15 and 2.18, respectively), among men, with a mean score of 2.18, against a mean score for women of 1.96, and among people with a higher level of education (2.14 against 1.8 for the low and medium educated ones).

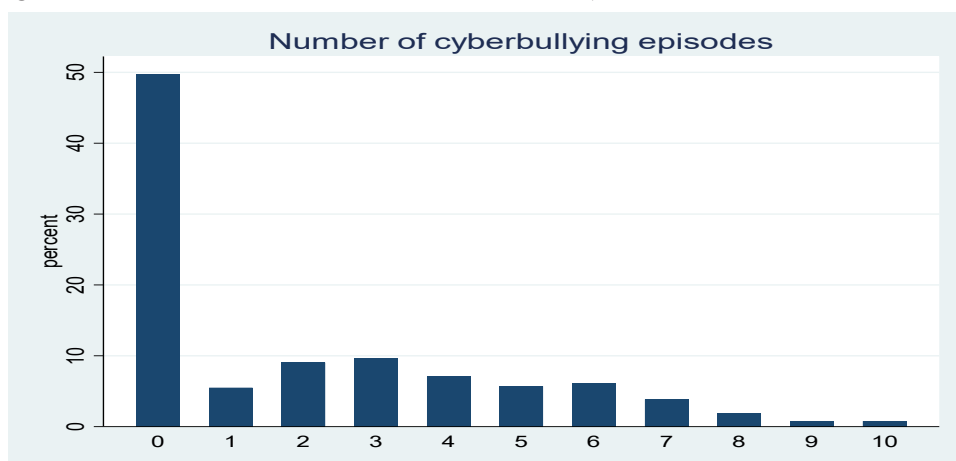


Figure 5. Number of cyberbullying episodes suffered by the respondents.
Source: Authors' elaboration on their own data.

Conclusions

Digitalization has an important place in society and is gaining great importance. Almost all social processes are digitalized and the significance of digital skills is growing – in online banking, voting, making bank transfers, paying bills, participating in various platforms, and conducting conference calls that are relevant as in the everyday life of modern person and in professional work. The analysis developed in this article shows that the opinion about online education is substantially positive among the respondents, while the zero-inflated regression models show that more than half of respondents trust in the content of at least one social network, even if this trust reduces with age and when individuals have experienced at least an episode of cyberbullying. The basic summary of the article is that digital literacy and skills need to be developed even in the population of those with a good level of skills in the use of digital platforms, as those analysed in this survey. This is done

in parallel with digital innovations and improving the technical characteristics of various digital devices. Digital skills imply the formation of the ability to deal with various challenges on the web: distinguishing true from fake news, countering cyberbullying, creating safety and again, the trust in the internet content is strongly connected with the reasons for the use of the internet (for job, for games) while the cyberbullying episodes increase for those who use internet to get information about politics or for socialization. The main conclusion of the article is that digitalization is key in social terms. It has many advantages, and is the basis of various processes, creates conditions for improving life, improving the quality of learning and training. Digitalization and digital learning require people to develop a critical view of information and its content, to seek information from more and different sources and to develop a reflection on what is happening in life and in the digital and social environment.

NOTES

1. The percentages (Figure 1.) are more than 100, as the respondents gave more than one answer about different digital skills they have.

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