

Article

Generation Alpha Media Consumption During Covid-19 and Teachers' Standpoint

Blandína Šramová * and Jiří Pavelka

Faculty of Multimedia Communications, Tomáš Bata University, Czech Republic

* Corresponding author (sramova@utb.cz)

Submitted: 6 May 2023 | Accepted: 18 September 2023 | Published: 16 November 2023

Abstract

With the development of digital technologies that are part of everyday life, new cultural norms and patterns are developing with which children play, learn, communicate, and socialise in the digital age. Technologies are also fundamentally changing teachers' attitudes to education. This study aims to determine the motivation of teachers of generation Alpha for using technology and mobile applications, what technologies were preferred by generation Alpha after the second wave of the Covid-19 pandemic, and for what reason. The research sample included one segment of the Alpha generation, pupils of primary schools ($N = 53$) and their primary school teachers ($N = 83$). A qualitative research design was used. The data processed by thematic content analysis identified the themes associated with using digital tools by generation Alpha, according to the teachers. The results showed the teachers' motivation for using digital technology with generation Alpha, such as meeting their physiological, safety, social, cognitive, aesthetic, and self-actualisation needs. Generation Alpha's media applications saturated four needs: entertainment, information, education, and games. They were covered by 12 applications. The findings show that the digital communication activities of generation Alpha refer to the audience's intentionality, selectivity, and involvement with the media. The presented research opens other possible research topics, such as how new communication and mobile apps influence the behaviours of Alpha generation, value orientation, and well-being, and how effectively to use mobile apps in education praxis.

Keywords

Covid-19; digitalisation; education; generation Alpha; media consumption; mobile applications; motivation; teachers

Issue

This article is part of the issue "Digital Media and Younger Audiences: Communication Targeted at Children and Adolescents" edited by Olga Kolotouchkina (Complutense University of Madrid), Celia Rangel (Complutense University of Madrid), and Patricia Núñez Gómez (Complutense University of Madrid).

© 2023 by the author(s); licensee Cogitatio Press (Lisbon, Portugal). This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

1. Introduction

Mobile phones and apps are the most frequently used tools for digital communication across all social classes and generations. The idea that digital communication has a negative effect on the human brain and behaviour, especially on the development of children and youth, is supported by some studies (Carr, 2010; Gottschalk, 2019) and is part of public discourse. Negative assessments of digital communication were based on the fact that the most frequent form of networked digital communication—mobile communication—began to

crowd out the more socially rich interpersonal communication and even caused social isolation and an addiction to mobile applications.

The emergence and spread of new communication platforms and technologies have allowed young people to participate more actively in the media world, creating a participatory culture (Horst & Gaspard, 2022). Young people are now more involved in creating and sharing content online, transforming how they interact with the world around them. They know how to use digital applications, communication platforms and technologies (e.g., streaming media, social media, public wi-fi),

personal social networks, and platforms (e.g., YouTube, Vimeo, TikTok) to present their knowledge, attitudes, values, and interests as active producers (Káčerková, 2019; Šramová & Pavelka, 2023).

In both theory and pedagogical practice, opinions are being promoted that mobile communication among the young generation needs to be regulated and encouraged. On the other hand, mobile communication and its applications represent a new, essential, and effective tool for education and entertainment. These applications work and strengthen the well-being of the young generation in the heated social conditions created by the Covid-19 pandemic as well as in more normal times.

The Covid-19 pandemic (2019–2021) has highlighted the importance of digital technologies and their role in enabling communication and education during crises. In this context, mobile devices and apps have become critical tools for young people to maintain social connections (Nadeak, 2020; Viner et al., 2020). It is crucial to be aware of the potential negative consequences of using mobile devices and apps, such as addiction, social isolation, and cyberbullying. Therefore, it is essential to balance the benefits and risks of using digital technologies and promote the responsible use of mobile devices and apps among the young generation. It is only possible to do so if we have up-to-date, relevant data.

The topic of this article is to find the answer to that problem. The research problem is as follows: What do teachers demand from mobile apps targeting children in general? What are their ideas, opinions, requirements, and needs? According to educational experts, what purposes and objectives do they want to achieve through the mobile applications used by generation Alpha and which mobile applications are able to accomplish them? Are there differences between the ideas and requirements of Alpha generation teachers for mobile applications and the communication practice of the Alpha generation? Is there any correspondence between the two? In which areas do the ideas and needs of teachers and the practice of alpha generation differ, and in which do they coincide? The object of the research is one segment of the Alpha generation, pupils of the first grade of elementary schools. In the foreseeable future, this generation will represent the client base for the secondary and higher education domestic and foreign educational market and their teachers. The research is based on data collected from children and their teachers after the second wave of the Covid-19 pandemic in Slovakia, where, even after the school gates opened, it was impossible for foreigners or researchers to enter. We focused on a similar aspect in our previous research on a comparative analysis of generation Alpha and generation Z in the Czech Republic (Šramová & Pavelka, 2023).

The contemporary Slovak Republic and the Czech Republic formed one state prior to 1991. As of today, both states are culturally, politically, and economically similar, including the school system and the curriculum. Education in Slovakia and the Czech Republic is based on

standard foundations and traditions. Due to the lack of data, it is worth taking a closer look at the youngest generation in the contemporary Slovak cultural and national region before looking at cultural differences or similarities. This step is a prerequisite for creating a methodology for the practical and socially desirable use of digital communication in the education of the young generation in general.

2. Digital Technologies and Mobile Applications

Digital technologies, which laid the foundation of the fourth industrial revolution (Schwab, 2017), affect all spheres and areas of social life and are a factor in dynamising social change. Digitisation and related computerisation, miniaturisation, cyberisation, and the Internet of Things have entirely transformed production practices and processes in the labour market (Degryse, 2016).

The new visual, audio, and audio-visual forms of digital communication disrupted the hegemonic position of the hitherto sovereign interpersonal and group communication and created new communication rituals and standards, freed from time-space barriers and capacity limits of traditional mass communication (Curran & Gurevitch, 2005; Curran & Hesmondhalgh, 2019). In the digital environment, new communication platforms, tools, and applications were created, rented, sold, and used for commercial and non-commercial purposes. The most used and influential include, among others, e-mail, SMS and multimedia MMS messages, navigation and geographic applications, institutional portals offering and selling goods and services, streaming platforms, and cloud storage.

A key position in this communication segment has been acquired by social media, functioning as an interactive personal social network and group communications platforms, e.g., LinkedIn, Facebook, YouTube, Twitter, Pinterest, Quora, WhatsApp, Instagram, Snapchat, and TikTok, which were launched successively between 2003–2016. Mobile phones have become the dominant communication device in digital network communication, having gradually supplanted and replaced PCs and touch tablets (Jha et al., 2019; Rideout, 2016). Smartphones became a significant turning point in the development of the mobile phone market.

With the increasing accessibility and affordability of digital technologies, young children are exposed to and become familiar with digital devices early (Chaudron et al., 2018). This has led to the integration of digital technologies into their daily lives. They offer convenient and accessible ways to contact peers, family, and friends. Digital technologies, the internet, and mobile devices have performed multiple social and cultural functions such as leisure, entertainment, gaming, informing, education, and social communication.

Several research projects have already created a solid base of empirical data that allow both the generalisation

of knowledge from the field of children's online lives and the theoretical modelling of young people's online communication practices (Burns & Gottschalk, 2020; Green et al., 2022; Livingstone et al., 2019; O'Mara et al., 2022). Surveys provide an overview of activities and empirical research knowledge in children's digital communication overview studies specialising in sub-areas of children's online lives (Bedrošová et al., 2018; OECD, 2022; Smahel et al., 2020; United Nations International Children's Emergency Fund, 2023).

Each young generation has its specific features and needs, which are determined, on the one hand, by their physiological and psychological development and, on the other hand, by the socio-political situation in which they grow up. These traits and needs need to be known and reflected upon, and education needs to be adapted. Teachers, alongside parents, represent process actors. Generation Alpha's teachers face new problems and tasks due to the revolutionary changes in the field (Yurtseven, 2020). Media communication includes areas and forms and is a crucial component of social life linked to long-term communication competencies and routines and passed on in educational processes from generation to generation as part of cultural heritage.

Generationally stratified teachers of the Alpha generation found themselves in an unusual, unique situation. They were forced to learn new, introduced digital media and their applications, while the Alpha generation encountered them from the earliest age as a natural part of their communication space, allowing them to master it as their mother tongue. Under this situation, communication routines and educational standards were also formed. The view of teachers of the Alpha generation on this issue represents one of the ways reflecting media consumption realised by the first generation, which can be described as digital natives. Therefore, we ask:

RQ1: What are the needs and requirements for mobile apps targeting children, according to the teachers of generation Alpha?

3. Generation Alpha

Generation Alpha is the youngest generation born after the early 2010s (Jha et al., 2019; McCrindle et al., 2021; Ziatdinov & Cilliers, 2021). In 2023, the oldest members of generation Alpha are 13 years old. A generation is entering a formative process, i.e., a process that influences their attitudes, values, and collective consciousness. The iconic media images, the toys they play with, the digital games they enjoy, the icons they look up to, and the social networks they use to interact with their peers and inspire them are all part of the generation's collective consciousness.

Generation Alpha was born into a digital environment; surrounded by digital technologies from birth, they have learnt to control them intuitively. They live in the era of drone delivery, augmented reality, self-driving

cars, electric vehicles, smart homes, robots, cashless payments (cashless society), and integrated technologies (embedded technologies; McCrindle et al., 2021). According to Prensky's (2001) categorisation, generation Alpha is in the position of "digital natives" who are addicted to digital media and have good knowledge and skills in digital technologies, while adults, parents, and teachers of the Alpha generation are in the position of "digital emigrants" who have problems with the digital technologies.

It is essential to mention that the "digital natives" and "digital emigrants" concepts, even though it has orientation and classification value, became the object of critique (Facer & Furlong, 2001; Kirschner & De Bruyckere, 2017). Alpha generation is not homogeneous but differentiated. Many of their members, if they come from socially weaker strata, still have limited access to the internet and, therefore, have different knowledge and skills in digital communication and technologies (Valentine et al., 2002). On the other hand, many parents and teachers of generation Alpha acquired excellent knowledge and skills in the digital area (Jones & Czerniewicz, 2010). Analysis of survey data points out that the differences between an older generation of parents and a younger generation of children are not fundamental (Eynon, 2020).

For generation Alpha, virtual reality and mobile phones or tablets, which they use for playing games, watching programs, advertisements, and exciting things, have become a regular and natural part of their lives. Therefore, this generation is labelled as *homo tabletus*, generation Glass, screeners, or screenagers (Tootell et al., 2014; Williams, 2015). It is also called Net generation, the Onliners, Global generation, generation Surf, generation Screen, and generation Tech. Members of generation Alpha were born into artificial intelligence, robotics, and humanoids (Jha et al., 2019). They are skilful navigators through various apps (Turk, 2017).

According to the conducted research, the members of generation Alpha are impatient and always tied to their digital devices (McCrindle et al., 2021); they expect visual, aural, and kinaesthetic methods to be used in school (Apaydin & Kaya, 2020). The digital world is helpful to them in many ways but also has negative consequences. The adults are aware of that threat mainly because their children want to be online 24/7. However, these children are also optimistic and able to take risks; tech-savvy and digitally literate, they can connect socially with people across geographic boundaries thanks to social media platforms such as TikTok, YouTube, Snapchat, and Instagram. There is an awareness that generation Alpha is isolated and lacks social relations and life skills (McCrindle et al., 2021). Generation Alpha is not only a visual generation but a visual-action generation. In other words, they want the movement and sound in visual materials used in school (Apaydin & Kaya, 2020). Therefore, we ask:

RQ2: What are the purposes and goals of using mobile apps by generation Alpha and which mobile apps meet these purposes and goals for generation Alpha?

Teachers' views on the use of digital technologies and mobile applications by primary school pupils and the communication practices of this segment of generation Alpha are the foundation of the research problem: What correspondences and differences exist between the ideas and demands teachers of generation Alpha for pupils' and students' mobile communication on one side and the mobile communication praxis by generation Alpha on another side? For this reason, we ask:

RQ3: To what extent do teachers' ideas about using mobile applications correspond with the communication practice of generation Alpha pupils?

4. Methodology

4.1. Research Participants

Based on the previously mentioned reasons, our sample group was composed of members from generation Alpha and their primary school teachers. Generation Alpha participants were Slovak pupils in the 1st grade of elementary school ($N = 53$, $AM\ age = 9.8$, range 7–11 years). Pupils were recruited by trained interviewers, university students who interviewed their own and other children in their immediate surroundings in the Slovak Republic. The reason for such recruitment was anti-epidemic measures eliminating contact between strangers. Ethical principles relating to research on children and young people were followed (Fraser et al., 2004; Harcourt & Sargeant, 2012).

The second group of participants were primary school teachers ($N = 83$, $AM\ age = 38.5$, range 22–55 years) supplementing their education at Comenius University in Bratislava, Slovakia. They were recruited after the second wave of the Covid-19 pandemic (September–October 2021) when the school opened its doors to children but not to strangers (e.g., researchers). The individual interviews with children started only after the parents' signed informed consent. The length of interviews with participants of generation Alpha was 30–45 minutes. Interviews with teachers in elementary schools were collected simultaneously with children; the interview duration was 45 minutes and the aim was to find their attitudes to digital applications in general.

4.2. Research Method

For data collection, we used a semi-structured interview with every participant (Gubrium et al., 2012) recorded via smartphone. Interviews were processed by thematic content analysis, identifying the patterns (themes) that capture something significant or engag-

ing in the data (Braun & Clarke, 2006, 2020). The inductive approach allowed the data to be determined into themes. To ensure reliability, multiple researchers were used for data collection and analysis.

The authors recommended six phases that are not necessarily linear but, in our case, we followed them from one step to the next: Phase 1 ("become familiar with the data") took the form of reading and re-reading the transcripts; we took notes and recorded early impressions. Phase 2 ("generating initial codes") was the process of organising our data meaningfully: We utilised open coding to reduce the data into small chunks of meaning, the theoretical thematic analysis was used, and we analysed the data concentrating on addressing the research questions in mind. Each data segment was coded if it were relevant to, or caught something of interest to, our research questions. As we worked through the chunks of text, we generated new codes and sometimes modified existing ones. We did this by hand using pens and highlighters. Phase 3 ("search for themes") aimed to find themes by their significance. In phase 4 ("review themes") we reviewed, modified, and developed the preliminary themes from phase 3. Phase 5 ("define themes") aimed to "identify the 'essence' of what each theme is about" (Braun & Clarke, 2006, p. 92). This step was made to search the subthemes, interactions, and relationships to the central theme. Finally, phase 6 ("the write-up") represents a summary of the research results and the endpoint of the research. The results are included in this article (see also Braun & Clarke, 2006, 2020).

Recognition/discovery of emerging themes was accentuated. The reference theoretical framework is A. H. Maslow's theory of needs and the uses and gratifications theory (see also Rubin, 2009). Maslow (1998) created a hierarchy of needs as motivational forces of human behaviour, which he grouped into six consecutive levels or stages. The initial base consists of "physiological" needs, followed by the need for "safety" and then the need for "belonging and love." They are followed by "social needs" or "esteem," needs of "self-actualisation," and "transcendence." The uses and gratifications theory represents an extension of Maslow's theory of needs because it offers an approach that leads to understanding how and why people consume communication media to satisfy their needs (Leung & Wei, 2000).

5. Results

Based on qualitative thematic content analysis, the study uncovered 23 key themes that were important to digital communication actors in the Slovak context. These included themes related to education, entertainment, relaxation, rewards, aesthetics, security, information seeking, competition in games, time limitations of access to applications, banishing boredom, escape from the routine, being "in," happiness, self-esteem, adults control, personal identity, social identity, sensation seeking, setting a good mood, companionship, social interaction,

independence, and autonomy. Having gathered these themes, the researchers refined them into two main groups and six sub-themes, according to the teachers of the Alpha generation.

The study's findings align with the theoretical framework, revealing both similarities and differences in themes and attitudes between two groups of communication actors based on the generational approach (Šramová, 2019; Šramová & Pavelka, 2023). According to Lieberman (1979), the transgenerational approach is not a rigid scientific method for transitioning family culture and tradition, which is associated with the family. Instead, it is rooted in transgenerational theories that originated in family dynamics and are also referred to as intergenerational or multigenerational (Nelson et al., 1993). These theories examine the rules for communicating acquired practices, behaviours, and beliefs across generations (Kocourek & Čočková, 2017; Lieberman, 1979). The transgenerational approach has broad applications not only in marketing but also in education.

5.1. Children's Needs, According to the Teachers of Generation Alpha

Findings show the requirements of teachers' generations Alpha mobile apps targeting children were classified into two primary themes inspired by Maslow's (1998) theory without deficiency needs (Figure 1) and growth needs (Figure 2).

5.1.1. Deficiency Needs

The first theme, deficiency needs, comprises physiological, safety, and social needs (Figure 1). The subtheme, physiological needs, is formed by sensory-motor coordination, quick fingers, and relaxation. Teachers appreciate the training of sensory-motor coordination and quick reaction to the stimuli offered by the apps: "Children are skilled in quickly swiping, scrolling, and switching between various applications" (P32). In the 21st century, in developed countries, the need to use technology has become fundamental, where there is a need for speed,

accuracy, and ease of operation. They are no longer basic needs for the existence of the human body, such as the need to eat or drink.

Teachers recognise children's dependence on technology and acknowledge its importance in their lives. However, they also feel that some apps should be available to help children relax and relieve stress, given that young people live in times of high stress and pressure. They believe that there should be a selection of apps that can promote relaxation and a sense of calmness in the younger generation: "I use apps for relaxation for the young age. It is awesome that it could help them to have joy and to push their steam" (P22). It is remarkable that teachers are not primarily negative about the technologies the younger generation uses and take a sober look at the phenomenon. This fact opens up further possibilities for using the teaching community to develop their competencies and to remove the stereotypical view of teachers as a group that rejects new technologies.

The second subtheme of deficiency needs focuses on safety needs related to security, tension release, and anxiety reduction. Given the current uncertain times, with dangers in both the natural and virtual worlds, it is unsurprising that young people are increasingly concerned about their safety: "It is essential to use an app to track children because the world is hazardous" (P42). Security is closely linked to trust in both other people and technology. Creating a safe environment is critical for developing a healthy and self-confident personality. However, generation Alpha is constantly taught about the dangers of physical and online environments (Gottschalk, 2019; Vavoula et al., 2007). For digital technology makers, the security of their customers must be a vital issue if they want to be their trusted service provider. Education focuses on developing knowledge and skills about online technologies, privacy, and digital citizenship (Gerstein, 2019).

Social needs are a part of deficiency needs, as people are social creatures who need interaction. Social needs are crucial for human development, as people rely on feedback and interaction with others to shape their values and attitudes. Mobile apps play a significant role

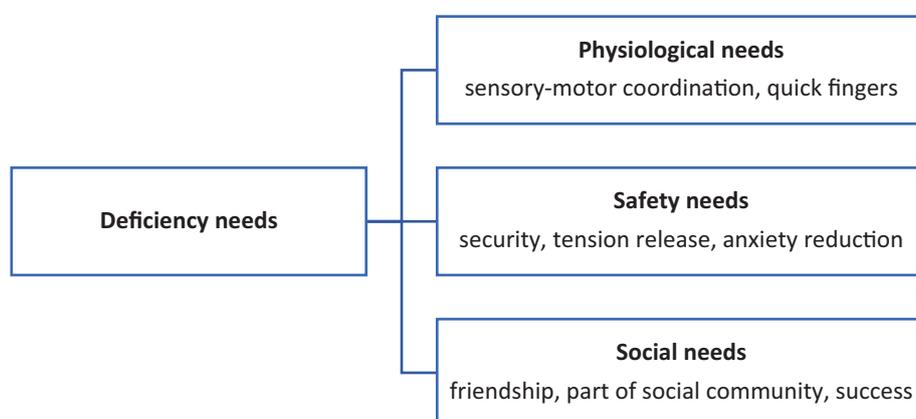


Figure 1. Thematic map of the teachers' expectations of apps for generation Alpha in deficiency needs.

in fulfilling these needs by creating ambient awareness (Levordashka & Utz, 2016), allowing individuals to capture the mood and experiences of others as if they are in the same room: “During the Covid-19 pandemic, social networking apps enabled children to stay connected with their friends and peers, preventing them from feeling isolated during periods of enforced isolation” (P55).

The human being is, by nature, a social creature who seeks information on social networks in the technological world and confronts his attitudes, opinions, and experiences with his peers. A sense of belonging gives the individual a feeling of being valued and respected, knowing that the social network is there for them in times of uncertainty, turmoil, and failure. In the school system, thanks to technology, a child can easily and quickly build social learning support networks (personal learning networks) and the individual gains a sense of belonging from some communities.

5.1.2. Growth Needs

The second theme, growth needs, comprises cognitive, aesthetic, and self-actualisation (Figure 2). The sub-theme of cognitive needs is created by attention, memory, curiosity, and joy. Teachers believe that mobile apps can help children develop their attention, memory, curiosity, and joy: “Mobile games have a positive association with better concentration” (P11); “I like games with [an] educational aim....For example, with the learning of foreign words, laws of nature, and animal behaviour in the wild” (P48). Technology opens new opportunities for everybody and promotes children’s creativity and effective learning (Gerstein, 2019). Teachers want apps to have beautiful designs and be user-friendly: “I like the beautiful, simple and clean design not only for children” (P5).

There are main requirements collectively named aesthetic needs, the second subtheme of growth needs. It could be associated with cultivating children’s aesthetic emotions. Children like creating videos, photos, video games, and artwork.

The third subtheme was self-actualisation, which was saturated with fulfilling activities, happiness, personal satisfaction, and autonomy: “I like the apps that bring children happiness and personal satisfaction” (P7). It corresponds with the individual’s deep need for self-creation, sharing, and connection with the social world. Empowering a community of users through technology is an essential means of building brand loyalty to a product or service. On the one hand, people have a solid need to be part of a social community. On the other hand, they desire autonomy and uniqueness, with an emphasis on individuality. Technology helps independence in the learning process and develops the learner’s metacognitive functions (Anthonysamy, 2021). They can manage their own pace of learning, control their results and thus increase their motivation to learn. Self-managed students have ownership of the learning process.

5.2. Consumption of Mobile Applications by Generation Alpha

Understanding media consumption and the need for gratification is essential to effectively design and develop mobile apps for the younger generation. By identifying the platforms and purposes that are most popular among the target audience, developers can create apps that cater to their needs and interests. Therefore, the finding of these two aspects, i.e., media consumption and need gratification, is crucial. In the case of generation Alpha, the most common uses for mobile apps are entertainment, education, information seeking, and game applications (Figure 3).

Reaching for mobile apps is often motivated by the desire to have fun and unwind. Disney+, Google Photos, and Instagram fulfilled a need for entertainment: “I like to try a different form of photo creation” (P15). It is not just about filling time during boredom but also about having fun entertainment and an active form of relaxation combined with creative activity.

Duolingo, YouTube, and Netflix, especially documentaries, are sources of education and learning of

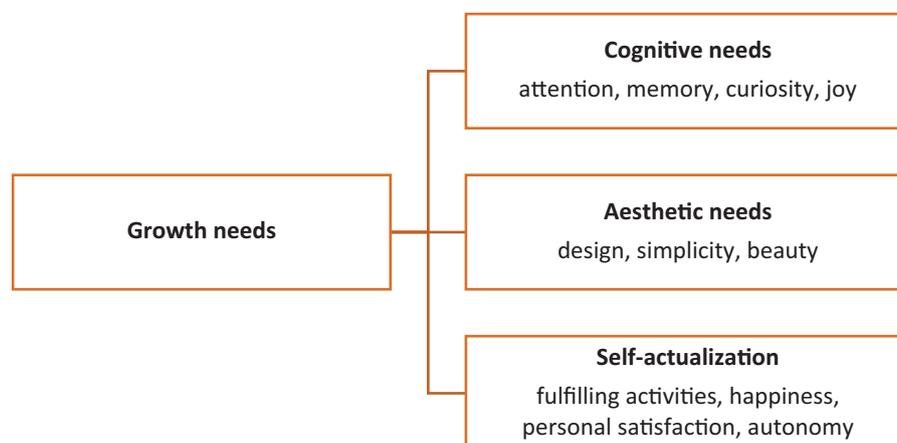


Figure 2. Thematic map of the teachers’ expectations of apps for generation Alpha in growth needs.

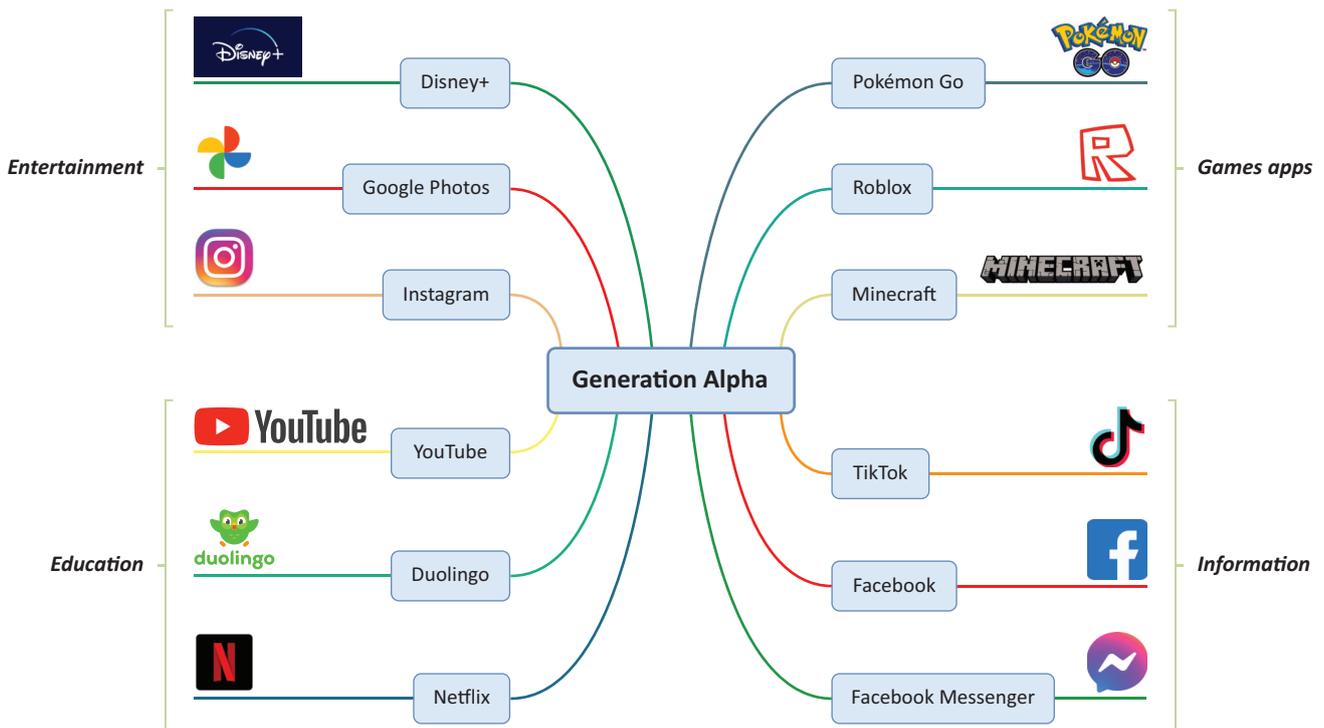


Figure 3. Purpose of using the apps by generation Alpha.

many subjects (i.e., history, nature, architecture, etc.): “My favourite program is *David Attenborough: A Life on Our Planet*” (P24); “I like to watch science experiments for children. My older brother and I tried to do some of them at home. It was funny” (P17). It is positive that pupils are interested in learning foreign languages, which regularly come under criticism for the rigorous teaching methods in school. Technology allows them to spark and reinforce their interest, making learning the much-feared science subjects and history more attractive. The inclusion of a gamification element in the learning process enhances attractiveness. A prime example of gamification in language learning is Duolingo, which supports long-term study habits and makes learning fun. Netflix is one of the personalised learning technologies (Roberts-Mahoney et al., 2016) for language education oriented toward non-native speakers. If customers prefer watching programs in the original language, the programs are served precisely based on the customers’ preferences, behaviours, and interests through digital platform algorithms. Netflix is a personalised service for customers that combines interest, entertainment, and learning.

Generation Alpha searches for information on platforms such as TikTok, Facebook, and Facebook Messenger: “If I must find something very quickly, I use TikTok and Facebook. There is much advice too” (P24). These are platforms that research shows are both sources of entertainment, social comparison, acceptance, and experiences for children and were trusted sources of information during the uncertainty of the Covid-19 pandemic (Modrzejewska et al., 2022;

Southwick et al., 2021; Štefanec & Švrčičová, 2022). Surprisingly, generation Alpha also followed Facebook, the typical platform for their grandparents’ generation. However, their explanation was spot on. The grandparents, from whom they were isolated during the Covid-19 pandemic measures, became role models for their grandchildren. It is highly likely that Facebook—thanks to algorithms—generated personalised offerings and that the content was tailored to the interests, preferences, and desires of generation Alpha.

Game applications have a special place in the use of generation Alpha technologies. They offered more uses and gratifications to the generation, such as escape from reality, socialisation, relaxation, and self-actualisation. In our sample, the most used games were Pokémon Go, Roblox, and Minecraft, played after the second wave of the Covid-19 pandemic. The mobile augmented reality game requires players to go to different places to capture virtual characters. It was one of the reasons why Pokémon Go was very popular among children: “We play Pokémon Go with our schoolmates, and I am more successful in finding Pokémon....I find him as the first last time” (P36). The principle of physical activities linked to socialisation and competition are vital factors in children’s attraction to these activities (Khamzina et al., 2020). The game improves social life, well-being, and family bonding (Wang, 2021).

Roblox, an online game which includes socially interactive learning environments, supports learning thanks to a virtual reality environment and promotes cognitive and noncognitive learning abilities (Han et al., 2023). Minecraft allows players to use simple blocks to build

a shared world: “Do you know how beautiful a city I created? When I become an adult, I will be an architect” (P33). The application encourages creativity, so it can also be used for educational purposes to trigger collaborative learning and facilitate skills development in mathematics classes in the 21st century (Rustad & Andersen, 2022).

5.3. Teachers’ Ideas About Using Mobile Applications by Children and the Communication Practice of Pupils at Schools

This part of the article will analyse to what extent the ideas and expected needs associated with the children’s use of mobile applications correspond with the communication practice of children at elementary schools. A comparison of teachers’ attitudes towards the use of technology, especially mobile apps, by the younger Alpha generation in general and the actual reasons for pupils’ use of apps after the second wave of the Covid-19 pandemic showed some correlations and connections.

Children’s physiological needs, which were mainly associated by teachers with speed in mastering technology, were saturated by children’s choice of digital games (e.g., Pokemon Go) that required physical activity and the need to get out of their comfort zone on a comfy chair into the outdoor terrain (Khamzina et al., 2020). The security needs teachers believe are important for technologies aimed at children did not prove to be a criterion for children’s selection or use of mobile apps.

Despite being in the concrete operational stage (Piaget, 2005), the children were able to meet their social needs, not only through entertainment apps but also through those designed for play and education. Children valued collaborative learning to a high degree, which was accomplished through apps fulfilling primary educational needs and fun and play activities.

Similarly, the cognitive, aesthetic, and self-actualisation needs that teachers expect technologies designed for children to satiate evidently do motivate children to use them. Teachers appreciated that several apps are built on customising education and personalising teaching and learning (e.g., Duolingo). It is known that personalised learning technology is a method to enhance effectiveness and equality, recognising that every student possesses unique qualities and the potential to learn when provided with appropriate conditions and tools (Roberts-Mahoney et al., 2016). The teachers themselves admitted that they try to incorporate technology into the curriculum mainly to increase motivation, make teaching more attractive, and create a bond between them and the students. They know it is essential to transform educational institutions to use technology effectively and cultivate technological literacy, considering the ethical framework in using technologies to promote pupils’ well-being, autonomy, and collaboration within schools and their wider communities.

6. Conclusions

Using thematic analysis as a qualitative research design, the study identified central themes significant for the Slovak cultural context, including educational aspects, entertainment, rewards, remote access, and security keys. The study’s findings align with theoretical knowledge and highlight the prevalence of specific topics and variations that rely on a generational perspective. In this section, we will discuss and answer our research questions.

Regarding the needs and requirements for mobile apps targeting children, according to the teachers of generation Alpha (RQ1), interviews with teachers identified 23 themes that expressed needs regarding children’s use of mobile apps. According to teachers of generation Alpha, the themes relate to six basic types of needs:

1. Physiological needs (themes no. 2, 3, 9, 10, 18, and 19);
2. Safety needs (themes no. 6 and 15);
3. Social needs (themes no. 8, 12, 17, 20, and 21);
4. Cognitive needs (themes no. 1 and 7);
5. Aesthetic needs (theme no. 5);
6. Self-actualisation needs (themes no. 4, 11, 13, 14, 16, 22 and 23).

The categorisation of needs can be done into two groups, namely deficiency needs and growth needs, which align with the findings of other researchers (Broekman et al., 2018; Falloon, 2017). Menon (2022) identified seven gratifications influencing the learner’s intention to use educational apps: academic assistance, convenience, entertainment, social influence, novelty, engagement, and activity. Falloon (2017) stressed the significance of interactive design, convenience, and entertainment to motivate students to use learning apps. Similarly, Broekman et al. (2018) found that independent entertainment, the need for coeducation (adults have control), familiarity, tailored challenges, and passing the time fulfilled parents’ needs for apps designed for children. According to Baran et al. (2017), the following motivators: stimulating learner interest, fun elements, interactivity, rewards, and engagement are suitable for successfully using mobile technologies at school. Unsurprisingly, the Slovak teachers were generationally on the same level as the Czech parents of generation Alpha, and their views on the needs of the young generation were similar (Šramová & Pavelka, 2023).

Regarding the purposes and goals of using mobile apps by generation Alpha and which mobile apps meet these purposes and goals for generation Alpha (RQ2), in the interviews, Slovak members of generation Alpha named the mobile applications they used most often and, at the same time, stated the primary purpose they used them for. In principle, it was possible to reveal four groups of practical use of mobile applications: entertainment, information, education, and games, which are covered with 12 applications.

The members of generation Alpha use different applications to shelter the given functional areas. In the Alpha generation, there is a surprising proportional filling of individual functional areas with mobile applications. Three applications always saturate each functional area. The entertainment area is covered by Disney+, Google Photos, and Instagram; the education area, by YouTube, Duolingo, and Netflix; the games area, by Pokémon Go, Roblox, and Minecraft; and the information area, by TikTok, Facebook, and Facebook Messenger.

Their limited communication competencies determine the choice of applications for children in preschool or the first year of primary school. Their competencies are mainly determined by a lack of knowledge of the written (native) language and by knowledge and skill limits tied to only one, the native language. The institutional factor is another factor determining the choice of mobile applications among Slovak and Czech children. Public elementary and secondary schools, the vast majority in the Slovak and Czech Republic, are financed and methodically centrally managed by the state. The state contains and regulates the area and forms of digitisation of communication, ensuring education and training. The next factor influencing the selection and use of mobile applications is the parents of generation Alpha. Meanwhile, the Covid-19 pandemic caused the use of social media (Twitter, Instagram, LinkedIn, YouTube, TikTok, Reddit) to significantly increase in 2021 worldwide (HubSpot, 2022; Needle, 2022). According to HubSpot (2022), the prediction is that it will grow annually by about 14%.

Regarding the extent to which teachers' ideas about using mobile applications correspond with the communication practice of generation Alpha pupils (RQ3), there are no significant differences between the ideas and needs to be supported through children's use of technology, according to teachers, and the mobile apps used by the younger Alpha generation. The advent of technology is unlocking fresh opportunities for individuals across the board, fostering creativity and facilitating efficient learning modes.

Mobile apps have a growing trend in media consumption for the Alpha generations (Rideout, 2016). The findings show that the digital communication activities of generation Alpha refer to the audience's intentionality, selectivity, and involvement with the media. It corresponds to previous findings (Šramová & Pavelka, 2017). The presented research opens other possible research topics, such as how new communication and mobile apps will influence the Alpha generation's behaviour, value orientation, and well-being. The findings are consistent with theory and point to the penetration of individual topics and differences that depend on a generational approach (Šramová & Pavelka, 2019).

The gratification theory emphasises that users are actively selective and motivated to use specific media (Katz et al., 1973; Kearney et al., 2020, pp. 129–151). The theory provides a user-centred angle for the various social and psychological satisfactions obtained from

a given medium in the technology environment (Leung & Wei, 2000; Menon, 2022; Papacharissi & Rubin, 2000).

The presented research offers one possible approach to generations regarding the current topic: mobile applications. The limiting factor is the number of research participants. In the future, it would be desirable to examine generations using the criteria of gender, social status, and age cohorts. Based on these data and their evaluation, it would also be possible to create recommendations for developers and producers of mobile applications and to integrate these technologies into educational processes. When digital communication technologies are purposefully integrated, considering future outcomes and targeting specific objectives for growth, it enhances the capacity to support students' learning, advancement, and personal development.

Acknowledgments

This work was supported by Tomáš Bata University in Zlín (Grant RVO/FMK/2022).

Conflict of Interests

The authors declare no conflict of interests.

References

- Anthonymsamy, L. (2021). The use of metacognitive strategies for undisrupted online learning: Preparing university students in the age of pandemic. *Education and Information Technologies*, 26(6), 6881–6899. <https://doi.org/10.1007/s10639-021-10518-y>
- Apaydin, Ç., & Kaya, F. (2020). An analysis of the preschool teachers' views on alpha generation. *European Journal of Education Studies*, 6(11), 123–140. <https://doi.org/10.5281/zenodo.3627158>
- Baran, E., Uygun, E., & Altan, T. (2017). Examining preservice teachers' criteria for evaluating educational mobile apps. *Journal of Educational Computing Research*, 54(8), 1117–1141. <https://doi.org/10.1177/0735633116649376>
- Bedrošová, M., Hlavová, R., Macháčková, H., Dědková, L., & Šmahel, D. (2018). *Czech children and adolescents on the internet: Report from a survey at primary and secondary schools*. Masaryk University. https://irtis.muni.cz/media/3137007/eu_kids_online_report_2018_en_main.pdf
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–352. <https://doi.org/10.1080/14780887.2020.1769238>
- Broekman, F. L., Piotrowski, J. T., Beentjes, H. W. J.,

- & Valkenburg, P. M. (2018). App features that fulfil parents' needs in apps for children. *Mobile Media & Communication*, 6(3), 367–389. <https://doi.org/10.1177/2050157918759571>
- Burns, T., & Gottschalk, F. (Eds.). (2020). *Education in the digital age: Healthy and happy children*. OECD. <https://doi.org/10.1787/1209166a-en>
- Carr, N. (2010). *The shallows: What the internet is doing to our brains*. W. W. Norton.
- Chaudron, S., Di Gioia, R., & Gemo, M. (2018). *Young children (0–8) and digital technology: A qualitative study across Europe*. European Commission. <https://data.europa.eu/doi/10.2760/294383>
- Curran, J., & Gurevitch, M. (Eds.). (2005). *Mass media and society* (4th ed.). Hodder Education.
- Curran, J., & Hesmondhalgh, D. (Eds.). (2019). *Media and society* (6th ed.). Bloomsbury Academic.
- Degryse, C. (2016). *Digitalisation of the economy and its impact on labour markets*. European Trade Union Institute. <https://doi.org/10.2139/ssrn.2730550>
- Eynon, R. (2020). The myth of the digital native: Why it persists and the harm it inflicts. In T. Burns & F. Gottschalk (Eds.), *Education in the digital age: Healthy and happy children* (pp. 134–143). OECD. <https://bit.ly/44QmUiW>
- Facer, K., & Furlong, R. (2001). Beyond the myth of the “cyberkid”: Young people at the margins of the information revolution. *Journal of Youth Studies*, 4(4), 451–469. <https://doi.org/10.1080/13676260120101905>
- Falloon, G. (2017). Mobile devices and apps as scaffolds to science learning in the primary classroom. *Journal of Science Education and Technology*, 26(6), 613–628. <https://doi.org/10.1007/s10956-017-9702-4>
- Fraser, S., Lewis, V., Ding, S., Kellett, M., & Robinson, C. (Eds.). (2004). *Doing research with children and young people*. SAGE.
- Gerstein, J. (2019). *Learning in the making: How to plan, execute, and assess powerful Makerspace lessons*. Association for Supervision and Curriculum Development.
- Gottschalk, F. (2019). *Impacts of technology use on children: Exploring literature on the brain, cognition and well-being* (Working Paper No. 195). OECD. <https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP%282019%293&docLanguage=En>
- Green, L., Holloway, D., Stevenson, K. J., Leaver, T., & Haddon, L. (2022). *The Routledge companion to digital media and children*. Routledge.
- Gubrium, J. F., Holstein, J. A., Marvasti, A. B., & McKinney, K. D. (2012). *The SAGE handbook of interview research: The complexity of the craft*. SAGE.
- Han, J., Liu, G., & Gao, Y. (2023). Learners in the meta-verse: A systematic review on the use of roblox in learning. *Education Sciences*, 13(3), Article 296. <https://doi.org/10.3390/educsci13030296>
- Harcourt, D., & Sargeant, J. (2012). *Doing ethical research with children*. Open University Press; McGraw Hill Education.
- Horst, H. A., & Gaspard, L. (2022). Platforms, participation, and place: Understanding young people's changing digital media worlds. In L. Green, D. Holloway, K. Stevenson, T. Leaver, & L. Haddon (Eds.), *The Routledge companion to digital media and children* (pp. 38–47). Routledge.
- HubSpot. (2022). *The social media trends*. <https://www.hubspot.com/hubfs/EN%20Final%20SMT%20Report.pdf>
- Jha, A. K., Pandey, V., & Kumari, V. (2019). What's eating up adolescent sleep? Evidence from Bihar. *Gujarat Research Society*, 21(9). <http://gujaratresearchsociety.in/index.php/JGRS/article/view/2838>
- Jones, C., & Czerniewicz, L. (2010). Describing or debunking? The net generation and digital natives. *Journal of Computer Assisted Learning*, 26(5), 317–320. <https://doi.org/10.1111/j.1365-2729.2010.00379.x>
- Káčerková, E. (2019). Social networks, their role and influence on generation Y versus generation Z when recruiting applicants for higher education institutions. In *12th annual International Conference of Education, Research and Innovation* (pp. 3231–3237). International Academy of Technology, Education and Development.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly*, 37(4), 509–523. <https://doi.org/10.1086/268109>
- Kearney, M., Burden, K., & Schuck, S. (2020). *Theorising and implementing mobile learning*. Springer.
- Khamzina, M., Parab, K. V., An, R., Bullard, T., & Grigsby-Toussaint, D. S. (2020). Impact of Pokémon Go on physical activity: A systematic review and meta-analysis. *American Journal of Preventive Medicine*, 58(2), 270–282. <https://doi.org/10.1016/j.amepre.2019.09.005>
- Kirschner, P., & De Bruyckere, P. (2017). The myths of the digital native and the multitasker. *Teaching and Teacher Education*, 67, 135–142. <https://doi.org/10.1016/j.tate.2017.06.001>
- Kocourek, J., & Čočková, R. (2017). The quality of university teachers as one of the tools of image building. In K. P. Soliman (Ed.), *Proceedings of the 30th International Business Information Management Association Conference, IBIMA 2017–Vision 2020: Sustainable economic development, innovation management, and global growth* (pp. 2591–2596). International Business Information Management Association.
- Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly*, 77(2), 308–320. <https://doi.org/10.1177/107769900007700206>
- Levordashka, A., & Utz, S. (2016). Ambient awareness: From random noise to digital closeness in online social networks. *Computers in Human Behavior*,

- 60, 147–154. <https://doi.org/10.1016/j.chb.2016.02.037>
- Lieberman, S. (1979). A transgenerational theory. *Journal of Family Therapy*, 1, 347–360. <https://onlinelibrary.wiley.com/doi/pdf/10.1046/j..1979.00506.x>
- Livingstone, S., Kardefelt Winter, D., & Saeed, M. (2019). *Global kids online comparative report*. United Nations International Children’s Emergency Fund.
- Maslow, A. H. (1998). *Towards of psychology of being* (3rd ed.). John Wiley & Sons.
- McCrinkle, M., Fell, E., & Buckerfield, S. (2021). *Generation Alpha: Understanding our children and helping them thrive*. Hachette Book Group.
- Menon, D. (2022). Uses and gratifications of educational apps: A study during Covid-19 pandemic. *Computers and Education Open*, 3, Article 100076. <https://doi.org/10.1016/j.caeo.2022.100076>
- Modrzejewska, A., Czepczor-Bernat, K., Modrzejewska, J., Roszkowska, A., Zembura, M., & Matusik, P. (2022). #Childhoodobesity—A brief literature review of the role of social media in body image shaping and eating patterns among children and adolescents. *Frontiers in Pediatrics*, 10. <https://doi.org/10.3389/fped.2022.993460>
- Nadeak, B. (2020). The effectiveness of distance learning using social media during the pandemic period of Covid-19: A case in Universitas Kristen Indonesia. *International Journal of Advanced Science and Technology*, 29(7), 1764–1772.
- Needle, F. (2022). *80+ essential social media marketing statistics for 2022*. Hubspot. <https://blog.hubspot.com/blog/tabid/6307/bid/23865/13-mind-bending-social-media-marketing-statistics.aspx#channel-specific-stats>
- Nelson, T. S., Heilbrun, G., & Figley, C. R. (1993). Basic family therapy skills, iv: Transgenerational theories of family therapy. *Journal of Marital and Family Therapy*, 19(3), 253–266. <https://doi.org/10.1111/j.1752-0606.1993.tb00986.x>
- O’Mara, J., Laidlaw, L., & Wong, S. S. H. (2022). Children as architects of their digital worlds. In L. Green, D. Holloway, K. Stevenson, T. Leaver, & L. Haddon (Eds.), *The Routledge companion to digital media and children* (pp. 144–151). Routledge.
- OECD. (2022). *Who cares about using education research in policy and practice? Strengthening research engagement*. <https://doi.org/10.1787/d7ff793d-en>
- Papacharissi, Z., & Rubin, A. E. (2000). Predictors of internet use. *Journal of Broadcasting & Electronic Media*, 44(2), 175–196. https://doi.org/10.1207/s15506878jobem4402_2
- Piaget, J. (2005). *The psychology of intelligence*. Routledge.
- Prensky, M. (2001). Digital natives, digital immigrants—Part 1. *On The Horizon*, 9(5), 1–6. <https://doi.org/10.1108/10748120110424816>
- Rideout, V. (2016). Measuring time spent with media: The common sense census of media use by US 8–to 18-year-olds. *Journal of Children and Media*, 10(1), 138–144. <https://doi.org/10.1080/17482798.2016.1129808>
- Roberts-Mahoney, H., Means, A. J., & Garrison, M. J. (2016). Netflixing human capital development: Personalised learning technology and the corporatisation of K-12 education. *Journal of Education Policy*, 31(4), 405–420. <https://doi.org/10.1080/02680939.2015.1132774>
- Rubin, A. (2009). Uses-and-gratifications perspective on media effects. In J. Bryant & M. B. Oliver (Eds.), *Media effects: Advances in theory and research* (pp. 165–184). Routledge.
- Rustad, M., & Andersen, R. (2022). Using Minecraft as an educational tool for supporting collaboration as a 21st century skill. *Computers and Education Open*, 3, Article 100094. <https://doi.org/10.1016/j.caeo.2022.100094>
- Schwab, K. (2017). *The fourth industrial revolution*. Crown Business.
- Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S., & Hasebrink, U. (2020). *EU kids online 2020: Survey results from 19 countries*. EU Kids Online, The London School of Economics and Political Science. <https://doi.org/10.21953/lse.47fdeqj01ofo>
- Southwick, L., Guntuku, S. C., Klinger, E. V., Seltzer, E., McCalpin, H. J., & Merchant, R. M. (2021). Characterising Covid-19 content posted to TikTok: Public sentiment and response during the first phase of the Covid-19 pandemic. *Journal of Adolescent Health*, 69(2), 234–241. <https://doi.org/10.1016/j.jadohealth.2021.05.010>
- Šramová, B. (2019). The generational approach to education. In *Proceedings of 175th the IRES International Conference* (pp. 15–18). The IRES.
- Šramová, B., & Pavelka, J. (2017). The perception of media messages by preschool children. *Young Consumers*, 18(2), 121–140. <https://doi.org/10.1108/yc-11-2016-00643>
- Šramová, B., & Pavelka, J. (2019). Gender differences and wellbeing values in adolescent online shopping. *International Journal of Retail & Distribution Management*, 47(6), 623–642. <https://doi.org/10.1108/IJRDM-08-2017-0173>
- Šramová, B., & Pavelka, J. (2023). Transgenerational approach focused on generation Z and generation Alpha to current consumption of mobile applications. In M. V. Abad, C. L. Barroso, & G. B. Daimiel (Eds.), *Marcas, creatividad y consumo en el público infantil y joven* [Brands, creativity, and consumption by kids and teens] (pp. 129–152). Dykinson.
- Štefanec, Z., & Švrčičová, R. (2022). Postoje adolescentov k vlastnému telu a vnímanie samých seba [Adolescents’ attitudes towards their own bodies and self-perception]. *Mládež a spoločnosť*, 28(1), 48–58.
- Tootell, H., Freeman, M., & Freeman, A. (2014). Gener-

ation Alpha at the intersection of technology, play and motivation. In R. H. Sprague Jr. (Ed.), *47th Hawaii International Conference on System Sciences* (pp. 82–90). The Institute of Electrical and Electronics Engineers.

Turk, V. (2017). *Understanding generation Alpha*. Hotwire. <https://www.hotwireglobal.com/generation-alpha>

United Nations International Children’s Emergency Fund. (2023). *Global kids online*. <https://www.unicef-irc.org/research/global-kids-online>

Valentine, G., Holloway, S., & Bingham, N. (2002). The digital generation? Children, ICT and the everyday nature of social exclusion. *Antipode*, 34(2), 296–315. <https://doi.org/10.1111/1467-8330.00239>

Vavoula, G. N., Sharples, M., Rudman, P., Lonsdale, P., & Meek, J. (2007). Learning bridges: A role for mobile learning in education. *Educational Technology*, 47(3), 33–36. <https://www.jstor.org/stable/44429505>

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonell, C., & Booy, R.

(2020). School closure and management practices during coronavirus outbreaks including Covid-19: A rapid systematic review. *The Lancet Child & Adolescent Health*, 4(5), 397–404. [https://doi.org/10.1016/S2352-4642\(20\)30095-X](https://doi.org/10.1016/S2352-4642(20)30095-X)

Wang, A. I. (2021). Systematic literature review on health effects of playing Pokémon Go. *Entertainment Computing*, 38, Article 100411. <https://doi.org/10.1016/j.entcom.2021.100411>

Williams, A. (2015, September 19). Meet Alpha: The next “next generation.” *The New York Times*. https://www.nytimes.com/2015/09/19/fashion/meet-alpha-the-next-next-generation.html?_r=0

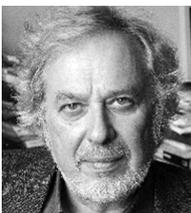
Yurtseven, N. (Ed.). (2020). *The teacher of generation Alpha*. Peter Lang.

Ziatdinov, R., & Cilliers, J. (2021). Generation Alpha: Understanding the next cohort of university students. *European Journal of Contemporary Education*, 10(3), 783–789. <https://doi.org/10.48550/arXiv.2202.01422>

About the Authors



Blandina Šramová is an associate professor at Tomáš Bata University in Zlín (Czech Republic) and a professor at Comenius University in Bratislava (Slovak Republic). Her professional interest is focused on applying psychology in the media and marketing-communication field.



Jiří Pavelka deals with communication theory, history and theory of culture, semiotics, interpretation of media products, and advertising communications. He is the author of more than 120 studies, co-author of 11 encyclopedic and textbook texts and author of the books *Anatomy of Metaphor* (1982), *Searching for a Place in History* (1983), *Dictionary of Epochs, Directions, Groups and Manifestos* (with I. Pospíšil; 1993), *About Rose, Tibetans, and Postmodernism* (1997), *Prerequisites for Literary Communication* (1998), and *Culture, Media, and Literature* (2004).