



KNOWLEDGE, ATTITUDES, AND PRACTICES OF PARENTS REGARDING THE USE OF ELECTRONIC DEVICES BY PRESCHOOLERS

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Keywords: *pre-schoolers, electronic devices, gadget, parents, knowledge, attitudes, practices.*

Introduction. *International practices show that electronic devices have a major negative impact on children's development, yet they are widely used. An essential role here belongs to the knowledge, attitudes and practices of parents, as they have a primary role in educating children.*

Material and methods. *A quantitative study was carried out that involved the surveying 422 parents of preschoolers.*

Results. *The research found that among preschoolers, 90% use electronic devices, and 49% own their own device. More than 50% of parents are not aware of recommendations regarding the use of gadgets. Although 92% of parents believe that the use of devices can cause health problems for children, only 29% of children follow the recommendations regarding the duration of device usage. Moreover, over 20% of parents consider devices important for the harmonious development of their child.*

Conclusions. *The level of parents' knowledge regarding the use of gadgets by preschoolers is low, which results in a favorable attitude towards the use of devices by children, leading to their excessive use among preschoolers, without taking into account the recommendations of specialists.*

Cuvinte cheie: *preșcolari, dispozitive electronice, gadget, părinți, cunoștințe, atitudini, practici.*

CUNOȘTINȚE, ATITUDINI ȘI PRACTICI ALE PĂRINȚILOR REFERITOR LA UTILIZAREA DISPOZITIVELOR ELECTRONICE DE CĂTRE PREȘCOLARI

Introducere. *Practicile internaționale demonstrează că dispozitivele electronice au un impact negativ major asupra dezvoltării copiilor, cu toate acestea ele continuă a fi pe larg utilizate. Un rol esențial în contracararea acestui fenomen reprobabil le revine părinților, nivelului lor de cunoștințe, atitudini și practici, ei având un rol primordial în educarea copiilor.*

Material și metode. *S-a realizat un studiu mixt. Au fost organizate 4 ședințe de focus-grup cu educatori și medici, 1 interviu în profunzime cu reprezentantul Ministerului Educației și Cercetării. Studiul cantitativ - chestionarea a 422 de părinți de preșcolari.*

Rezultate. *Rezultatele studiului calitativ au servit la formularea a 9 concluzii, o parte dintre ele au fost folosite ca ipoteze de lucru pentru studiu cantitativ. Cercetarea a relevat că, în rândul copiilor preșcolari, 90 % folosesc dispozitivele electronice, 49 % dețin un dispozitiv propriu. Mai mult de 50% dintre părinți nu cunosc recomandările privind utilizarea gadgeturilor. Deși 92 % dintre părinți consideră că utilizarea dispozitivelor poate cauza copiilor probleme de sănătate, doar 29 % dintre copii respectă recomandările privind durata de utilizare a dispozitivelor. Totodată, peste 20 % dintre părinți consideră dispozitivele importante pentru dezvoltarea armonioasă a copilului.*

Concluzii. *Nivelul de cunoștințe al părinților privind utilizarea de către preșcolari a gadgeturilor este unul scăzut, ceea ce determină o atitudine favorabilă vizând problema în discuție. În consecință, se atestă utilizarea excesivă a gadgeturilor în rândul preșcolariilor, ignorându-se recomandările specialiștilor.*

INTRODUCTION

According to a study by authors Khiu A. and Hamzah H. on the use of devices by young children and preschoolers, 96.6% of children have used mobile devices starting at ages 1 and 2, with the majority using them daily (1), and by the age of 4, many already have their own cell phone (2). Studies in the United States show that 1 in 3 children can use a gadget before they even start speaking (3). In the Netherlands, 98.7% of young people aged 12 to 15 have a smartphone, 91.7% have a laptop, 78.1% have a tablet, and 58.5% have a video game console (4). According to a survey conducted by Coman L. in 2018 among parents in our country, aimed at identifying the interaction of preschool children with modern technologies and the socialization problems that arise in these children, approximately 40% of 4-6 year olds have their own personal device (5).

According to the Centers for Disease Control and Prevention (CDC) in the US, children from 0 to 18 years old spend an average of 8 hours a day in front of a screen (6), which would mean that all the time the child spends outside of school is spent in front of a device. According to reports from UNICEF, daily use of electronic devices among children aged 2-5, even for less than 1 hour a day, leads to a socio-emotional development of the child that is 0.4 times lower than age norms (7). There are also studies that demonstrate a connection between the use of devices and developmental deficiencies in children, including cognitive, language, and socio-emotional development (8). Additionally, these children are more susceptible to obesity, vision problems, anxiety, and depression.

In 2016, the American Academy of Pediatrics formulated recommendations regarding the use of gadgets by children, primarily aimed at parents. Thus, for preschool children, it is recommended to limit screen time to less than 1 hour per day, media content should be of high quality, and parents should view and explain content with the child to help them understand and apply what they see to the real world (7).

The use of devices by preschool children is influenced by a series of factors, including cultural, social, demographic, and personal factors (8, 9). These include place of residence, number of family members, number of children in the family,

and the family's financial situation. The COVID-19 pandemic has also influenced the use of devices among children: studies show that 92% of parents reported an increase in the duration and frequency of their children's device use during the pandemic (10). Parental control over device use is necessary to protect children from addiction and other negative consequences (11). Devices can also be useful, but it is crucial how parents introduce their child to the device. Careful monitoring by parents of the media content viewed by their child would have a positive impact on the child's health. Additionally, parents play a role model in device use (children adopt the habits of those around them), so the impact of devices on children's development will depend on the level of knowledge, attitude, and practices of parents.

The aim of the study: Assessing the knowledge, attitudes, and practices of parents regarding the use of electronic devices by preschool children in order to develop recommendations for measures that would contribute to preventing the negative effects caused by their improper use.

MATERIAL AND METHODS

A quantitative study was conducted by applying a questionnaire developed for the purpose of the study. The questionnaire questions were formulated based on international recommendations regarding children's use of gadgets and based on hypotheses obtained in a qualitative study that preceded the quantitative study. The questionnaire was pretested online with a sample of 15 people, and some technical adjustments were made afterwards.

The study sample consisted of 422 adult individuals of reproductive age, who have children aged between 3 and 6 years, from all over the territory of the Republic of Moldova. The inclusion criteria were: age over 18, individuals who gave verbal consent to the study. Exclusion criteria were: age under 18, if one of the parents had already participated in the study, and refusal to participate in the study. The given sample is representative of the population of the Republic of Moldova.

The data was collected between December 2021 and April 2022.

The methods used: historical, statistical, sociological, comparative, analytical and graphical.

RESULTS

In the study, 422 respondents participated, 87% of whom were female and 13% were male. In terms of living environment, 49% were from rural areas and 51% were from urban areas. Of the 422 respondents, 30% had monthly family incomes between 5,000 and 10,000 lei, 27% had incomes below 5,000 lei, 22% chose the “I don’t want to answer” option, 11% of respondents had an income between 10,000 and 15,000 lei, and 10% had an income greater than 15,000 lei. According to the total number of children, 50% of respondents had 2 children, 22% had one child, 21% had 3 children, while 8% had more than 3 children. The age of the oldest child in the 3-6 year category: 36% were 6 years old, 25% were

5 years old, 21% were 4 years old, and 18% were 3 years old (tab. 1).

Out of the total of 422 respondents, 51% indicated that their children do not own their own device, but use family devices, while 49% of children own their own device.

In rural areas, children have 10% more access to a television and 3% more access to a high-end phone compared to their urban counterparts, while preschoolers in urban areas have access to video game consoles and smart watches (fig. 1). Therefore, we can say that in urban areas, children have access to a wider range of electronic devices.

Table 1. Sample structure.

| Respondents' living environment | Urban | | Rural | |
|--|-----------------|---------------------|---------------------|----------------------|
| | 51% | | 49% | |
| Gender | male | | female | |
| | 13% | | 87% | |
| Age category | 18-25 years old | 26-35 years old | 36-45 years old | over 45 years old |
| | 9% | 63% | 26% | 2% |
| Level of education | primary | secondary education | high school studies | higher education |
| | 5% | 19% | 23% | 52% |
| Occupation | employed | unemployed | entrepreneurs | students |
| | 59% | 36% | 5% | 1% |
| Total number of children | 1 child | 2 children | 3 children | more than 3 children |
| | 22% | 50% | 21% | 8% |
| Number of children aged 3-6 years old | 1 child | 2 children | 3 children and more | |
| | 70% | 27% | 4% | |
| Gender of the child | male | | female | |
| | 52% | | 48% | |
| The age of the oldest child in the 3-6 year category | 3 years old | 4 years old | 5 years old | 6 years old |
| | 18% | 21% | 25% | 36% |

Among parents, 78% believe that the frequency and duration of device use has increased during the COVID-19 pandemic. In addition, compared to 2020, there is also an increase in the rate of 4-6 year old children who own their own device in 2022. This increase is most likely due to the influence of the COVID-19 pandemic, as well as the increased access to electronic devices for children.

Among preschool children, 90% use electronic devices, with minor differences depending on the

living environment, namely: in urban areas, 88% use electronic devices, while in rural areas – 92%. In focus groups, there were hypotheses that this difference is due to the fact that preschoolers in urban areas are involved in activities outside of kindergarten and that in urban areas there is infrastructure that allows for outdoor recreation activities.

Only 29% of children comply with the recommendations regarding the duration of device use, and

8 % of children use devices for more than 3 hours a day (especially television) (tab. 2), which would mean that the child spends almost all of their time outside of kindergarten hours with a device.

A limitation of this analysis is represented by the fact that the estimations were made for each device separately, assuming that a child uses only one device. If we were to analyze the cumulative time for all devices, the situation could be much more alarming. This aspect may be the subject of further research.

Among the most popular activities that children

do with the help of gadgets are watching movies, cartoons, videos, playing video games, and listening to music. Children in urban areas practice playing video games twice as much as those in rural areas, and this is also explained by the fact that, unlike their peers in rural areas, children in urban areas have access to video game consoles.

More than 50% of parents do not know the recommendations regarding the appropriate age and duration of device use (fig. 2). Although 57% of parents are aware of the sleep disturbances that may occur in children as a result of excessive device use before bedtime, only 27% of children aged 3-6 never use a device before sleep.

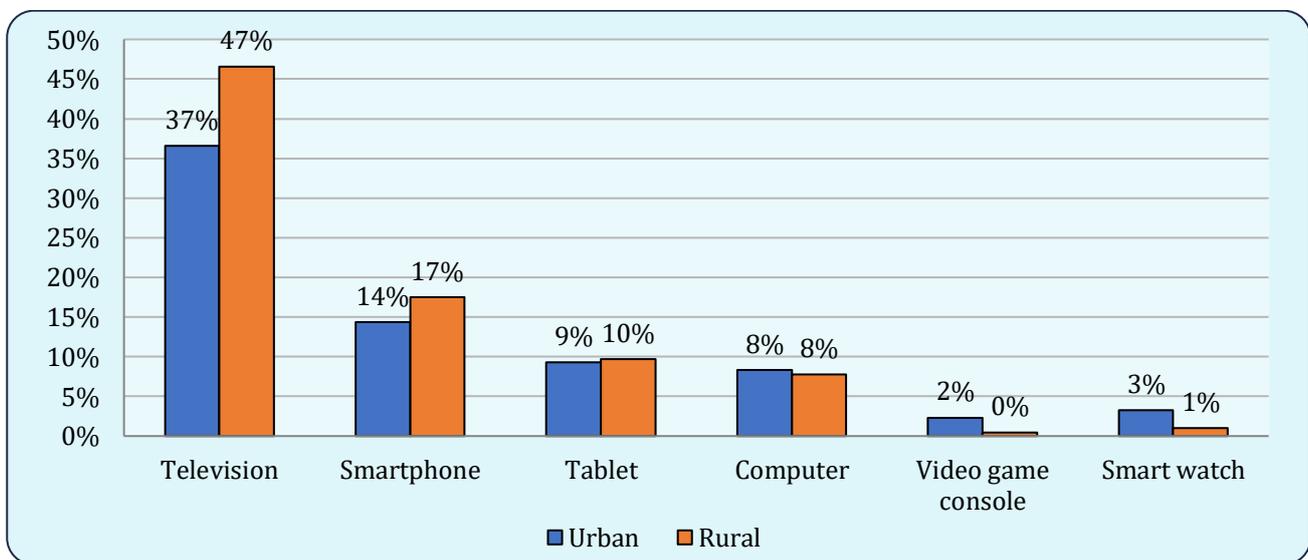


Figure 1. Distribution of devices owned by preschoolers, according to the place of residence.

Table 2. The share of device usage time by preschoolers, (in %).

| N/0 | Device type | Up to 1 hour/day | Up to 2 hours/day | Up to 3 hours/day | More than 3 hours/day | Does not use/have a device |
|-----|-----------------------------------|------------------|-------------------|-------------------|-----------------------|----------------------------|
| 1 | Smartphone | 34.60 | 20.38 | 9.24 | 4.74 | 31.04 |
| 2 | Computer | 23.93 | 10.19 | 2.61 | 2.37 | 60.90 |
| 3 | Television | 28.67 | 30.81 | 22.04 | 15.40 | 3.08 |
| | Media | 29.07 | 20.46 | 11.30 | 7.50 | 31.67 |
| | STDEV (standard deviation) | 5.34 | 10.31 | 9.88 | 6.94 | 28.92 |

Parents’ knowledge about the use of electronic devices by preschoolers varies according to their age and level of education. Thus, parents over the age of 45 know less about recommended durations and ages for the use of electronic devices by preschoolers, while those with a higher level of education know more. Parents’ knowledge does

not vary depending on their living environment.

The results show that 50% of parents gather information from the internet, followed by educators at 26%, and family doctors at 16%, highlighting the need to develop the competencies of these specialists in the field. It should be noted that 19% indicated that they have not received such infor-

information, and 8% indicated that they do not need it. Parents in urban areas gather information from the internet 13% more than those in rural

areas, while those in rural areas gather information from educators 7% more than those in urban areas.

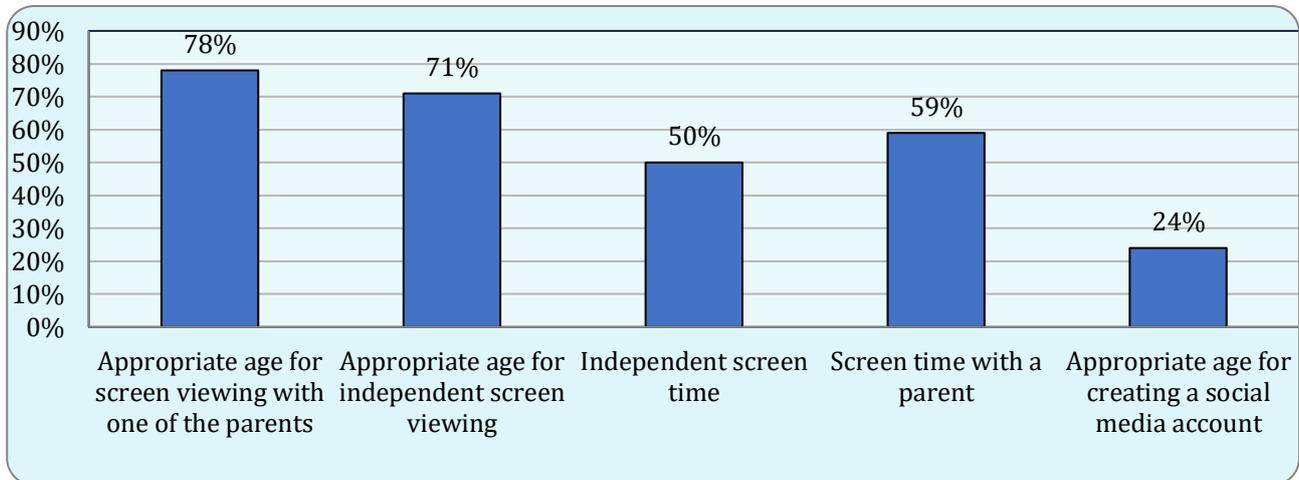


Figure 2. The proportion of incorrect answers according to the questions asked to parents.

Although 92% of parents believe that the use of electronic devices can cause health problems in children, parents are only aware of a few of the consequences of excessive use, namely: more of them are aware of vision disorders, while fewer are aware of obesity and anxiety. Nevertheless, parents have positive attitudes towards electronic devices. Thus, 26% of parents believe that devices contribute to the harmonious development of the child, 17% believe that they have a beneficial effect on the child, and 20% believe that devices help the child learn to read, write, and speak. It is alarming that 5% of parents believe that a child should create a social media account by the age of 6.

The most frequent reasons why parents give electronic devices to their children are: lack of time to give them attention (29%) and the desire to calm the child (15%). In 75% of cases, parents prefer to prohibit the use of devices, while only 35% use parental control applications. From the study, we observe that only 1% of children who are prohibited from using devices before sleep *always* use them before sleep, compared to 22% of children who are not prohibited. The same trend is observed when analyzing the use of devices during meals. Thus, only 1% of children who are prohibited from using devices during meals *always* use them, while 13% of those who are not prohibited do. This demonstrates the effect of parental prohibitions on the behavior of the child.

Although parents are aware of certain recommendations, it does not necessarily mean that they will follow them. Supporting this idea are the data regarding the consequences of device use. Of the 57% of parents who are aware of sleep disturbances caused by gadget use, only 31% prohibit the use of devices before bedtime. At the same time, analyzing the responses of parents in the *Knowledge* section, we see that 55% of parents are aware of the recommended duration of device use, but regarding their practices – only 47% of all parents adhere to this duration.

DISCUSSIONS

The comparative results of the data obtained in this study with a study by the author Coman L., conducted in 2018, show that in recent years the rate of preschool children who have their own device has increased from 40% to 49%.

The widespread use of devices among preschoolers is determined by parents' low level of knowledge in this area. Moreover, even if parents are aware of certain recommendations, it does not necessarily mean that they will follow them, as the number of those who are aware is always greater than those who use this knowledge in practice. Although 57% of parents are aware of the sleep disturbances that may occur in children as a result of excessive use of devices before bedtime, only 27% of children aged 3-6 never use a device before bedtime.

Parents prefer to ban the use of devices rather than control their child's interaction with the device using parental control applications. The more parents ban the use of gadgets, the less children use them, compared to children who are not prohibited from using gadgets.

Parents' knowledge, attitudes and practices differ depending on a number of factors including parents' living environment, age and education. These results were also obtained in a UNICEF study on the factors influencing the use of gadgets by children (7).

CONCLUSIONS

1. According to the research results, we found that parents' level of knowledge regarding the use of electronic devices by preschoolers is low, with more than half of the parents not knowing the general aspects related to gadget use.
2. Parents have different attitudes regarding the use of devices, with the majority believing that device use can cause health problems for their children, but at the same time, a significant portion of parents view gadgets as a necessary tool that helps children develop. Most parents believe that during the COVID-19 pandemic, the frequency and duration of device use have increased.
3. Among preschool children in the Republic of Moldova, 90% use gadgets, and almost half of them have their own device, most commonly a television. Parents allow preschoolers to watch screens for longer than the recommended durations by specialists, with some preschoolers using them for even more than 3 hours per day. Among the most popular activities carried out by children using gadgets are: watching movies, cartoons, videos, playing video games, and listening to music.
4. To reduce the negative impact of electronic device use, a set of measures is needed aimed at improving parental knowledge, influencing attitudes, raising awareness among parents to perceive the risks of excessive use of electronic devices, and changing parental practices regarding the use of electronic devices by preschool children.
5. The development and implementation of such measures require the involvement of various actors, such as central and local public authorities, subordinate institutions, non-governmental organizations, society, and last but not least, parents.

CONFLICT OF INTEREST

There are no conflicts of interest.

ETHICAL APPROVAL

The article does not have ethical approval.

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