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Research Article

THE EFFECTS OF MOBILE PHONE / TABLET USE ON PRESCHOOL CHILDREN

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Abstract

In recent times, more and more work is being done by computers, and thus human participation is reduced, and in proportion to this, the need to move is reduced. The fact that humans are active living beings is increasingly neglected, including the fact that all human development depends on their overall activities, both physical and cognitive. Today, we are witnessing the introduction of electronic classrooms already in primary education, and that we have encountered from an early age the phenomenon that previously active games are being replaced by some sitting games. This leads to active play, active work, mutual interactions being replaced by passive sitting and minimal cognitive activity. Most of the actions are now performed by a computer instead of children. Children should independently research and conclude about the phenomena around them. Unfortunately, experiential learning is often replaced by programmed outcomes of activities that children are left with when using mobile media. The aim of this paper is to draw attention to the negative consequences that arise from such work with children, because the application of this approach neglects the important fact that the goal of learning is not just the exact end result, ie. the child should be made aware that 1 plus 1 is equal 2, but it is necessary for the child to go through all those thought processes that precede the automation of knowledge by adding two numbers. Children need to actively learn through play from early childhood and through these games they need to be exposed to a variety of thought challenges. In each game, the active participation of children and independent coming to solutions / conclusions through their own experiential path should be maximized. Only then will we have healthy and capable people in the future who know how to take the first steps in any sphere of life. The study involved 139 educators who shared their experiences in working with children exposed to mobile phone use. They described how they see the consequences of the impact of mobile media on children's behavior. We believe that the opinions of those who spend time with children on a daily basis are extremely important because they can also notice certain phenomena that no research can detect because they observe children in natural activities.

Keywords: *Dacryodes edulis* seed, Hepatotoxicity, High dosage, Nephrotoxicity.

INTRODUCTION

Man was born as a curious being eager for knowledge and activity. Initial knowledge is acquired spontaneously in the environment in which the child was born. This knowledge is supplemented and expanded by parental activities, as well as the activities of other people who in some way participate in the child's upbringing, ie. have some role. These skills and knowledge are systematically expanded in kindergartens through planned organized work. In addition to other people's influences, the child only continuously researches and learns from his environment. This research is directed and controlled when the child goes to kindergarten (and later to school) when educators, teachers, professors conscientiously perform their work, which is prescribed by certain programs. As all developmental processes are related to a certain period of a child's life, the period of preschool education cannot be left to random learning. Of course, this period cannot be strictly standardized because it must be spontaneous and accompanied by a creative, well-designed game in which children will enjoy to the maximum and in which they will have the opportunity to reach their maximum. Kamenov (1987) believes that learning should be adapted to the abilities of learners, in accordance with their cognitive level, especially with the level of development of symbolic thinking that allows them to use sign systems, especially speech, logical-mathematical concepts, etc. Over the past decade, recognition of the short-term and long-term benefits of high-quality early childhood education programs has increased, but the systems needed to sustain these benefits through early transition (and beyond) have not yet been fully implemented (Gomez, 2016). From studies focusing on educational interventions for young children, we know that "deficiencies" or differences in children's basic knowledge and skills are the primary cause of the achievement gap, which begins at an early age and cannot be mitigated by educational experiences after second grade (Heckman 2011). In a study conducted by Kabbalah *et al.* (2015) they came to the following conclusions (answers were given by parents of children): by the age of 4 three quarters of children already had their own mobile phone, and almost all children already used mobile phones, while most children started using them before reaching 1 year of life. Parents gave their children devices when doing household chores (70%), to keep them calm (65%) and at bedtime (29%). At the age of 2, most children used the device daily. Most children aged 3 and 4 used the devices without assistance, and one third engaged in multitasking in the media. Apps like YouTube and Netflix were very popular. There are several theories as to why the differences between those who have attended the ECE program (ECE = Early Childhood Education) and those who have not are disappearing: high-quality primary school experiences allow peers who have not attended the ECE program to catch up with their peers; the quality of primary school teaching can be poor, so children are less likely to keep what they have learned; and the approach to teaching in primary school is inconsistent with that provided for in the ECE settings, causing a gradual disappearance as a result of inconsistencies in content and teaching (Jenkins *et al.,* 2015). A study conducted by Kilic *et al.* (2019) showed high exposure of children (from one to sixty months of age) to mobile phones. The total exposure to mobile devices was 75.6%, and the average age of these children was 12 months, and the most common activity was watching

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videos. The frequency of mobile media use is inversely proportional to the level of education of mothers and household income. Studying in preschool and elementary school period is very important. That is when the foundations are laid for all future knowledge. Early games contribute to skills development, social development, and imagination and creativity. The effects of early learning are permanent and irreversible. That learning should not be limited. It should be imbued with intellectual, physical and emotional components, and include challenges that will inspire children to broaden their horizons and desire for future activities on their own. Children's activities should prepare children for the next developmental period. They should be ready for further learning. It is also important to develop the skills of listening, concentrating and following instructions. More and more people are aware of the importance of the first five years of a child's life for his overall development in the early years and long-term benefits in school and life, and research on critical factors of high-quality so-called ECE programs that result in significant benefits for the success of young children in school and beyond are continuously happening (Gomez, 2016).

Pehar (2007) states that scientists have discovered that what makes a person unique and special in later life, is mostly the result of their experience gained very early, especially emphasizing the first three years of life. The brain changes if it is functioning. These are functional changes (Omerović *et al.,* 2009). Due to the interdependence of physical, social and cognitive learning, they should be combined and applied. Piaget (1978) argued that children's opinions are too logical because their judgments are not based on objectively established relationships of things (because children are not capable of analysis and synthesis). Their thought operations are unconscious and self-centered (egocentric). For him, physical and mental activity has a key role in development, which does not allow passive acceptance of the influence of the environment. Therefore, he pointed out three types of experiences: physical, logical-mathematical and social. Through physical experience, they get acquainted with the physical properties of objects. Through logical-mathematical experience, they learn to present the results of observing the relationship between subjects. This can be considered a complex intellectual activity. Social transmission is the transfer of experience from the environment.

In modern times, the human factor is increasingly being replaced by a machine - a computer. Such events are called development, progress, success ... Whether it is really successful or not and how, it could be analyzed for days. Unfortunately, this, what we call modern, is entering the big door and into the lives of children. Examples of this are found from early childhood, even in the first months of life. Very early children are shown pictures and various cartoons on the phone, as well as numerous songs and the like. Instead of toys, the child is given a mobile phone. It is interesting that children, regardless of age, when you offer them a real mobile phone and a mobile phone toy or some other toy, take a real mobile phone. We often see that mobile phones are used instead of pacifiers. The child stops crying as soon as he picks up the mobile phone. If children get used to using mobile phones often, the time spent with them will constantly increase with age. Late-night mobile phone use by adolescents has been associated with poorer sleep quality. Those who are physically active have better sleep quality and quantity (Amra *et al.,* 2017). Children grow up in such conditions and with such habits. Then comes the next developmental stage in which the child still does not know how to speak well, but can successfully use many applications on a tablet or mobile phone. Many use the Google app well. Parents justify such events by explaining that the content that children watch is appropriate and at the same time consider their children to be very advanced because they have mastered certain computer skills. At the same time, it is often forgotten that there are many ads on every website that are inappropriate. Significant damage to the healthy growth and development of children. In addition, children spend too much time sitting and have certain movements that are not appropriate for the age of the children. With such a way of life, the educational system becomes a great burden for children because one click is not enough for all tasks to be completed. They have a special difficulty with subjects within which they have to think, where we do not have all the answers written in the textbook. Children are used to performing even complex actions with just one click, and this is not possible in math class. Mathematical contents are undoubtedly a very important part in the development of logical thinking and thinking in general, and systematicity, gradualness, etc. What happens when we reduce children's exposure to games that are imbued with threads of mathematical truth? Undoubtedly, this is how we reduce their overall development, especially the one that is in the domain of logic.

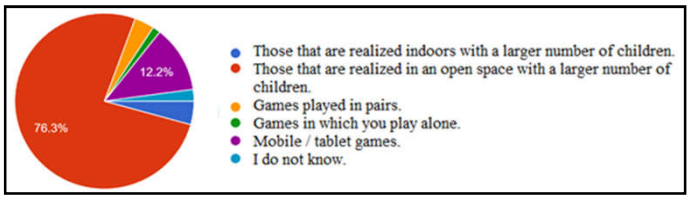
If we offer a child a mobile phone or tablet with games that have all the endless choices of various games, the child will prefer to choose a mobile phone. The reason lies in a well-designed program for all sites. It has the function of manipulating human decisions. We can only imagine the impact that a large number of advertisements have on children when we find a huge number of examples of adults who are more or less enslaved to the Internet and the opportunities it offers. Children increasingly have access to mobile phones and become their owners in a period in which their literacy and numeracy skills are developing. Dempsey *et al.* (2019) examined whether there is a link between early mobile phone ownership and academic performance, and whether delaying of becoming a mobile phone owner affects the development of academic skills. Mobile phone use can have a negative impact on cognitive load, increased distraction, and changes in memory and learning patterns. Studies have also shown that mobile phones can reduce both the duration and quality of sleep, which is also likely to affect children's academic progress. Previous studies (according to Divan *et al.* 2012) on mobile phone use have indicated health effects in adults, and the most vulnerable category are children. The previous decade has seen a large increase in mobile phone use, as well as an increase in the number of problematic behaviors in childhood. Mobile phone use has been linked to an increased number of headaches, migraines, and itchy skin. Even children who have used mobile phones regularly have a worse health condition than last year. The results of the research suggest the need for more careful use of mobile phones in children because long-term exposure to mobile phone radiation is expected to have detrimental effects (Chiu *et al.,* 2015). We could say that children have no chance of being saved from the noose imposed on them from birth. Children are exposed to mobile media even before they are born. According to research, mobile phones can interfere with learning, children's development, sleep, vision, listening and the like, and pediatricians, aware of the beneficial and side effects of use, should give advice in accordance with children's age (Bozzola

et al., 2018). In research conducted with mothers who use mobile phones and who do not use them, it was proven that there is a connection between prenatal and postnatal use, which was reflected in the behavior of children up to 7 years of age (Divan *et al.,* 2012). However, based on the results of a study conducted by Divan *et al.* (2011), there appears to be no evidence to support an association between maternal mobile phone use during pregnancy and delays in motor and cognitive / language development among children under two years of age. While playing, on their mobile phones, children lose their sense of reality and time spent in the game. Their decisions and opinions are mostly based on an unreal world, a world where evil is often presented as something interesting, desirable and good. In addition, it is much easier to play games than to solve some math problem. From excessive sitting, children become more and more sluggish and their bodies do not have the elasticity of former children, so one can hear the phrase to say about children that they "have wooden legs". The ability to think is marginalized and diminished. If we look back to the beginning of learning mathematics in kindergartens, we will see that this is actually a process of developing mathematical concepts. It depends on the cognitive development of the child, as well as the ability to speak. The condition for understanding quantitative relations is the development of opinion, and it is possible to accelerate it with a directed influence. By developing basic mathematical principles, speech and comprehension are developed.

Thus, high-quality play interwoven with various skills certainly contributes to faster and more comprehensive development of the child's overall personality. We still don't know exactly how advances in technology negatively affect this process, but we all notice it. Unfortunately, we all view this by accepting both conciliatory and becoming part of such a routine. Mathematics through education has always been a problem for a certain number of students, but now that number has increased tremendously. A huge percentage of students seek additional help in mastering mathematical content in the form of instructions, which has been an almost unknown phenomenon in the past. If we compare the curricula a hundred years ago (the ones that are available to us), we can notice that the past contents are several times harder and more complex than the ones that are current now. Why is it harder to learn math for today's children than it used to be for their peers? Probably they also had difficulties in overcoming them, but they still succeeded. The math content now being learned has been simplified compared to what was learned before, which begs the question why children today can't master it? Obviously, something has happened that reduces the possibility of mastering mathematical facts. If we compare the lives of children then and now, the first thing we notice is that play has changed a lot. Therefore, we must look at the causes of these negative phenomena at the very beginning of learning. The importance of initial learning is very great, especially the importance of early mathematical learning. By this it is not meant that children study classical mathematical theory, but it is meant that they then lay the foundations on which to build their future knowledge, including that based on mathematical theories. If we ignore this, the consequences will be far-reaching and irreparable. We will have adults working like robots, who will be able to behave only as previously defined and elaborated algorithms, and who will not actually be able to create such an algorithm on their own. After summarizing the negative effects of technology development on the ability of children exposed to them, we need to ask ourselves what we can do to reduce the harmful effects. What emerges is that we can reduce children's exposure to these influences. Is that even possible? Yes, if we offer them something that will be more interesting and attractive. So, this is a challenge for all participants in the educational process to get involved and give their contribution in the areas they deal with. What we are proposing is a serious approach to learning in early childhood, far more serious than it is now. We believe that work in kindergartens should be better planned and prepared, and that we must have something special that will keep the interest of children to deal with certain problems when they return home. That something should distract them for a while longer than playing on mobile phones. We believe that it is necessary to cultivate greater interest of children in events in their personal environment, instead of disturbing and limiting them. It is high time to change the attitude towards learning at all levels of children's age and for knowledge to finally get the position it deserves, as well as all those who aspire to be bearers of knowledge. Even if media devices and digital communication can be useful tools for communication and overcoming barriers during emergencies, the hidden risk of misuse should be pointed out (Bozzola, 2021).

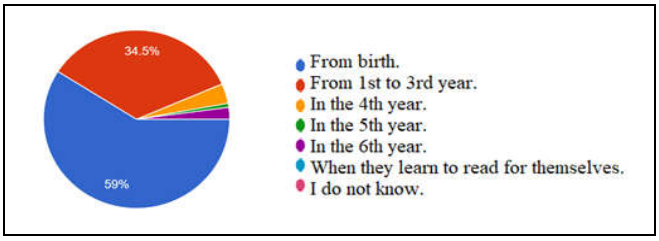
METHODOLOGICAL FRAMEWORK OF RESEARCH

Reflecting on the presented topic, the idea was reached to explore the attitudes of educators about the role of modern technology in the growth of children. The research was conducted through an online survey, and the sample consisted of 139 educators. The sample of respondents is mostly female (92.1%), they are employed (71.2%) and have up to 5 years of work experience (33.8% less than one year, 34.5% from one to five years, 10.1% from 6 to 10 years, 16.5% from 11 to 20 years of service). We asked the respondents several questions with multiple choice answers. We were interested in the opinions of educators about the games that children love, about the time periods that are suitable for telling stories, the use of mobile phones, and the effects of using mobile phones in the preschool period. We believe that the opinions of those who spend time with children on a daily basis are extremely important because they can also notice certain phenomena that no research can detect. They observe children in different natural situations, and yet the research is conducted in artificial circumstances. The first question we asked was to list the game that preschoolers like the most, and we presented their answers in Graph 1.



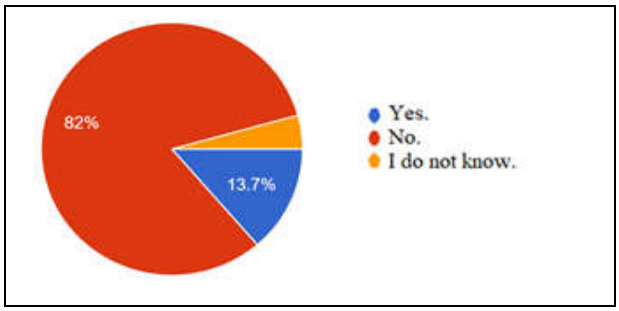
Graph 1. The games that preschoolers like the most

It is obvious that children prefer games that are played outdoors, which involve a large number of other children. Games with mobile phones or tablets are not something that children prefer. We also felt it was important to ask educators when they felt it was the best time to start reading stories to children. In their parenting groups, they had children whose parents read stories at various ages of their lives, as well as those to whom they did not, so they could have their own opinion based on that. Their answers are shown in Graph 2.



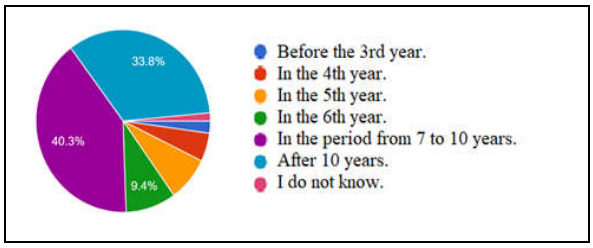
Graph 2. When is the best time to start reading stories to children?

Most are those who think we should read to children from birth, followed by those who say it is the period from the first to the third year. That would mean we need to start reading stories to children as early as possible. The next thing we asked was whether mobile phone use was beneficial for preschool children. We presented the answers in Graph 3.

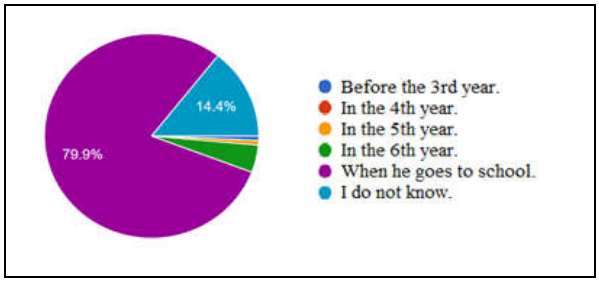


Graph 3. Is the use of mobile phones/tablets beneficial for preschool children?

It is obvious that most respondents do not think that the use of mobile phones / tablets is beneficial for children. The next thing we asked was when the use of mobile phones or tablets should be allowed and when children can surf the internet on their own. We presented the answers in Graphs 4 and 5.

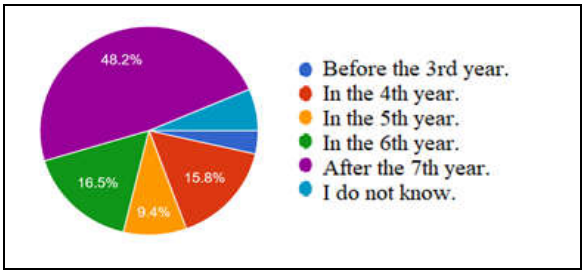


Graph 4. When should children start using mobile phones/tablets?

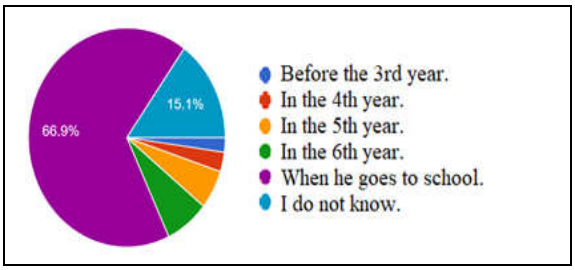


Graph 5. When should children be allowed to surf the internet?

Most respondents agreed that mobile phone use and internet surfing are appropriate for school-age children. The next thing we asked was when it's time for kids to watch cartoons and play games on their mobile phones. We presented the answers in Graphs 6 and 7.

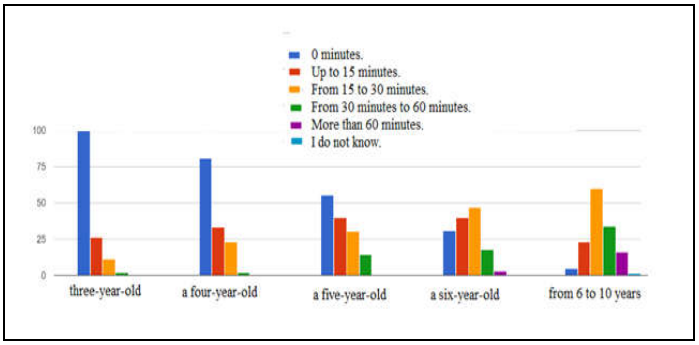


Graph 6. When should children start watching cartoons on a mobile phone/tablet?



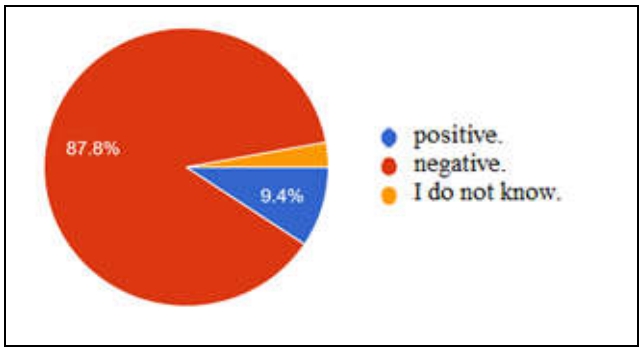
Graph 7. When should children start playing games on a mobile phone/tablet?

Most respondents believe that watching cartoons and playing games on a mobile phone / tablet is recommended for school-age children. Our next question was how much time they would allow children to use mobile phones depending on their age. We presented the answers in Graph 8.

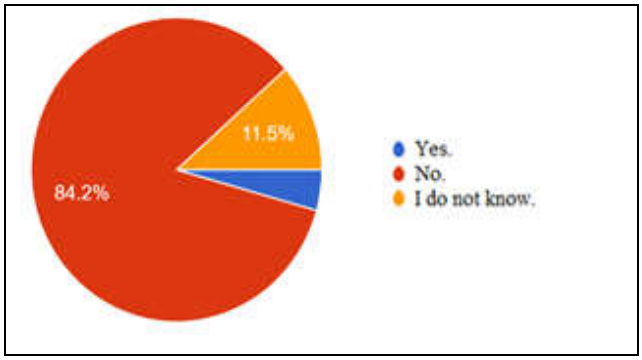


Graph 8. How much time should children spend using mobile phones/tablets?

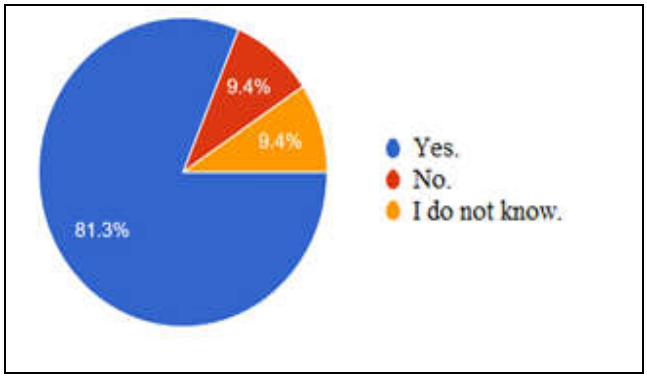
When it comes to preschool children (3-year-olds, 4-year-olds, 5-year-olds), most respondents feel that they should not spend a single minute with mobile phones. Six-year-olds and older children up to the age of 10 would be allowed to spend 15 to 30 minutes using mobile phones. The next thing we asked was what were the effects of mobile phone use on preschoolers. We presented the answers in Graphs 9, 10 and 11.



Graph 9. Mobile phone use for preschool children is



Graph 10. Are children who use mobile phones more imaginative than other children?



Graph 11. The use of mobile phones causes antisocial behaviors of preschool children

The results we obtained indicate that educators believe that the use of mobile phones in preschool has negative effects on children. They also believe that children who use mobile phones are not more imaginative than others, and that mobile phone use during this period causes antisocial behavior in children. Thus, educators did not list the positive effects of mobile phone use in the preschool period.

Conclusion

Summarizing the previously graphically presented research results, we conclude that the attitudes of educators are mostly negative when it comes to the presence of mobile phones or tablets in the lives of preschool children. In a note, some educators wrote that their response was "never" when it came to mobile phones / tablets and preschool children. They did not state that they noticed any positive effects of using mobile phones or tablets during that period, but did point out some other positive facts. They pointed out that children love outdoor games and that as many children as possible should be involved in these games at the same time. They also stressed the importance of reading stories early. So, learning from early childhood is something that is not questionable, but does not involve the use of mobile phones or tablets. It involves learning through interactive games, which must be diverse, creative and functional. Children need to learn directly, spontaneously and be constantly exposed to various challenges of learning and discovering the world around them by living their kindergarten activities.

REFERENCES

Amra, B., Shahsavari, A., Shayan-Moghadam, R., Mirheli, O., Moradi-Khaniabadi, B., Bazukar, M., Yadollahi-Farsani, A., Kelishadi, R. 2017. The associationof sleep and late-night mobile phone use among adolescents. *Journal de Pediatria (Rio J)*, 93, 560-7.

Bozzola, E. 2021. Media Use during Childhood and Adolescence. *International Journal of Environmental Research and Public Health*, 18, 967.

Bozzola, E., Spina, G., Ruggiero, M., Memo, L., Agostiniani, R., Bozzola, M., Corsello, G., Villani, A. 2018. Media devices in pre-school children: the recommendations of the Italian pediatric society. *Italian Journal of Pediatrics*, 14, 44(1), 69.

Chiu, C. T., Chang, Y. H., Chen, C. C., Ko, M. C., Li, C. Y. 2015. Mobile phone use and health symptoms in children. *Journal of the Formosan Medical Association*, 114, 598-604.

Dempsey, S., Lyons, S. and McCoy S. 2019. Later is Better: Mobile phone ownership and child academic development, evidence from a longitudinal study. *Economics of Innovation and New Technology*, 28(8), 798-815.

Divan, H. A., Kheifets, L., Obel, C., Olsen, J. 2012. Mobile phone use and behavioural problems inyoung children. *Epidemiol Community Health*, 66(6), 524-529.

Divan, H. A., Khheifets, L., Olsen, J. 2011. Prenatal mobile phone and developmental milesone delays among infants. *Scandinavian Journal of Work Environment and Health*, 37(4), 341-348.

Gomez, E, R. 2016. Sustaining the Benefits of Early Childhood Education Experiences: A Research Overview. Annenberg Institute for School Reform, *Voices in Urban Education*, *Promoting Seamless Transitions from Preschool to Kindergarten and Beyond*, 43, 5-14.

Heckman, J. J. 2011. Effective Early Childhood Development Strategies. In *The Pre-K Debates: Current Controversies and Issues*, edited by E. Zigler, W. S. Gilliam & W. S. Barnett. Baltimore, MD: Paul H. Brookes Publishing.

Jenkins, J. M., Watts, T. W., Magnuson, K., Clemens, D., Sarama, J., Wolfe, C. B., Spitler, M. E. 2015. Preventing Preschool Fade Out through Instructional Intervention in Kindergarten and First Grade: A Working Paper. Irvine: University of California School of Education.

Kabali, H. K., Irigoyen, M. M., Nunez-Davis, R., Budacki, J. G., Mohanty, S. H., Leister, K. P., Bonner, R. L. Jr. 2015. Exposure and Use of Mobile Media Devices by Young Children. *Pediatrics*, 136(6), 1044-1050.

Kamenov, E. (1987). *Preschool Pedagogy.* Book I. Belgrade: Institute for textbooks and teaching aids.

Kılıç, A. O., Sari, E., Yucel, H., Oğuz, M.M., Polat, E., Acoglu, E. A., Senel, S. 2019. Exposure to and use of mobile devices in children aged 1-60 months. *European Journal of Pediatrics*, 178(2), 221-227.

Omerović, M. *et al.* 2009. *Preschool Pedagogy.* Tuzla: OFFSET.

Piaget, Z., Inhelder, B. 1978. *The intellectual development of the child.* Institute for textbooks and teaching aids, Belgrade.

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