

## **Factors Increasing Media Exposure of Preschool Children**

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### **Abstract**

The aim of this research was to explore media exposure of preschool children (1–6 years old) and outline demographic factors affecting it. The data show that media exposure of children in kindergartens is low. Parents, however, report much more diverse media habits of their preschoolers in their home environments. Even though the daily average media exposure of preschoolers in Slovenia does not deviate much from the recommended one, a group of children called large media users is identified. Understanding specific features of large media users can inform the development of early childhood educational programs and projects intended to raise awareness and educate parents and children about media, which are currently still a rarity in Central and Eastern Europe.

### **Introduction**

Media services and products have become integral parts of our everyday lives. Therefore, the ability of individuals to use, understand and also to autonomously, critically interpret the flow, content, values, implications and consequences of media usage has gained in importance. Individuals in late-modern societies need to possess the knowledge and understanding of the way media function and impact on their lives. Learning how to use media and how to participate in dynamic processes of technology-mediated communication and creation processes of media messages is increasingly becoming an integral part of social life as

well as education systems. But even if the ability to access and use different types of media messages has become a necessity, it is by itself not sufficient. It should be supplemented by an ability to reflect on, analyse and evaluate media messages and to consider their intents and consequences. These processes include cognitive, emotional and social competences, with core competences being the ability to use, analyse, evaluate, and reflect on media messages as well as the ability to create and focus on creative problem solving (Hobbs, 2010; Mascheroni and Murri, 2014).

We do not usually expect our youngest children to possess these abilities. However, it has become socially acceptable to place a two-year-old child in front of the TV set and leave him or her there for a while, with an assumption that the TV set is an “easy to use device,” which one does not really need a lot of knowledge or competence to understand. Young, preschool children are also increasingly using mobile devices, various applications, internet, (online) video games and the number of on-demand media services for this age group is increasing. These developments can offer learning opportunities for young children and in the mediated society that we live in, where media are ubiquitous and practically common denominators of all our lives, it would be hard to expect that young children would be excluded from these processes. However, the increasing amount of young children’s involvement in mediated reality (Formby, 2014; Wartella, Kirkpatrick, Rideout, Lauricella, & Connell, 2014; Ofcom, 2015) does also bring challenges regarding their health, eating and sleeping habits, aggressive behaviour, language development, consumerism, building of identity and relationships with others (cf., e.g., the American Academy of Pediatrics, 2009; Christakis, 2008; Garrison and Christakis, 2012; Hayes, 2015; Mendoza, Zimmerman, Christakis, 2007; Farrel et. al, 2016).

The aim of this survey was to explore the media exposure of preschool children (1–6 years old) on a national representative sample in Slovenia. Data on the media exposure of preschool kids in kindergartens and in their home environment was collected. Given the variance in the media exposure of preschool children, it was analysed which factors (including age, gender, rural/urban living environment, parents’ education, parents’ age, shared custody) increase the media exposure of preschoolers.

## **Research Methodology**

In 2015 a survey was conducted, collecting opinions of parents and kinderarten teachers regarding preschool children’s media habits. Data was collected using paper and online questionnaires. 1,087 parents of 1-to-6-year-old children and

265 teachers in kindergartens were included in the survey. The subjects participated voluntarily, they were not financially compensated for the participation in the survey. Their participation was anonymous, not revealing the names or any identifiable information about the subjects. Data was collected with the help of 47 kindergartens, evenly located in all geographical regions, comprising approximately the distribution of rural and urban population in accordance with the data of the statistical office of Slovenia. In the 2014/2015 school year there were 979 kindergartens and dispersed units in Slovenia, with 84,750 children aged 1–5 years (76.8% of the population) attending them (Statistical office RS, 2015). The research sample of parents resembles the population in age and geographical location of families. The sample as such was not additionally adjusted (weighted). The parents who responded to the survey questions were about evenly distributed in two age groups of 1-to-3-years of the child's age (50.6%) and from 4-to-6-years of the age of the child (49.4%).

One of the goals of the research was to collect data on the media exposure of preschool children (in home environment and in kindergarten) and preschool children's access to different media devices. On this basis it was analyzed which factors increase exposure of preschool children and thus the following hypotheses were structured:

H1: Age of a child (ages 1–3 in comparison to 4–6)

H2: Children's gender

H3: Living environment (urban/rural)

H4: Parents' education

H5: Parents' age

H6: Shared custody of children

The data was analysed using SPSS PASW Statistics 18 software. To test the hypotheses, independent sample Student T-tests and ANOVA were used.

## **Research Results**

The survey among parents and educators pointed to significant differences between the media exposure of preschool kids at home and in kindergartens, where on weekdays children spend more than a half of their waking time.

Among more time-consuming activities of preschoolers in kindergarten (maximum 9-hour care) there is playing in playrooms, which according to the opinion

of kindergarten teachers takes on average an hour and a half daily, and playing outdoors, which on average lasts one hour a day. No electronic devices are used during the play time. Average daily exposure to screens in Slovene kindergartens is very low (7.6 minutes). A common media related activity is listening to songs/music. MP3 or CD players are, on average, switched on for half an hour daily.

The parents reported much more diverse media habits of their preschoolers in their home environment. They were asked to provide an estimate of the average time (in hours and minutes) that their child spends doing the following activities on a typical day: a) watching TV; b) watching DVD or taped videos on TV; c) listening to the radio; d) using the computer or tablet; e) playing video games f) reading magazines, newspapers; g) using the mobile phone (also yours) without calling; h) playing outside; i) being in a room where a TV is turned on; j) playing with toys inside.

**Table 1.** Average media exposure times of the two age groups of preschool children (in minutes daily)

	Live TV	DVD or video	Radio	Com-puter or tablet	Video games	Printed media	Mobile phone without calling	Total for listed activities
1 – to 3-year – old children	27.91	23.19	30.06	9.91	4.25	18.36	6.45	120.13
4 – to 6-year – old children	44.9	32	25.06	17.27	12.1	20.23	8.29	159.85
Both groups (1–6)	34.7	26.4	26.4	13.3	7.9	18.6	7.8	135.1

Source: own survey.

The parents were asked to estimate the time of their child's passive presence in the room (the time when a child is present in a room where a TV set is running). An average estimate is 80 minutes a day, which is much higher compared to active watching of TV (34.7 min). Passive presence is also slightly higher in the case of the younger age group (84 min) compared to the 3-to-6-year-old kids (76 min).

The presence of electronic devices in the rooms of preschool children in Slovenia is low. Only 7.25% of preschoolers aged 1-to-6-years have a TV set in their room and only 95% of them have their own computer in their room. In the case of the TV and computer presence in the child's room there are no significant

differences between the two age groups of preschoolers. A bigger share of the kids has a radio and CD player in their room – 15.5% of the children aged up to three years and 24.1% of the 4-to-6-year-old children.

As variance in the exposure of the preschool children was noticed, the children were divided into three groups similar in numbers (border framework 33 and 66 percentiles): a) high media users (more than 2 hours of daily exposure to the media, N = 370); b) medium media users (between 1h 15 min and 2 hours' daily exposure to the media, N = 360); c) low media users (less than 1h 15 min of daily media exposure, N = 357). If the child falls within the high media users group, he or she is on average exposed to the media almost seven times more than low media users, as evident from Table 2.

**Table 2.** Media exposure of high, medium and low media users (in minutes daily).

	Low*	Medium*	High*
Live TV	13.94	28.48	65.51
Recorded video and DVD	11.14	20.66	50.15
Radio	6.3	17.04	59.23
Computer or tablet use	1.55	7.3	31.27
Video games	0.47	3.01	20.74
Magazines, newspapers	7.24	17.28	33.17
Smartphone without calling	0.89	3.05	18.04
Sum in minutes	41.53	96.82	278.11

Source: own survey.

\* n>330 for each group

\*\* n>1000 for each group

To test the hypothesis, the independent t-test was used for testing the differences between the means of two independent age groups. It was assumed that the sampling distribution of differences between means is normally distributed in the population. For the following t-tests the assumption of homogeneity of variance was violated, and the equal variances not assumed t-test statistic was used for evaluating the null hypothesis of the equality of means.

H1: Significant differences in media exposure between the two age groups (1–3 and 3–6 years old) were found in the case of:

- Live television –  $t$  ( $df = 946$ ) =  $- 6.661$ ,  $p < .001$ . The mean values indicate that the younger children are less exposed to live TV ( $M=27.91$ ) than the older ones ( $M=44.90$ ).
- DVD or taped video –  $t$  ( $df = 956$ ) =  $- 3.933$ ,  $p < .001$ . The mean values indicate that the younger children ( $M=23.19$ ) are less exposed to DVD or taped video than the older ones ( $M=32.0$ ).
- Computer or tablet –  $t$  ( $df = 941$ ) =  $- 3.638$ ,  $p < .001$ . The mean values indicate that the younger children ( $M=9.91$ ) are less exposed to computer or tablet than the older ones ( $M=17.27$ ).
- Video games –  $t$  ( $df = 786$ ) =  $- 4.722$ ,  $p < .001$ . The mean values indicate that the younger children ( $M=4.25$ ) are less exposed to video games than the older ones ( $M=12.1$ ).

As children grow older the use of a computer or tablet and especially video games increases the most. On the other hand, 1-to-3-year-old children are more exposed to the radio ( $M=30.06$ ) than the older group ( $M=25.06$ ), however the difference is not statistically significant  $p > 0.05$ .

H2: Preschool boys are statistically more exposed to media related activities than girls ( $M= 146.31$  minutes daily for boys compared to  $M= 122.51$  for girls). The difference is significant –  $t$  ( $df = 989$ ) =  $- 2.344$ ,  $p < 0.05$ .

H3: City environment increases exposure to media related activities ( $M=142.20$  compared to  $M=128.65$  minutes daily). Despite the differences in means student T-test did not show significance –  $t$  ( $df = 782$ ) =  $1.226$ ,  $p > 0.05$ .

H4: Parents' education has an effect on media exposure (ANOVA) –  $F(2,1077) = 9.483$ ,  $p < 0.001$ . The mean values indicate that when the education level of the parents increased (from low to medium to high) so did the time when the child was exposed to media related activities. The children of parents who finished primary school or less are exposed to media related activities on average  $M=258$  minutes daily. The children of the parents with secondary education are exposed  $M=167$  minutes and the children of the parents with tertiary education  $M=121$  minutes daily. Post hoc Scheffé comparison was used to test between the group differences and significant differences between the primary and tertiary, and secondary and tertiary educational levels were confirmed at  $p < 0.05$ .

H5: It was also tested whether the parents' age had an effect on the media exposure of their children, with the use of oneway ANOVA, however no significant differences were found,  $F(3, 1082) = 0.398$ ;  $p > 0.05$ , despite the differences in averages (ranging from 119 minutes to 138 minutes).

H6: Interestingly, shared custody over a preschool child shows a difference in averages ( $M=160$  minutes for shared custody compared to  $M=133$  minutes). Despite these differences – test (Equal variances assumed)  $t(df = 1074) = 0.212$ ;  $p > 0.05$  did not show statistically significant differences. The reason for the latter could be the small sample of children in shared custody.

## **Discussion**

This study in many aspects confirmed the already existing academic claims about the exposure to media related activities of preschool children regarding their age and their parents' demographic characteristics (cf., e.g., Wartella, Kirkpatrick, Rideout, Lauricella, & Connell, 2014; Rideout, 2014). The analysis showed that the average time of media exposure is associated with the age and sex of preschoolers. The differences between the younger (1–3) and older (4–6) age groups are particularly noticeable in the case of average exposure to TV, computer and electronic games. Judging from the data, the children aged 1–3 years are, on average, exposed to media in their home environment for 2 hours daily. The amount of time spent with media increases in the 4–6 age group and is, on average, two hours and a half. Over 15% greater exposure of the boys (146 minutes) compared to the girls (122 minutes) was observed.

Further research should be conducted on media exposure in the case of children in shared care of divorced parents. It was observed that they are on average heavier users of media as the data we collected showed that they are more exposed to the media by over 25%. Even though the t-test did not show a statistically significant difference (the number of such cases in our sample was  $N=74$ ), this finding indicates that additional research on children of divorced parents would be interesting, as their different style of life (compared to traditional family setting) may also affect media exposure and children's habits.

Media exposure of children is also associated with parents' education level. The preschool children whose parents have primary school education or less are on average exposed to media for 258 minutes daily (4.3 h). The average exposure of the preschoolers of high school educated parents is 167 minutes (2.78 h) and the children of parents with finished higher education or more are on average exposed to the media for 121 minutes daily (2 hours). Thus, the average exposure of the children whose parents have primary education or less is more than twice (2, 3 hours) higher compared to the children of parents with higher education. Rideout

and Hamel (2006) also outlined the role parents' education plays in developing the media habits of their children. They proved that the children of wealthier parents develop different media habits. The means that media exposure and habits preschoolers develop in using media is affected by the social status of the family they live in.

## **Conclusions**

In this research mean values for daily activities of preschoolers involving different types of media were presented. The data shows that Slovene preschoolers do not deviate significantly from the average media exposure times presented in other surveys conducted in Europe (cf., e.g., Bucht and Harrie, 2013; Ofcom, 2015; Souza and Cabello, 2010). However, we should be cautious when trying to compare such data on media exposure. A coordinated cross-national survey on media habits of children using the same measuring instruments is missing and there are numerous issues regarding measuring media literacy in national contexts (cf., e.g., Bulger, 2012), which makes a direct detailed comparison of the data gathered in various national settings over the time questionable.

The average screen exposure of children in Slovene kindergardens is very low, low is also the share of preschoolers who have TV or other electronic devices in their rooms. The average screen exposure of preschoolers in Slovenia does not deviate much from the recommended screen exposure by the American Paediatric Association (2013). These most cited guidelines propose limiting screen exposure to two hours a day for preschoolers over 2 years of age. But a closer look at the collected data allows for drawing a conclusion that there are significant differences between the media exposure times of preschool children. The children who fall into the group we called high media users are on average exposed to media almost seven times more compared to low media users and use media on average 4.6 hours a day, more than twice the time recommended. Further research on the media exposure of preschoolers should be focused on a more indepth understanding of the differences in media habits in families where high, medium or low users live (also employing the qualitative reserach design). Issues concerning effects (negative or positive) that a large amount of media exposure can have on the child's development and parents' behaviour related to educating their preschool children on media (cf., e.g., Genc, 2014; Rideout and Hamel, 2006; Livingstone and Helsper, 2008) are not part of a public discourse on early childhood development in Slovene society. Understanding specific features of high media users could



inform the development of programs and projects, which are intended to raise awareness and educate parents and preschool children about media and are still a rarity in the societies of Central and Eastern Europe.

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