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# Family Socioeconomic Status And Parents' Education As Indicators Of The Primary Use Of Digital Media By Children

## ABSTRACT

This paper is a response to studies conducted in other countries on how the socioeconomic status of families affects the media use patterns and media education strategies imposed by parents on their children. Admittedly, research on the subject in Slovakia is largely lacking. Our study is based on an assumption of a close relation between the level of education, household income and parents' preference for the purpose to which children are allowed to use digital media. Our research was conducted on a sample of 572 parents with children aged between 3 and 8 living in the Žilina self-governing region. Based on the analysis, a mild correlation was observed between household income and the preference to allow children to use digital media to avoid boredom and fill in the time without parental attention. The correlation between the level of education and preference for digital content was not confirmed. The research has led to a conclusion that most parents tend to prefer exploiting the entertainment potential of digital technologies while minimizing screen time. The conclusions of this research are compatible with similar studies pointing to the prevalence of restrictive (quantitative) mediation present in Slovak families.

## KEY WORDS

Digital media. Functionality of digital media. Level of education. Restrictive mediation. Socioeconomic status.

# 1. Introduction

The massive impact of media on family life augmented by a more recent emergence of digital technologies has been of concern to both scholars and general public for a long time. Digital media are regarded as one of the drivers of significant changes – or sometimes even crises – affecting families today. One of the primary concerns is that the use of media leads to isolation of family members, which in turn results in less time spent together as a family. Nevertheless, paradoxical as it may seem, media are generally regarded as instruments of socialization.

The use of media by children and adolescents is a separate research topic. Undoubtedly, media and latest technologies are not the only factor which affects families today. Scholarly discourse cannot ignore other factors which have a significant impact on the daily lives of families in addition to traditional media and digital technologies. The actual quality of the family itself, along with the values of the family members as well as the economic background also play a role and add up to the partial effect of media present in the lives of families. The aim of this study is to examine the impact of household income and the level of education on parents' decision to allow their children to use digital technologies.

# 2. Literature Review and Research

Undoubtedly, recent technological advances have led to an increase in the number of households equipped with digital technologies. According to an Australian research carried out in 2012 on a large sample of children aged 5 – 14 years, children spend more time on media than on any other leisure activity. The study also confirmed an increase in the number of children with internet access.<sup>1</sup> According to another study conducted in the USA, even children or adolescents themselves acknowledge they spend unreasonable amount of time using technologies.<sup>2</sup> The trend of excessive use of media is also supported by another study conducted in 2019<sup>3</sup>, which suggests children aged 8 – 12 years spend 5 hours a day in front of the TV screen, and 2.5 hours more in older age groups. The EU Kids Online research conducted in Slovakia<sup>4</sup> shows that every fifth child or adolescent aged 9–17 years spends more than 4 hours on the internet during schooldays and even more time during weekends. Restrictive (quantitative) mediation<sup>5</sup> is often suggested as one way to address excessive media consumption by children. This approach is the most frequently used strategy of media education within the context of Slovak families: as many as 40% of parents impose a limit on the time their offspring spend in virtual

<sup>1</sup> The author of this study has performed an extensive foreign literature research on the subject as part of her previous publication activity (Compare to: POLIEVKOVÁ, P.: *Dieťa cez prizmu digitálnej zábavy [A Child Through the Lens of Digital Entertainment]*. In *Digitálne detstvo [Digital Childhood]*. Catholic University in Ružomberok : VERBUM – Catholic University Press, 2019, pp. 65-92.).

<sup>2</sup> See: JIANG, J.: *How Teens and Parents Navigate Screen Time and Device Distractions*. [online]. [2020-06-09]. Available at: <<https://www.pewresearch.org/internet/2018/08/22/how-teens-and-parents-navigate-screen-time-and-device-distractions/>>.

<sup>3</sup> RIDEOUT, V., ROBB, M. B.: *The common sense census: Media use by tweens and teens 2019*. [online]. [2020-06-10]. Available at: <<https://www.common sense media.org/sites/default/files/uploads/research/2019-census-8-to-18-full-report-updated.pdf>>.

<sup>4</sup> IZRAEL, P., HOLDOŠ, J., ĐURKA, R., HASÁK, M.: *Slovenské deti a dospievajúci na internete: Záverečná správa z výskumu EU Kids Online IV – Slovenská republika [Slovak Children and Adolescents on the Internet: Final Report from the EU Kids Online IV Research – Slovak Republic]*. Ružomberok : Catholic University in Ružomberok, 2020, p. 18. [online]. [2020-06-02]. Available at: <[http://www.ku.sk/images/dokumenty/ff/Sprava\\_z\\_vyskumu\\_EU\\_Kids\\_Online\\_Slovensko\\_2018\\_-\\_2020.pdf](http://www.ku.sk/images/dokumenty/ff/Sprava_z_vyskumu_EU_Kids_Online_Slovensko_2018_-_2020.pdf)>.

<sup>5</sup> IZRAEL, P.: *Rodičovská mediácia [Parental Mediation]*. In PAVLÍČKOVÁ, H., ŠEBEŠ, M., ŠIMÚNEK, M. et al. (eds.): *Mediální pedagogika: Média a komunikace v teorii a učitelské praxi [Media Pedagogy: Media and Communication for Teachers in Theory and Practice]*. České Budějovice : University of South Bohemia in České Budějovice, 2009, pp. 78-86.

environment.<sup>6</sup> Nevertheless, this strategy does not seem to be effective since children spend a lot of time in virtual environment to perform a broad range of other activities.

Admittedly, focusing solely on the amount of time spent in virtual environment may not be the right approach to assess the negative impact virtual environment may have on children. Many authors point out that digital technologies help develop creative skills in children such as through educational applications. „As for the use of appropriately targeted and well-designed didactic strategies, digital platforms can be used in a broad range of areas – from individual learning and practical skills development or application at all levels of education, to informal educational projects and lifelong education institutions.“<sup>7</sup> Another study conducted at the Columbia University found that although 20% of children played video games for more than 5 hours per week, this should not cause any issue. On the contrary, having fun at playing games which require teamwork may lead to better relationships with schoolmates. However, the authors of the study also note that this does not suggest that an unlimited screen time is desirable.<sup>8</sup> Lewalter<sup>9</sup> also highlights the added value of multimedia features offered by digital media (especially for pre-school children), and suggests they may help the child follow and understand the story and remember more information. Another team of authors<sup>10</sup> suggest digital applications may help develop creativity in pre-school children.

The above studies and other research projects on the subject support the notion that a combination of reasonable time spent with digital technologies and an appropriate selection of content (ideally supported by subsequent clarification with parents/caregivers) may be one of many (but definitely not the only) stimuli for development of children and adolescents. Parents/caregivers are in the best position to coordinate the activities of their children in virtual environment. The extent to which parents or caregivers are successful in that respect depends on a number of variables.

Earlier studies carried out in other countries suggest that the impact of parents' income and level of education on their decision to allow children to use digital technologies for either educational or entertainment purposes is not insignificant. One of the studies suggests<sup>11</sup> that higher income families tend to prefer educational content to entertainment. Authors of that study also conclude that internet and mobile devices are less accessible to children raised in lower income families, and they are mostly used for entertainment. Mascheroni et al.<sup>12</sup> concurs with another study (Chaudron, 2015) in that low-income families including one-parent families

<sup>6</sup> IZRAEL, P., HOLDOŠ, J., ĐURKA, R., HASÁK, M.: *Slovenské deti a dospievajúci na internete: Závěrečná správa z výskumu EU Kids Online IV – Slovenská republika [Slovak Children and Adolescents on the Internet: Final Report from the EU Kids Online IV Research – Slovak Republic]*, p. 35. [online]. [2020-06-02]. Available at: <[http://www.ku.sk/images/dokumenty/ff/Sprava\\_z\\_vyskumu\\_EU\\_Kids\\_Online\\_Slovensko\\_2018\\_-2020.pdf](http://www.ku.sk/images/dokumenty/ff/Sprava_z_vyskumu_EU_Kids_Online_Slovensko_2018_-2020.pdf)>.

<sup>7</sup> VRABEC, N.: *Deti a učenie sa prostredníctvom digitálnych médií [Children and Learning Through Digital Media]*. In *Digitálne detstvo [Digital Childhood]*. Catholic University in Ružomberok : VERBUM – Catholic University Press, 2019, p. 39.

<sup>8</sup> See: KOVESS-MASFETY, V., KEYES, K., HAMILTON, A. et al.: Is time spent playing video games associated with mental health, cognitive and social skills in young children? In *Social Psychiatry and Psychiatric Epidemiology*, 2016, Vol. 51, No. 3, pp. 349-357.

<sup>9</sup> See: LEWALTER, D.: *Cognitive strategies for learning from static and dynamic visuals*. [online]. [2020-06-11]. Available at: <[https://www.researchgate.net/publication/222299439\\_Cognitive\\_strategies\\_for\\_learning\\_from\\_static\\_and\\_dynamic\\_visuals](https://www.researchgate.net/publication/222299439_Cognitive_strategies_for_learning_from_static_and_dynamic_visuals)>.

<sup>10</sup> See: MARSH, J., PLOWMAN, L., YAMADA-RICE, D., BISHOP, J. C., LAHMAR, J., SCOTT, F., WINTER, P.: *Exploring Play and Creativity in Pre-Schoolers' Use of Apps: Final Project Report*. [online]. [2020-06-10]. Available at: <[www.techandplay.org](http://www.techandplay.org)>.

<sup>11</sup> See: HOLLOWAY, D., GREEN, L., BRADY, D.: *0-8: Young children's Internet use*. [online]. [2020-06-10]. Available at: <[https://www.researchgate.net/publication/270583255\\_0-8\\_Young\\_children's\\_Internet\\_use](https://www.researchgate.net/publication/270583255_0-8_Young_children's_Internet_use)>.

<sup>12</sup> See: MASCHERONI, G., LIVINGSTONE, S., CHAUDRON, S., DREIER, M.: Learning versus play or learning through play? How parents' imaginaries, discourses and practices around icts shape children's (digital) literacy practices. In *Media education – Studi, ricerche, buone pratiche*, 2016, Vol. 7, No. 2, p. 263. [online]. [2020-02-20]. Available at: <[http://riviste.erickson.it/med/wp-content/uploads/6%20MED\\_Novembre.pdf](http://riviste.erickson.it/med/wp-content/uploads/6%20MED_Novembre.pdf)>.

tend to use media as babysitter, and these parents also spend less time with their children. It was also observed that parents who are familiar with downloading educational applications for their children represent a minority compared to parents who seek entertainment for their children. The selection of downloaded applications based on their entertainment potential is important to parents – a notion which is supported by another study, according to which their primary concern is the entertainment value and playability of an application whereas educational value is considered secondary. Apart from that, studies confirm that part of the downloaded applications for the youngest children do have some potential to develop creativity.<sup>13</sup> Another foreign study supports the assumption of a large share of parents using digital technologies as babysitter, i.e. to fill in the time when parents themselves require assistance of a third person, or when they need to engage in other activities such as housework (70% of parents), or when they are unable to discipline an anxious child (65% of parents).<sup>14</sup> The risks of such an approach have been discussed in several studies by Jenny Radesky. One of them<sup>15</sup> suggests there is a significant correlation between the increased social and emotional strain of infants and the tendency of parents to sooth their children using mobile technologies; this approach is typical of families with lower social and economic status.

### 3. Purpose Statement, Research Questions and Hypotheses

The Slovak research environment dynamically responds to the penetration of digital technologies into the lives of children and adolescents. The Faculty of Mass Media Communication of the University of Ss. Cyril and Methodius in Trnava is one of the research centres which focus on the impact of (digital) media on the activity of children and adolescents – as part of a research project led by the Department of Media Education in cooperation with the Department of Psychology and the Department of Journalism of the Philosophical Faculty of the Catholic University in Ružomberok. The primary aim of these research projects is to map the time spent by adolescents on media, identify the content they consume and assess their capacity to understand it, as well as to examine their ability to apply critical thinking and comprehend the risks of desocialization due to the excessive use of media including the potential for developing an addiction. In addition, research on the parental mediation is also gaining momentum. On the other hand, the research efforts on the economic indicators and the use of digital technologies remain relatively subdued.

With respect to the above, the aim of this research is to examine the following questions:

RQ1 Is there a correlation between the economic status of households and the preferred purpose of allowing children aged under 8 years to use digital media?

RQ2 Does parents' education level correlate with the media content they make available to their children?

<sup>13</sup> See: MARSH, J., PLOWMAN, L., YAMADA-RICE, D., BISHOP, J.C., LAHMAR, J., SCOTT, F., WINTER, P.: *Exploring Play and Creativity in Pre-Schoolers' Use of Apps: Final Project Report*. [online]. [2020-02-20]. Available at: <[http://www.techandplay.org/reports/TAP\\_Final\\_Report.pdf](http://www.techandplay.org/reports/TAP_Final_Report.pdf)>.

<sup>14</sup> KABALI, H. K., IRIGOYEN M. M., NUNEZ-DAVIS R., BUDACKI, J. G., MOHANTY, S. H., LEISTER, K. P., BONNER, R. L.: Exposure and Use of Mobile Media Devices by Young Children. In *Pediatrics*, 2015, Vol. 136, No. 6, pp. 1044-1050. [online]. [2020-06-02]. Available at: <<https://pediatrics.aappublications.org/content/136/6/1044>>.

<sup>15</sup> See: RADESKY, J. S., PEACOCK-CHAMBERS, E., ZUCKERMAN, B.: Use of Mobile Technology to Calm Upset Children Associations With Social-Emotional Development. In *JAMA Pediatrics*, 2016, Vol. 170, No. 4, pp. 397-399. [online]. [2020-06-02]. Available at: <<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2498404>>.

Based on the findings from previous studies carried out in other countries, the following assumption was articulated:

*H1 There is a significant correlation between the household income and parents' decisions to allow their children to use digital media for entertainment and avoid boredom; as well as between the same and parents using the media as babysitter to fill in children's time when parents need to engage in other activities.*

Our research on the subject as described above was carried out in the geographical area of the Žilina self-governing region.

## 4. Research Sample and Methodology

This research study is based on the data obtained as part of an earlier project *Media habits and competences in children from early childhood to early school-age*<sup>16</sup>. The project focused primarily on media habits and media literacy in children during their early childhood and early school age (0 – 8) with a focus on potentially positive or negative aspects of the use of digital media. Social and psychological determinants were also evaluated as part of the project by addressing parents/caregivers as mediators of media content.

The data was gathered on a sample of 572 parents or caregivers of children aged up to 8 years in the Žilina self-governing region. Anonymous questionnaires were used as part of data gathering.

The figures on household income and the use of digital media to avoid boredom were based on 511 responses, which represents 89,30% of the entire sample of parents; figures on household income and the use of digital media when parents need time to engage in other activities were based on 510 responses, which represents 89,20% of the analyzed sample. The difference in the percentage of responses between the above two items was only one tenth of percentage point, which is regarded insignificant with respect to the articulated research conclusions.

As for the second research question, the total number of responses related to parents' education and their willingness to allow children to use digital technologies for entertainment, has reached 550 (96,20%); 547 responses (95,60%) were obtained on the question to what extent specific subgroups of parents with a certain level of education are inclined to prefer educational digital content for their children.

The data obtained were analyzed using standard statistical procedures and methods. Initially, the correlation analysis was applied followed by the descriptive analysis with the use of contingency tables so as to identify differences between individual groups of respondents.

As part of the analysis, specific income and education level groups were identified and their behaviour examined. The education categories were defined as follows: elementary education, secondary education, university undergraduates, university graduates and university postgraduates. Three income thresholds were defined to categorize parents based on household income. The sum of income of the economically active household members was used for this purpose. Initially, our research was based on the income thresholds derived from the Report

<sup>16</sup> The research was carried out in the period 2017 – 2019. The target group for the research – children aged up to 8 years – previously did not have a significant representation in Slovak research efforts. The research was led by the Philosophical Faculty of the Catholic University in Ružomberok, in association with the research centre of the Pedagogical Faculty of the Catholic University in Ružomberok and the Faculty of Mass Media Communication of the University of Ss. Cyril and Methodius in Trnava. The project was subsidized by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic.



of the Statistical Office of the Slovak Republic (ŠÚ SR). According to the available data from a report covering 4785 households, the average household had 2.94 members, out of which 2.23 were not children dependent on their parents. This number represented the economically active household members, pensioners or other members (social security or health insurance beneficiaries). Hence, 0.71 members of an average household represent children economically dependent on their parents.<sup>17</sup> For the purpose of this research, income thresholds were defined based on an assumption that two members of each household earn some income.

The smallest category of respondents (40) were in the under 700 euro income group (net household income). The upper limit was based on an assumption that these are families, in which one household member is on minimum wage; or families, in which one or both household members receive social security benefits or other forms of social support, pension or health insurance benefit.

The medium-income category of 701 – 1600 euros was based on the median of average gross wage (according to the Statistical Office of the Slovak Republic, the average gross wage currently represents 1092 euros). The statistics show that the median of the average gross wage is by about 70 to 100 euros lower than the actual average gross wage. For the purpose of our research, the second income range included households with at least two sources of income in the amount of minimum gross wage, or at least one income in the amount of the median of the average gross wage; or alternatively, the income in the amount of median average gross wage and/or a concurrent source of income in the amount of the minimum wage/one source of income in the amount of social security benefit or other form of social support, pension or health insurance benefit.

The upper income range is represented by high-income households with the amount of income of over 1601 euros, where at least one source of income is in the amount of the gross minimum wage along with at least one concurrent source of income in the amount of the median of the gross minimum wage.

The most populated income category was the medium category of 701 – 1600 euros, which represented 60% of all respondents who responded to the question on the household income. This reflects the fact that, statistically, in 58,00% of households there was at least one person employed, and within additional 12,90% of households, at least one member was self-employed.<sup>18</sup> Our research also accounts for the fact that the average household has two members with some monthly income, i.e. in addition to the main provider, there is one additional economically active person or a person receiving pension, social security or health insurance benefits. The highest income range was populated with 165 respondents, which represented 32,28% of the sample.

Respondents were asked to choose an answer from the following range – never/seldom – sometimes – often/very often. The option ‘sometimes’ was evaluated as socially acceptable, hence a higher percentage of these responses could be expected; this expectation has been confirmed.

<sup>17</sup> Compare to: STATISTICAL OFFICE OF THE SLOVAK REPUBLIC: *Príjmy, výdavky súkromných domácností za rok 2018 – simulované údaje [Income and Expenditure of Private Households in 2018 – Simulated Data]*. [online]. [2020-04-15]. Available at: <[<sup>18</sup> Compare to: ŠÚ SR: \*Príjmy, výdavky súkromných domácností za rok 2018 – simulované údaje \[Income and Expenditure of Private Households in 2018 – Simulated Data\]\*.](https://slovak.statistics.sk/wps/portal/2b2d4f1a-8d66-4840-9c10-86e5581e422b/!ut/p/z/1/rVLLcolwFP2WLxibkKAsMQX4qMWKCLZdABRU-ShUq1_X-y4aBeKnWkWmTzOOcm59yCOFojn4VGsw0oUebit9wFX32zNYp0ONGa0PqfWyOvZpqtjoiD83wDWmR0wtGcHj23bfHEI4re vIRm-8rumMaTaBIBNTAUy-g5ui3LYMiP8eHGmKCJP0cc8TivymqDgil6hBvpkErIR9SCetqKNlxFOoLjlanS888TEpElXefQYktVISijl0KxBoimpialwnFBCoot2GYslCh5C-03F5vet-pf3GrrxDRI4L8TQqdnTObMBWK9dwt yJSsBUGwCAr4B7DWv6ZIDb1G7aHBPkH0VyQI5e7LM6gu4fqzgENEJcRfn7FGdtaGPCNJJUSTJIO5Hp9y TTZT7vTdS0bVhtJ5KsCLR7SrqnifbfjRp2Zlq-Szwot_j00ZeZ5Xsbks5Q6_dW0L1MenU_G0xeRnllc/dz/d5/L2dBISevZ0FBIS9nQSEh/></a>>.</p>
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## 5. Research Outcome and Interpretation

### Correlation of Household Economic Status and Digital Content

A statistically significant correlation ( $r = 0.11$ ;  $p < 0.5$ ) was observed between household income and the use of media when children are bored – these are primarily situations, in which the activities of children are limited, such as waiting at the doctor's office or during travel. Apart from that, a statistically significant correlation ( $r = 0.14$ ;  $p < 0.5$ ) was also observed between the total income of households and the use of digital media when parents need to engage in other activities.

It is also clear that the relation between parents' intentions behind their decisions to allow children to use digital media is also very strong. The correlation ( $r = 0.59$ ;  $p < 0.5$ ) suggests it is likely that if a child is allowed to be entertained through media in situations requiring certain amount of patience, parents also tend to resort to digital media as a substitution activity for that child when they are busy with other activities.

A more detailed analysis has revealed differences in behaviour within individual income groups (Table 1). The question as to how often parents allow their children to use digital media to entertain themselves and avoid boredom has brought the following responses: the response 'never/seldom' was obtained from 15,75% of respondents from the highest income group, 21,24% of respondents from the medium-income category, and 22,50% of respondents from the low-income households. The response 'often or very often' was selected by 21,80% of high-income respondents, 19,93% of medium-income respondents, and 15,00% of low-income respondents. The high-income group is the only category with the prevalence of 'often/very often' responses – this is the group which tends to regard digital media as a means to avoid boredom in children, unlike those who do the same 'seldom' or 'sometimes'. It should be noted that the response 'sometimes' allowed respondents to avoid taking more extreme positions, and it is therefore regarded as an option which enjoys the highest level of social acceptance. The research outcome has confirmed that this option has a significant share in each of the reviewed income groups.

How often do you allow your child to use digital media for entertainment, for example, when they are bored (at home, at the doctor's office, during travel)?					
household income	never/seldom	sometimes	often/very often	total	
0 – 700 euros	22,5%	62,5%	15%	40	100%
701 – 1600 euros	21,24%	59,15%	19,93%	306	100%
1601 or more	15,75%	62,42%	21,8%	165	199%

TABLE 1: I never/seldom/often/very often allow my children to use digital media when they are bored

Source: own processing, 2020

The second question addressed to what extent parents/caregivers were willing to use digital media as babysitter, i.e. when they needed to engage in other activities (Table 2). Out of the total of 510 respondents (regardless of income) 183, i.e. 35,88% of the respondents opted for 'never/seldom' as opposed to just 60 respondents (11,76%), who often/very often resort to digital media as babysitter. The so-called socially acceptable response 'sometimes' was selected by as many as 267 respondents (52,35%).

The structure of the responses for individual income groups shows that out of the economically most vulnerable categories, 7,50% of the respondents 'often/very often' allow their children to use digital media when parents are busy; 37,50% do the same 'sometimes', and 55,00% 'seldom/never'. Within the medium-income category, 10,80% are highly positive about digital technologies, 54,09% opted for 'sometimes', and 35,08% of the respondents opted for 'never/seldom'. As for the high-income category, 'never/seldom' was selected by 32,72%

of the respondents, 14,50% opted for 'often/very often' and as many as 52,72% responded 'sometimes'. Based on the above, one can observe a pattern of the prevalence of respondents who are generally less interested in allowing their children to use digital technologies when parents are busy.

How often do you allow your child to use digital media so that you can engage in other activities?					
household income	never/seldom	sometimes	often/very often	total	
0 – 700 euro	55,00%	37,50%	7,5%	40	100%
701 – 1600 euro	35,08%	54,09%	10,80%	305	100%
1601 or more	32,72%	52,72%	14,50%	165	100%

**TABLE 2:** *I never/seldom/often/very often allow my children to use digital media so that I can engage in other activities*

Source: own processing, 2020

Interestingly, the high-income category is the only group with the prevalence of parents willing to use digital media as a source of entertainment when the child is bored. However, as for the use of digital media as babysitter, the behaviour of this group follows the pattern of the other two income groups.

### Education as Indicator of Preferred Digital Content

According to studies from other countries, parents with higher education are less likely to prefer the use of digital media to entertain their children. However, in our research, the relationship between the education of parents and the preferred digital content has not been statistically significant.

The data obtained (Table 3) show that the group of undergraduates is the only one with the prevalence of parents who are often or very often willing to offer digital technologies to their children so they can obtain new knowledge (out of 100 respondents within this group, it was 29,16%); compared to 20,83%, who have opted for the response 'never/seldom'. The response 'never/seldom' accounted for 33,33% of parents with completed elementary education, 29,37% of parents with secondary education, 26,87% of university graduates, and 29,41% of respondents with completed postgraduate education. For the sake of comparison – in respect of the motivation to give children access to digital media to obtain new knowledge – the response 'often/very often' was selected by 16,67% of parents with elementary education, 18,22% of respondents with completed secondary education, 23,89% of university graduates and 23,53% of respondents with completed higher degree of education. This means that the response 'never/seldom' outweighs the responses 'often/very often' in all categories mentioned above (except for undergraduates).

Further analysis of the data show that education has virtually no impact on the perception of the purpose to which parents allow their children to use digital media. It is a paradox that in the context of the first question of the questionnaire (on new knowledge obtained through digital media) undergraduates stand out compared to other categories. Within this group there were more respondents (28,57%) who 'often/very often' perceive digital media as an instrument for entertainment, compared to 24,49% of parents within this group, who 'never/seldom' give their children access to digital media to avoid boredom. At the same time, and as mentioned above, this is the group with highest share of parents who give digital media to their children to obtain new knowledge. The distribution of responses for postgraduates was leveled; their responses 'never/seldom' and 'often/very often' in terms of educational purposes were equal at 29,41%. As for the question about the use of digital media to avoid boredom through entertainment, the response 'never/seldom' was selected by 24,33% of parents with elementary education, 20,37% of parents with secondary education, 19,31% of university graduates. To the same



question, the response 'often/very often' was selected by 16,67% of those with elementary education, 19,26% of parents with secondary education, and 15,85% of university graduates.

Highest level of education achieved	I allow my child to use digital media to learn something new.				I allow my child to use digital media for entertainment to avoid boredom.			
	never/seldom	sometimes	often/very often	Total (100%)	never/seldom	sometimes	often/very often	Total (100%)
<b>Elementary</b>	33,33%	50%	16,67%	12	24,33%	58,33%	16,67%	12
<b>Secondary</b>	29,37%	52,42%	18,22%	269	20,37%	60,37%	19,26%	270
<b>Undergraduate</b>	20,83%	24%	29,16%	48	24,49%	46,94%	28,57%	49
<b>Graduate</b>	26,87%	49,25%	23,89%	201	19,31%	64,85%	15,85%	202
<b>Postgraduate</b>	29,41%	8%	23,53%	17	29,41%	41,18%	29,41%	17

**TABLE 3:** *I never/seldom/often/very often allow my children to use digital media to obtain new knowledge and/or for the purpose of entertainment*

Source: own processing, 2020

## 6. Discussion

In general, with the diminishing household income, the parents' interest in using digital media is also slightly lower, regardless of the purpose of use – when parents try to prevent boredom of their children or when they want to fill in children's time while engaging in other activities. As for the latter, these may be specific situations where children have limited opportunities to move around or interact with their peers, or engage in play (such as waiting at the doctor's office, during shopping, travel etc.). Our research suggests that higher-income households are more likely to use digital media in those situations as a substitute activity for their children. However, this finding does not accord with the outcomes of studies conducted abroad, which tend to suggest a preference for the use of digital technologies as babysitter in socially and economically more vulnerable category of families.

The reason for such behaviour of the low-income groups (specific to the Slovak environment) is (likely) to be associated with more limited availability of digital technologies or limited mobile data packages<sup>19</sup>. With respect to the preferences of the strongest economic category in terms of allowing children to use digital media in specific situations (when bored), it should be noted that information and communications technologies (ICT) sector offers one of the highest paid jobs in Slovakia. The data obtained for this particular target group could reveal to what extent the competence of parents in providing safe digital environment (the so-called technical mediation)

<sup>19</sup> This assumption is supported by the analysis of the *Education Policy Institute (IVP)*. The report inter alia concludes: „From the perspective of social and economic background, the internet is significantly less available to children from the Roma households as well as children from poor households of the ethnical majority. Based on a representative survey conducted in April 2019, internet access is enjoyed only by 52% of children from poor households, and 40% of children from the Roma households – compared to 95% of common households connected to the internet. [...] The differences in terms of technological equipment are significant among children from various social and economic environments. According to the representative survey conducted in 2019, children from poor households or children from the Roma households have significantly limited access to various types of technological equipment; only 21% of children from the Roma families, and 28% of children from poor families have access to a notebook or laptop compared to 86% of children from common households; only 17% of children from the Roma households and 29% of children from poor households have a desktop PC compared to 51% of children from common households.“ BEDNÁRIK, M., ČOKYNA, J., OSTERTÁGOVÁ, A., REHŮŠ, M.: *Ako v čase krízy zabezpečiť prístup k vzdelávaniu pre všetky deti [How to Provide for Access to Education for All during Crisis]*, 2020. [online]. [2020-06-07]. Available at: <<https://www.minedu.sk/data/att/16113.pdf>>.

affects parents' decisions to allow their children to use digital technologies. The specific nature of high-income group is reflected in the fact that it is the only group with different approach to both situations. Whereas 21,8% of this group is 'often/very often' willing to accept digital media as an instrument for entertainment to avoid boredom, this option is 'never/seldom' preferred by 15,75% of high-income parents/caregivers. When parents are busy, 14,40% of them 'often/very often' resort to using digital media as a substitution for parental attention; however as many as 32,72% of high-income parents refuse or only rarely consider this an option. This finding may point to a specifically organized schedule of high-income families with busy parents, and as a result, they have less time to supervise the non-organized leisure activities of their children. However, thanks to high income of their parents, these children are likely to enjoy more organized leisure activities (such as leisure-time centres, clubs, etc.).

In both cases – i.e. when children are bored and when parents/caregivers need time for their own activities – one can observe that parents within the 701–1600 euro income group are less inclined to resolve those situations by giving children access to digital media; the calculated discrepancies account for several percentage points (Table 1 and Table 2). The composition of this income group in terms of education is also quite interesting. As many as 52,60% of medium-income households include one member (likely to be the person filling in the questionnaire) with completed secondary education; 33,98% of them graduates and 10,45% undergraduates (negligible number of households – 0,98% and 1,96% – account for elementary and postgraduates, respectively)<sup>20</sup>. In this respect, one can only observe some signs of a pattern: the income group has reasonable economic background, and both the education structure (of at least one household member) and the total income suggest non-managerial roles. Based on the above one can assume that this group is not likely to be exposed to subsistence pressures, and at least one member of the household has an opportunity to maintain work-life balance, and thus may find some time to identify and introduce reasonable stimuli for their children. This also includes sufficient time of attention as well as a tendency to organize children's time spent with digital media. Based on the EU Kids Online IV Research carried out in Slovakia, the most popular parental mediation strategy is restrictive mediation associated with significant limitation of time spent in virtual environment without checking the content.<sup>21</sup> The tendency to impose time limits corresponds to the usual behavioural pattern of this income group.

Our research suggests that the pattern of preference for restrictive mediation is reflected primarily in limiting the child's time spent with digital media rather than excluding specific content – a pattern, which can be also associated with the highest education level. Hence, a correlation between parents' education and the change in preference for digital content was not observed. This means, parents tend to perceive higher risks in the excessive use of digital media in terms of time rather than content.

## 7. Limitations of Research

The sample of parents having children aged up to 8 years was obtained in cooperation with the elementary schools seated in the municipalities and towns of the Žilina self-governing region. The related randomness resulted in different quantitative incidence of education-based

<sup>20</sup> The data point on the relation between the household income and education is just a secondary indicator to support the assumed composition of households for the purpose of subsequent research on the subject; the questionnaire was used to obtain data on the total income of households, i.e. all members of the household, however, the question on education was aimed only at the parent/caregiver who has filled in the questionnaire.

<sup>21</sup> Compare to: IZRAEL, P., HOLDOŠ, J., ĎURKA, R., HASÁK, M.: *Slovenské deti a dospelávajúci na internete: Závěrečná správa z výskumu EU Kids Online IV – Slovenská republika [Slovak Children and Adolescents on the Internet: Final Report from the EU Kids Online IV Research – Slovak Republic]*, p. 78.

and income-based groups. Moreover, not all respondents were willing to respond to each question. The available data from such a selection of respondents is a limitation, but it allows us to present the conclusions of the study as a certain assumption of the behaviour of individual education-based and income-based groups within the Slovak context. Our research was based on the conclusions of studies carried out in other countries; however, future research projects focusing primarily on the relation of social and economic indicators and the use of digital media as well as the preferred purpose of their use will be able to refer to the findings presented here that are based on domestic data. Hence, the behavioural patterns of Slovak population can be formulated based on this research.

The option 'sometimes' is deemed a limiting factor for the interpretation of research conclusions. The prevalence of these responses raises questions about the intentions of respondents who may have selected this choice just to conform to a socially acceptable standard. Therefore, it is recommended that future questionnaires avoid this option completely and provide a less neutral option instead.

Our research has relied on the available data on the income of the household as a whole, and the highest education level achieved by one member of the household (most probably the one filling in the questionnaire). It is suggested that future studies rely on a more rigorous approach to measuring the impact of social and economic status of families on their preference for digital content and the way in which children are allowed to use digital media; such an approach will require targeted mapping of the total net income for each household as a whole, and specific datapoints on the education level of all income providers.

## 8. Conclusion and Future Research

Despite the research limitations outlined above, the findings presented in this study are useful as they support the assumption of a relationship between household income and children being allowed to use digital media to avoid boredom and/or when parents need to engage in other activities. However, a significant relationship between these indicators could not be established; on the contrary, the results point to a rather weak correlation. The research also shows that the education factor does not play a significant role in terms of parents' preferences for specific digital content.

The analysis of the data set into the context of the conclusions derived from other studies suggests that the low-income groups are somewhat restricted in their parental media education through limited availability of digital technologies mainly due to the limits of their mobile data packages. A larger proportion of technical mediation can be anticipated for the high-income group mainly due to the supposed prevalence of IT-related professional background of those parents. The relationship between income and education seems strongest within the medium-income category, and both factors have a potential to positively affect the selection of an adequate strategy of parental mediation.

The limited impact of education and the economic status of families on the selection of digital content as well as the purpose of digital media use observed as part of our research speaks in favour of the restrictive quantitative mediation. The preference for non-specific restriction on the use of digital media by children – rather than imposing limits on specific activity – is also supported by the data from other research projects such as the one carried out by P. Izrael<sup>22</sup>. The observed prevalence of parents (regardless of income and education) who prefer entertainment to educational content correlates with the outcome of research projects carried out in other countries.

<sup>22</sup> IZRAEL, P.: Mediálne návyky detí do osem rokov a rodičovská mediácia používania [Media Habits of Children up to Eight Years Old and Parental Mediation of Use]. In *Digitálne detstvo [Digital Childhood]*. Catholic University in Ružomberok : VERBUM – Catholic University Press, 2019, pp. 28-29.

Based on these conclusions, one could argue that parents seldom or never allow their children to have access to digital technologies in various situations (such as when children are bored or parents busy). However, the preference for such an approach does not seem to be driven primarily by parents being aware of the risks of an excessive use of digital media, but it can be explained more as a consequence of external influences and economic factors in particular.

Based on the findings of this research, it is of concern that most parents – regardless of education and income – do not seem to fully comprehend the educational potential of digital technologies. One way to address this problem might be parental media education; in that respect, an increased demand for the development of parental skills in this area can be expected. In the recent period, many parents have experienced or come to recognize the benefits digital media have to offer in terms of education and more effective communication. Due to the impact of the COVID-19 pandemic, the period of March – June 2020 has become a period of distance learning marked by extensive use of digital technologies. As the pandemic-driven preference for distance learning gradually fades away, the current period can be regarded as an opportunity for a profound re-evaluation of the competences and approaches to digital education of children. All the factors outlined above also create an opportunity to conduct a new research to explore changes in the mindset of parents and their attitudes toward digital media, as well as choices they make in terms of content their children consume. At the same time, it would be quite interesting to examine whether the time designated for digital education is already included in children's daily limit set by parents for the use of digital media. Clearly, there are a number of variables that enter into the equation and eventually may lead to a change in the mindset, but household income or education will definitely play a role in that respect.

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