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FROM TOUCH TO CLICK – ONLINE PRESENCE AND INTERNET USAGE BETWEEN THE AGES OF 4 AND 7

*Érintéstől a kattintásig – online jelenlét és internethasználat
óvodáskorban*

*From Touch to Click – Online Presence and Internet Usage
Between the Ages of 4 and 7*

In the 21st century the Internet and digital devices became essential in our everyday life. Due to this even children at younger age get in touch with cyberspace, which results we cannot ignore their online presence. In spite of this, there is still a little focus on pre-school aged children in researches done thus far. In 2010s we can see growing interest about the topic and investigations of children's Internet use between the ages of 0-8. They have already pointed out the spread of smartphones and tablets increased this age group's presence on the Internet and that's why they also should be a target group in such researches.

In my research I wanted to get a better view of the pre-school aged children's online presence, usage and their knowledge about the Internet. For this I did accidental sampling and chose 120 children and their parents from pre-schools all around in Budapest. I used both qualitative (drawing, interview) and quantitative (questionnaire) methods in the interest of deeper understanding.

Keywords: ICT, early childhood, online, internet, pre-school children

INTRODUCTION

In the 21st century not television is the only digital device which can leave impact on children. Nowadays *computers, laptops, tablets* and *smartphones* are ready to be used and allow easy access to any information world wide – even for children at young age.

As talking about pre-school aged children, we easily could think they do not have any direct contact with the World Wide Web, because they cannot read and write yet, but if we take a look at KSH (Hungarian Central Statistical Office) survey about the *ICT usage in households and by individuals* (2014) we can see a growing tendency of ICT devices - especially portable computers – and also an expansion of *Broadband Internet Connection* in households.

If we consider these aspects, we can guess that pre-school aged children cannot stay free from digital devices. They certainly see them at home, while their parents or other older siblings are using them. At this age children's brains are like sponges - they observe everything and soak information up whether they are appropriate for them or not. That's why we should be aware of them as Internet users, even if they are only "passive" ones. As we teach them a lot of things – for instance safe transport, behaviour with strangers – it should also be really important, if adults around them would give *supporting hands* and some *orientation of digital world*.

The research of Internet usage or presence in early childhood still relatively untouched area even at international scene, because in the centre of such researches mainly are school-aged children, especially teenagers. That is more likely to be true in Hungary, where hardly any research is found about pre-school aged children's Internet use. The main intention of my research was due to the lack of information of this age group's Internet presence and that's the reason why I chose children aged between 4-7 and their parents into my target group. The survey data were collected from parents and also from children themselves between October and November 2017. It was really important to get children's aspects on the theme, because we only know a few about their *real* knowledge and thoughts about the Internet. In this research I had to take account of *children's age* and the specialities what come from this (for instance they can be easily biased, quickly can get bored or lose interest) and choose methods appropriate for examining this age group. For this firstly I chose *drawing* as a way of information gaining, which is a part of their everyday life. They are strongly visual learners, thus secondly I thought to choose *icons and pictures of websites* which could motivate and encourage them to start or take part in a conversation. I hoped these methods could drive us closer to their inner thoughts of the Internet.

LITERATURE REVIEW

In the last few years we can see a slight growing of researches about 0-8 year old children's Internet use, but we still know a little. Especially,

because these data were collected mainly from parents and only a few made with children themselves.

Children's digital device usage starts earlier year by year. *Olle Findahl* in his study (2009) drew attention to the decreasing age of the beginning – in 2002 children started to use digital devices at the age of 10, in 2008 this age was five and in 2009 was only four in Sweden (Findahl 2009).

In 2013 *EU Kids Online* published the results of their international research about 0-8 year old children's Internet usage (data were collected from their parents). The results were from countries all around Europe - United Kingdom, Germany, Sweden, The Netherlands, Belgium, Austria and Norway, but in some cases they mentioned South-Korean and Australian data too. The main questions were about children's Internet usage: what they do, what advantages, disadvantages these activities have and the role of people around children. They concluded there were a growing tendency of Internet usage at younger age, still few information was known of the danger what could come from this. In this time Swedish, Belgian and Dutch children's (between 0-8) Internet usage was about 70-80%, the half of Austrians, 58% of Norwegian and 87% of UK children were Internet users. 93% of children from South-Korea used the Internet for 8-9 hours weekly (Holloway 2013).

Talking about devices, they highlighted the role of *tablets and smartphones* as factors of this tendency (tablets were the most used device in the examined families), which could give easy connect to the World Wide Web. Parents who considered themselves experienced Internet users gave more devices to their children's hands.

The Finnish Youth Research Network (2013) also examined this age group's (0-8 year old) media use. They did a longitudinal research (data collecting were in 2010 and in 2013) and compared the results of them. The method was a nationwide questionnaire to Finnish parents and collected 917 responses (although they also did not examine children themselves). In their study *tablets* also were mentioned, but as a rare device in families. Although they noted, the rising of children's usage was expected by the growing amount of tablets in Finnish families (Suoninen 2013).

In another international research about the topic included seventy families (Chaudron 2015). The focus was also on 0-8 year old children's contact with digital technology and the data were collected from six European countries (Belgium, Czech Republic, Finland, Germany, Italy, UK). They found children grew up in 'media-rich' homes and digital devices became important part of their lives (but were not considered as dominant). *Tablets* were said to be the most popular device and children were more likely to use them alone than in the company of adults. *Smartphones* were also mentioned as a

popular device, which gave more functions to children like watching, messaging, taking pictures or making videos or phone calls. (Chaudron 2015).

Another main point of these researches was children's *online activities*. In 2013 children under nine year old were already active users and did lots of online activities like *playing games, watching videos and being on social sites* (Holloway 2013). Children between or under three/four mainly watched videos online. In United Kingdom children's second favourite website was YouTube in this time. Beyond watching, playing was also a popular activity and between 6-9 year old they made their Facebook account. 61% of Spanish, 56% of UK children had their own Facebook account between 6-9, even though the (theoretical) registration age limit was (and still) 13 year (Holloway 2013). Finnish children (under three) also started their online life with watching audiovisual programmes (42%). At the age of three started to play digital games and use mobile phones mainly for playing games – especially boys (one-third of them at the age of three). They pointed out children that age watched videos *most often alone or with an older children*, but also not with adults. Children between 5-6 year old used the Internet for much more times than younger ones, 95% of them watched audiovisual programmes nearly every day, 42% used the Internet daily or nearly daily. In 2013 between the age of 5-6 they began to have their own mobile phone and started to use it for taking pictures and making phone calls. Almost all of the 7-8 year olds had their own mobile phone and used Internet daily. They noted the main change between 2010 and 2013 was *their use of Internet* – in 2010 only a half of them were users, in 2013 that amount was 90% of them. An interesting data in this study is that parents did not consider watching audiovisual programmes via the Internet as Internet usage (Suoninen 2013), therefore the amount of time when children used the Internet could have been higher at this time.

In Hungary only a pilot-research can be found in this topic what was made in 2011 and 92 children (age of 3-6) took part in it. It was about media socialisation, but there are some relevant data, especially because children themselves were asked. In their research, they pointed out it was not common to meet riskful things online for children due to their lack of knowledge and their parents strong control. They found three main surfaces they generally used online: 'lovely' games, logical games and drawing programmes. Children played with non-violent games, they only used what they could reach and did not do anything else on devices. They did not go online often because of the parents strict control (Antalóczy 2011).

In studies written about the topic the *advantages and potential danger* factors were mentioned as well. In *EU Kids Online's* research (2013) they talked about the *acquisition of digital literacy* (with the help of adults) and

that it can *enable interactions between children*, what helps improve their interpersonal relationships. It can *develop creativity, digital skills, self-expression and helps to form their personality*, also gives a *place to belong*. In an Australian reasearch they pointed out Internet can improve children's *vocabulary* as well. Although *Karen Stephen* in 2007 (Stephen 2007) warned parents not to allow pre-school aged children to spend too much time in front of computers and watching websites. She said they should not spent *more than 30 minutes* daily because of their better physical and mental health. She also mentioned *Internet Safety* and what parents should be aware of – *'When children go online, it's like welcoming the world into your door. And there are some visitors you don't want'* (Stephen 2007).

Next to advantages EU Kids also took account of *risk factors*: 13% of Sweden parents responded their children suffered from negative effects of the Internet. Children between 5-8 year old recognised sexual context, vulgar talk though, but their naivety reflected, when they were confronted to situations appeared to be real by strangers. They said even though children knew the risks of the Internet, in most cases this did not result in safe behaviour in reality. Risks like *cyberbullying* or *oversharing* were also mentioned, which especially can affect children who made profile on a social network site behind their parents' back. As risk factor videos were listed too: in this case the contents of videos could be inappropriate, for example: pornography, violence, school bullying, brutal acts with animals or real accidents. Among danger factors mobile applications got place because of the *phising actions* what also could risk the private sphere (Holloway 2013).

Talking about *disadvantages* the role of parents is inevitable, because in most cases they are the ones who generate their children's *digital footprint* with picutres, videos, blog writings about them online. In EU Kids' report they said 23% out of mothers shared an ultrasound, 33% shared newborns and 81% shared pictures of children under 2 year old. It would be important for parents to understand these shared pictures, videos follow their children lifelong. Not sure they would want to leave their first steps footprint online – and also all of this happens without their permission. In 2017 *Edwards* summarized the main two risk factors for children online: *contact with strangers* and *content* what they might see (mainly by pop-ups). In this article *Edwards* wrote some advise for parents and listed few things, what should be taught to their young children - like do not tell personal information, ask for adults help and be near to an adult while using digital devices (Edwards 2017).

When it comes to Internet usage, we can see different patterns in family practices. For instance Dennish parents were more likely to involed in their children's usage, while Estionians either put this 'task' on an older sibling

or had strong control of usage (Holloway 2013). In another research they found parents were aware of risks, but also said they underestimated the potential danger (Chaudron 2015). Next to parents the role of older siblings was mentioned and found they could be proactive in risk-prevention.

As we can see research of pre-school aged children's Internet presence has been growing in 2010's and some of the studies even mention the importance of *Internet safety*.

In a recent study published in *British Journal of Educational Technology* (2018) they wrote about the urge of *early childhood cyber-safety education* and examined children's thinking about the Internet. They did this due to get to know children's knowledge about the Internet. Both parents and early childhood teachers said children firstly should be aware of what Internet is to have successful cyber-education with them: *'at the most basic level, this means understanding the internet as a network of interconnected technologies that allows people to share information and resources via established social practices'* (Edwards et al. 2018). In their reasearch exmained 70 children (48 intervention group, 22 control gorup), between 4-5 old. They were asked about devices they used (through pictures), about cyber-safety (Harn and Ella's situations), and about the Internet usage of them or their family members. The responses were separated to *'contextualized practice'*, *'tool-based'* familiarity of the Internet (41%) and those which had *none* (59%). We can see more of them had no understandings of the Internet, but they noted their method migh have not been correctly chosen for the age group, they examined (the interview was too long and questions might have been not appropriate for for 4-5 year old children): *'the immediate question may have been inappropriate for young children'* (Edwards, et al. 2018). In Chaudron's study (2015) they found the same and said children had only a few knowledge or understandings of the Internet neither what 'be online' could be (Chaudron 2015).

In a Hungarian pilot-research (Antalóczy 2011) they also asked children about the Internet. None the less they were rare users, they had exact thoughts of the possibilites what Internet has and the neverending information what Internet possess. Their responses were: *'you can search, talk, play and send messages'*; *'the Internet is when Google appears, and we can write whatever we want to'*; *'Internet has so much of a thing'*; *'my dad works on the Internet, sending messages, and watch lots of boring stuff'*. The conclusion of this research was the important role of people around children, because they mainly talked about their parents' usage, which showed they were continually present and observed what they did (Antalóczy 2011).

To sum up all the information given by researches, we can conclude children between the age of 0-8 are online. We already know about their pres-

ence there, what they usually do and what their parents think of their usage, but still we should know much more about children's perspectives.

RESEARCH QUESTIONS

After reviewing the recently made researches, the next few questions came in the center of my research what I wanted to get a better sight of:

1. What Hungarian pre-school aged children use digital devices for?
2. What their concepts are about the Internet?
3. Being passive users how can affect their knowledge about Internet?
4. Do Hungarian pre-school aged children's parents know websites directly for their children? If yes, then what kinds?

METHODS

My research method was firstly a *questionnaire* for parents about the background information. These were given to them at the Pre-school, where their children attended to. For the process of information collecting I asked the assistance of my students in their 2nd year of pre-school teacher education (*Eötvös Loránd University Faculty of Primary and Pre-School Education*) and gave them exact instructions. They had to choose two children (a girl and a boy for the equality of the sample) and firstly give their parents the questionnaire and also ask their permission for the research. The response rate was high, because only those parents filled the questionnaire up, who wanted to and also allowed their children to be in the research. The size of the data were 140 but 120 participant remained in as accepted responses. The sample can't be considered as representative, but still able to give us information about Hungarian pre-school aged children's online activities and thoughts about the Internet. The questions were mainly *closed ended* and were about devices and Internet access at home, what their children use, when they use and with who. I wanted to ask whether they know any site specialized for pre-school aged children and if yes then name them.

The next part of the experiment took part with the chosen children and my students had to do two tasks with them. Firstly ask them to *draw a picture* about the Internet ('Please, draw what do you think what Internet could be'). It was really important not to talk about the Internet neither before and nor during the drawing process, because this could have had a biasing effect on the result. After this part my students asked the children to take a look at the pre-chosen *well-known icons or pictures* of sites and check which they can recognise and talk about only those, what they said they knew. I con-

sidered *knowledge* in this task, if they not only thought the icon/picture was familiar, but could talk about it or at least said something connected to that online site or use. My students either audio-recorded this conversation between them or wrote a report about it what I could examine in my research.

1. THE ANALYSIS OF QUESTIONNAIRE'S RESULTS

1.1 THE SAMPLE – PARENTS

103 out of the respondents were the *child's mother* or other *female caregiver* and only 20 were the *father* or other *male caregiver*. The reason of this could be that usually mothers take their children to pre-school in Hungary. 61 of the respondents were between 30-39 years old (this age group gives the majority of the respondents), 41 were between 40-49 years old, eight were between 20-29 and only three were between 50-59 (only men). Seven people did not write any age.

72 had tertiary education (university, college degree), which can be caused by the majority of older respondents. 38 had qualification of secondary school and three had only between 10 and 8 years of primary school. Seven people did not give any information about their qualification.

1.2. DIGITAL DEVICES IN HOUSHOLDS AND CHILDREN'S USAGE

Firstly I wanted to know what kind of *digital devices* in households and which ones children use (Figure 1.). From this I also could see the amount of devices in a household.

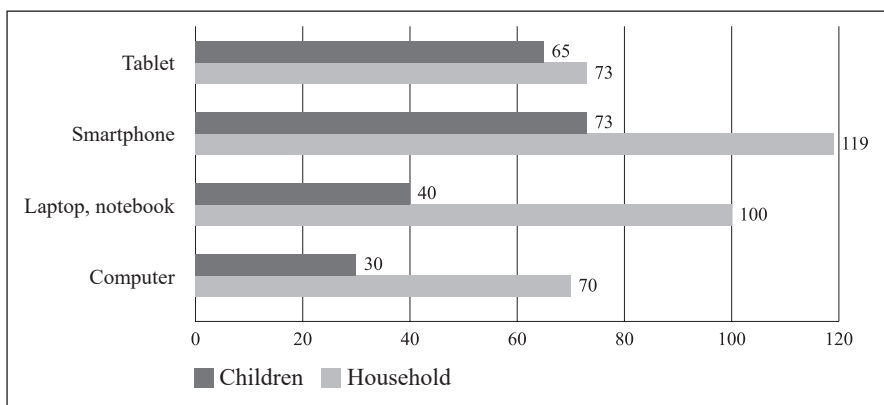


Figure 1. Digital devices in households and children's usage (n=120)

As we can see *smartphones* have total domination, only one parent said she didn't have it. Not surprisingly, smartphones comes firstly for children users too, which can be due to possessing at least one in every family, also the touchscreen and size result in easy usage for them: '*when I don't pay attention, she steals it for taking pictures*' (5,5 yr. old girl's mother).

Portable computers are the next most popular ones, especially laptops, notebooks, although more than every second household has tablet as well. The interesting thing is children's use of tablets, because 73 parents said they had tablet at home and 65 children use them. This raises the question: who is the owner of those tablets? This question could be answered later by children. The least popular among children is *computer*, only a quarter of them using them according to their parents responds. The reasons of this probably parents work on it so they hardly allow their child to use and the difficulty of usage (keyboards, mouse) can be a cause too.

87 out of 120 respondents said they had at least *three devices at home*, and only two said they had only one device which is smartphone in both cases (Figure 2.).

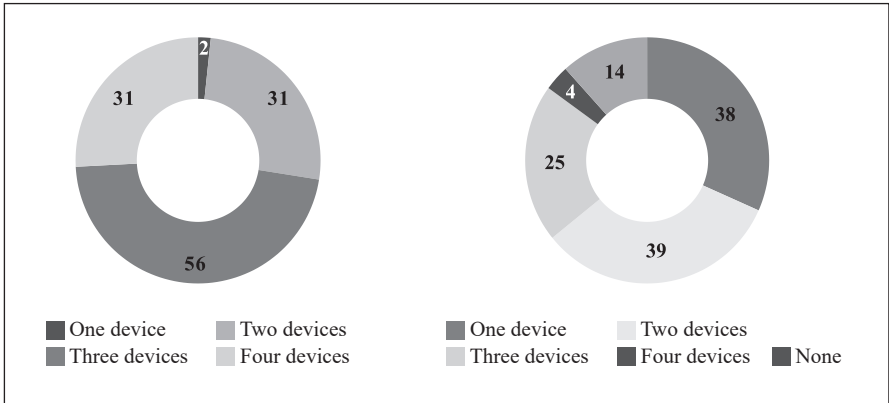


Figure 2. The amount of digital devices per households and children amount of digital devices usage (n=120)

As looking at children's usage we can see 77 out of 120 using *at least one or two devices* and 29 children use three or four. Only 14 parents said their children used *none* of them (Figure 2.). If we take a look at those, who use only one device, we can see tablets and smartphones are the most popular ones (15 and 14 out of 38). The most popular combination of two devices are smartphone and tablet (18 out of 39) and the second one is laptop and smartphone (9 out of 39).

1.3. THE TIME WHEN CHILDREN USE THESE DEVICES

The next main question was about the *time period*, when children use these digital devices. I wanted to know how often they allowed to use them weekly (Figure 3).

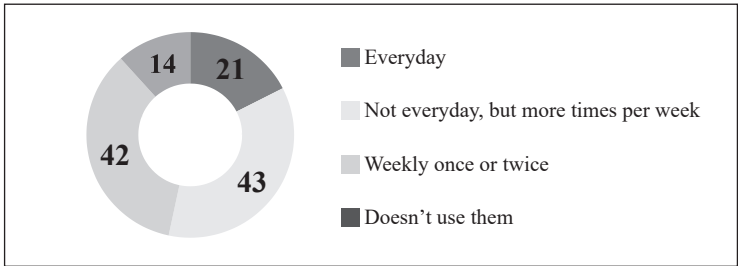


Figure 3. The frequency of children using these devices weekly (n=120)

85 out of 120 parents answered their children used digital devices *weekly at least once, twice or more time but not everyday*, and 21 said they used every single day (*'we use these devices just like we use television'*). The same 14 respondents said their children didn't use them at all.

1.4. WHO THEY USE WITH

Another really interesting question was who children use these devices with. I wanted to know whether they use them alone or their parents are there for them to use devices together. This question was also closed ended and in this case they could *choose more options* as answers.

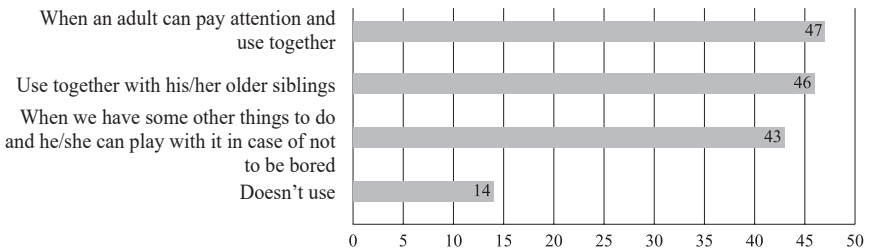


Figure 4. Who children use devices with (n=120)

89 out of 120 children certainly use digital devices *alone or with older siblings*. We can see each of the three option nearly got the same amount, because they could choose more than one answer. This result should be ana-

lyzed a bit more carefully, for this I checked those answers, where parents picked *only one option* to see which case is the most common (Figure 5).



Figure 5. Only one option chosen by parents (n=120)

In this result the most important thing we can see is *nearly half of the children* use devices without an adult – at least parents responses can lead us to this conclusion. 52 out of 120 only use *devices alone or with barely older siblings* (usually a school-aged one), who can't really be seen responsible users themselves according to researches examining their Internet presence and use. This means nearly every second of them are in potential danger of *whatever* inappropriate content – be that a video, a game or even a *stranger*.

1.5. CHILDREN ACTIVITES ON DEVICES

The next question was about *children's activity* on these devices. This was also closed ended question, where they could pick *more answers*, but I gave opportunity to write other option as well (Figure 6).

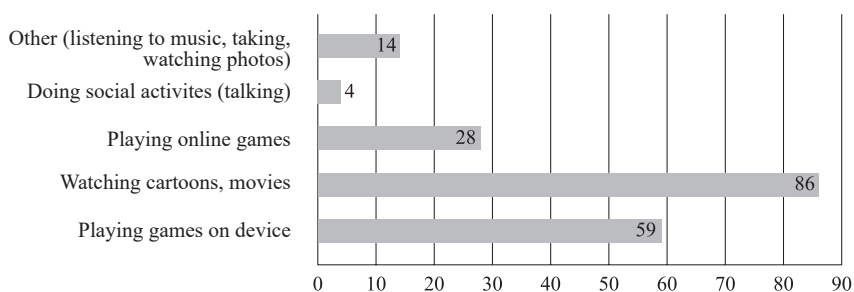


Figure 6. Children's activities (n=120)

Unsurprisingly the most common activity is *watching* cartoons and movies on the Internet. This raises the question again, if children watching videos alone or with another child, what kind of content they could find there accidentally or what could they see in pop-up adverts before or during the video? The conversations with children could give answers to this questions too. The second main activity is connected to *playing*, but in this case

we can separate *downloaded* and *online games*. Parents did not give any descriptions about games their children usually play with, so we only can guess about them – yet – but conversations with children also could give some answers. Other options like *social activites* and else can't be seen as typical for pre-school aged children according to parents answers.

1.6. Parents knowledge of children-specialized sites

In the last question I wanted to see *parents knowledge* of sites which are specialized for pre-school aged children. For this I asked whether they know such online webpage or not – if yes, name them (Figure 7.).

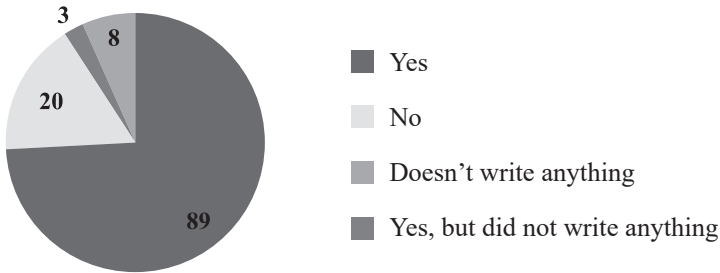


Figure 7. Parents knowledge of special sites for pre-school aged children (n=120)

The result shows us 97 out of 120 parents answered they knew such sites, but eight out of them did not write anything apart from ‘yes’. Other responds were not exact either, because they only wrote words like ‘cartoons’ or ‘puzzles’ not specific names of websites. Out of the 89 answers who wrote anything 63 said something connected to videos (cartoons, movies, YouTube, mese.tv) and 26 wrote games – especially which develops skills (english language learning sites like Duolingo, puzzles, egyszervolt.hu). Some parents named Pinterest or even Instagram as sites designed for children.

1.7 SUMMARIZATION OF QUESTIONNARE DATA

To sum up these information given by parents (in my sample) we can see the *typical Hungarian household* usually have three or four devices, every family posses at least a smartphone and internet connection as well (half of them even have mobile internet connection).

The *typical pre-school aged child* (in my sample) at least use one or two devices, usually smartphones and/or tablets, not everyday but more times weekly. They use mainly alone or with a sibling. Pre-school aged children use it for watching videos and playing games. Their parents don't really seem to know sites, which would be appropriate for them, even if they wrote they did.

Only 14 of them named *egyszervolt.hu* and 15 *mese.tv.hu* (both are hungarian sites for young children). As we can see hungarian pre-school aged children should be considered as *active users of the Internet*, and would be important to reflect some attention on them as well as school-aged children get.

2. THE ANALYSIS OF THE CHILDREN’S PART OF THE RESEARCH

2.1 THE SAMPLE – CHILDREN

Of the children respondents, *66 were boys* and *54 were girls*. 48 of them were between 5-6 years old and 6-7 years old were the same amount of them. 15 were 4-5 years old, eight were 7-8 and only one child was under 4 year (Figure 8.)

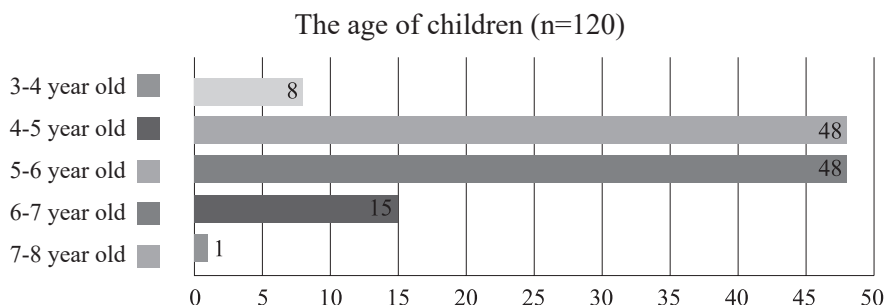


Figure 8. The age of children (n=120)

The majority of 5-7 year old children is understandable, because in my research I wanted to get a glimpse at that age group’s point of view about the Internet. The reason of this was mainly due to the methods what I chose to use and also that, this reasearch was made in the autumn 2017, when three year old children had just started pre-school. In Hungarian Pre-schools, there are three age groups where children go to – one for the small ones (age of 3-4), one for the older ones (age of 6-7) and of for those who are in between these ages (age of 4-5). We also have mixed age groups where all of these ages can attend to. In my reasearch the choosing-factor was the age but I do not plan to compare the age-groups usage in this study.

2.2. THE ANALYSIS OF DRAWINGS

This part of the reasearch took part at the pre-school, where children attend to. My students either asked both of the chosen children together at the

same time or one by one. They could do this in the group or in a separated room. The most important thing was not to talk about the Internet neither before drawing nor during drawing. They gave paper and coloured pencils for drawings and children could use whatever colour, they wished to and draw whatever, they wanted to. I told my students to start a conversation or connect to that, what children start during drawing and ask them about their opinion about Internet (and what they are drawing), activities, who they use the digital devices with. All of the answers were essential, because by this information we could get a better view on their opinion and also their replies could be compared with their parents' responds.

First of all we can separate the content of drawings to *four main topics*, which are the next ones (Table 1.):

Table 1. The content of drawings

Device-based pictures	Content-based pictures	Connection-based pictures	Other drawings which not connected to the Internet (I do not analyse them)
47	39	12	22

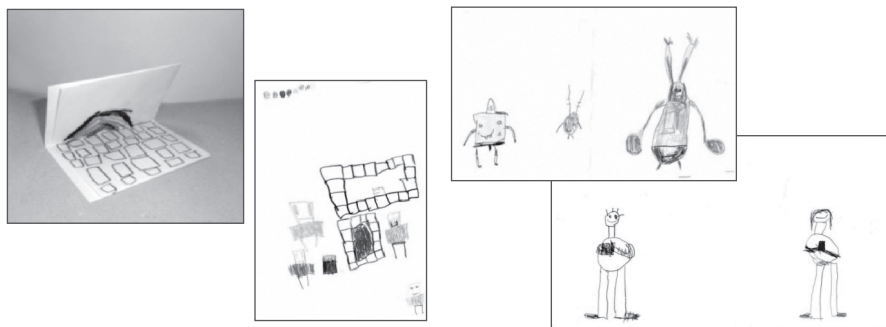


Figure 9. The Internet – what children think about it

2.3 DIGITAL DEVICES

In the most pictures children imagined the Internet as a *digital device*, mainly the one that they or their parents use a lot. A part of children said they owned a tablet or smartphone, some even said computer – ‘I have an Ipad and have a TV near to my bed, what I always watch.’ (girl, 5 yr.); ‘I draw a tablet, I have my own one. I got it before when I was errr 3 or 4 year old.’ (girl, 6 yr.); ‘This is a computer, what I have. We write letters with my 10 year old sister.

(girl, 6yr.); *'Each of us have a tablet and we three have a computer together as well.'* (boy, 6yr. old); *'The Internet? What do you mean? My tab?'* (boy, 5yr.); *'This tablet was my mum's sister's, but my mum gave me.'* (girl, 6yr.)

Other part of children answered they had a digital device with their older sibling and used them together - *'Sometimes Bálint (13 year old brother) gives me his phone and I play on it with games he plays.'* (boy, 6yr.); *'We watch videos with my brother Álmos.'* (boy, 7yr.); *I use Ipad and tablet with my siblings.'* (boy, 5yr.).

Another part said they used devices of their parents or just passively watched while they were using them – *'my mum use the Internet a lot, she watches news or cooking programmes.'* (girl, 6yr.); *'My mum looks at pictures on the Internet.'* (boy, 6yr.); *'this is the Facebook, that's what I use with my mum. Then this is the Instagram, my mum said. I take pictures!'* (girl, 6yr.); *'We must not use tablet alone, because there are stuff on it which are not for children. Stuff like people using bad language or things we could learn bad things from them.'* (girl, 5yr.)

Fourteen parents answered their children did not use a digital device at all, so I was really interested in their children's opinions. Three out of 14 had no idea what Internet could be and they did not show any interest in drawing or talking about it. Four children responded, they used it – *'Today morning after I got up I asked my mum whether I can play on her Laptop. And she said yes.'* (girl, 6 yr.); *'The Internet is on computers. And you can play on it. I can play on my dad's phone. When you have Wi-fi connection, then you can use the Internet.'* (boy, 5yr.); *'We have TV, computer, phone, tablet. I use them with everybody. Although not everybody, just Réka, Sasa and me. I look at pictures or search videos of us.'* (boy, 5yr.); *'My brother (9 yr.) plays football on it, it is on his desk. When his friend is here, I don't push the buttons, just watch them.'* (girl, 5 yr.).

The other seven children did not mention using it, but had an imagination what Internet could be and what is used for (Figure 10.).



Figure 10. Examples of drawings from children who don't use any digital devices (responded by parents)

As we can see children store information not only as an active user, but as passive ones too. That's why we should be aware of them when they are near us and also see that, we cannot prohibit them from getting connected to digital world. We should seek other ways and take responsibilities instead of banning, because either way or another they will be there and know about it – might behind their parents' backs. That is a fact children are very good observers and that skill was shown in some of the drawings. Whether children own a device or not, use one daily or not – they have an impact on them (Figure 11.)



Figure 11. Icons in children's drawings (included for example Google Chrome, Instagram, Facebook, YouTube and the sign Apple in the left one)

2.4 CARTOONS AND GAMES

The next column of Internet representation was the *content* of cartoons and games. Video watching is an activity that parents responded a lot, when I asked them about children's online activities. Children also talked a lot about videos and mentioned *YouTube* as a platform to this (Figure 12.) – 'I watch videos on YouTube on my tablet. I watch them when I get home from Pre-school, everyday.' (boy, 6yr.); 'This is YouTube, I watch videos on it and funny things as well' (girl, 6yr.); 'On the Internet there is YouTube, where you can watch drawing tutorial videos. Not my mum searches, it just pops up itself' (girl, 5yr.); 'We watch movies like Star Wars, Lion King, Madagascar or King Arthur even Egri Csillagok which happened for real once.' (boy, 6yr.); 'The other day when we opened YouTube we had to watch the advert before the video. You know the advert of Coca-cola with a truck in it' (boy, 6yr.). 'I watch news and what happened in our town, what kind of accidents happened and crimes. I'm not afraid of them, they just show some pictures. That's all.' (girl, 5yr.); 'My dad and mum always watched shooting and killer movies' (boy, 5yr.).



Figure 12. The most popular video site of children

According to their responses, they are usually *surfing* alone or with a hardly older sibling on YouTube. They mentioned adverts, which popped up before or during the video they were watching and said they clicked on videos what YouTube suggested them to watch as well. Both of these can be dangerous, because *adverts* can reflect things, which are should not seen by children and that's the same with YouTube video suggestions, especially if adults use that device too. Internet or say YouTube store the kind of videos we have watched before and offers us the same kinds video after video. With this, children can get closer to a content, what their parents do not want them to see just yet or at all (for example sexual content, violence, real accidents).

Parents also answered their children use devices for playing on/offline games. That popularity could definitely be seen on drawings, because children willingly drew and talked about their game experiences – ‘*There are games on my tab like GTA, Minecraft.*’ (boy, 5yr.); ‘*Now I play a game called Minecraft, because there are cube-faces in it and you have to build something or a house*’ (boy, 5yr.); ‘*We download games on our tablet and play with them.*’ (boy, 6yr.); ‘*I play games on the Internet, but sometimes we haven't got net so download it then you can play anyway.*’ (boy, 6yr.); ‘*I play Minecraft. From Minecraft all of the figures are my best. Especially the Ender Dragon and Wither even Mutant Creatures like Slime Creeper. There are trees like Diamond, Golden Trees and Lazurit. There are other characters, Ender Golem, Spider Pig, Black Pig, XP, Redstone. I can draw an Enderman and TNT. If that explodes everything is like in hell. I can draw a blue one just I forgot its function.*’ (boy, 7yr.) (this picture can be seen in Figure 12.); ‘*In the Internet there are lots of games. I play with the cube-one (Minecraft) and Mahjong too. We downloaded a Barbie-game.*’ (girl, 6yr.); ‘*I'm gonna draw a car. I like to play a bus-driving game. I can't really drive it, always go in the opposite side of the road and push other cars out. That's what I like. I even push the posts out.*’ (boy, 5yr.); ‘*I play a game called Neighbours from Hell. My brother can make it, because he hits the neighbour. When the neighbour finds me, hits me and I have to start again*’ (boy, 5yr.).



Figure 12. The most popular online game of children – Minecraft (to see another drawing of Minecraft take a look back at Figure 9.)

Children spend lots of time playing – not just offline. Although parents answered they knew websites (for instance games) directly for pre-school aged children, but rely on children's responses they did not mention any of games which are specially designed for them. Another interesting thing is children did not say anything about parents or else being with them while playing online, which can make us think they really are alone when playing games too – including online ones. The contents of games easily stick in their head and they can remember every little elements of that game they are playing with. They can list the steps, characters, story of the game, so we should consider what kind of games we allow them to contact with. Maybe not GTA or Minecraft are the best types for children between 4 and 7 year old.

2.5. CONNECTION

A smaller amount of drawings shows the Internet connection-like nature, but they are very interesting approach of the theme and points out the way of children's thinking. Even if they are not an active user of Internet, they have an idea about what it can be and how it connects people (Figure 13). A few of them thought Internet is used for keeping in touch with others and sending messages. – *'The Internet is used for sending messages to others.'* (girl, 6yr.)

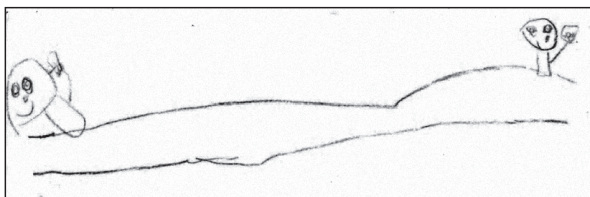


Figure 13. Connection between people with the help of the Internet

In these pictures really interesting to see *the distance* of drawn people which represents a very good aspect of Internet: wherever we live, we can contact anybody, whether they live far away. Although, if we take a look back at *Figure 9*. we also can see the distance between two people, using their mobile phones next to each other, which is a very usual sight what children can see in the streets, public transports and maybe at home. This aspect can't be considered as good as the one just said about the easy connection.

The visual-side of them appears in replies again – *'if there is a sign like this (Wi-fi), you can use Internet.'* (boy, 6yr.), *'I have a simple white desktop wallpaper and there are these signs. If you can't see it, then there is a triangle and got no Internet connection.'* (girl, 6yr.) They know exactly when there is Wi-fi connection on a device or not, because they tie it to the visual sign.

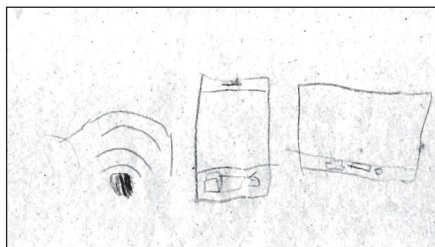


Figure 14. Wi-Fi connection

Some of them experiences the connection-side themselves. This can be called as social activity and children talked about using *Facebook* and *Skype*. Usually it happens together with parents or older siblings and they call grandparents who lives away from them. Although there are children, who use their own device for talking with other friends of them – *'I draw myself when I talk to my friends at the little computer.'* (girl, 7yr.)



Figure 15. 'Skyping'

As we can see social activities not that far from pre-school aged children, they are interested in that kind of connection with others because they see their parents use such sites a lot, which makes them more excited about them. People often say children at that young age are not an active participant of the World Wide Web, because neither can write nor can read yet. Well, we can see that is not an obstacle for children nowadays and that is caused by the easier access what they can have with digital devices like tablet or smartphone or sites like Youtube, which offers easy searching.

If we want to summarize children thoughts about the Internet, we can highlight the next main elements (Figure 16.):

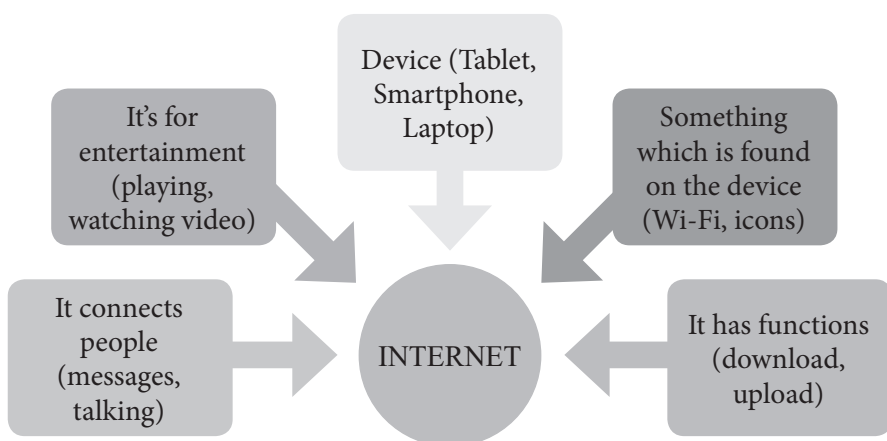


Figure 16. What is Internet?

Through children's eyes **Internet** is something what can be used for *connecting people together* (sending messages, talking). Something which *has functions* like downloading or uploading things. Internet is *something* which is found on a device or the device itself the source of the Internet. For sure something what is for theirs or other's *entertainment* like playing games or watching videos. To sum up all this information with a child's word: 'you can see everything on it!' I suppose even adults hardly could have any other better interpretation of the Internet.

3. THE ANALYSIS OF ICON RECOGNITION'S RESULTS

After free association came the second part, which was about the *pre-elected icons, pictures*. In this task the main thing was the same as before: no information about the icons, pictures before and during the conver-

sation with children. That was important again, because I did not want to wield any influence on them. I chose icons of sites which can be called popular in Hungary and also World-Wide. There were a few Hungarian sites, mainly pages for children (*egyszervolt.hu*; *meseTV*, *traff.hu*).

This part had the same process as drawing, my students did straight after the drawing part. It was not important to do so, but mainly the examination happened right away the drawing process.

We can classify the icons, pictures in five main types:

1. Games (*egyszervolt.hu*; *traff.hu*)
2. Videos (*YouTube*; *mese.tv*)
3. Community (*Facebook*; *Skype*; *Instagram*; *Twitter*; *emoticons*; *like/dislike*)
4. Browsers; *Google*; *Gmail*; *@*
5. Other (*Apple*; *Android*)

By this, I wanted to see children's deeper knowledge about these activities, because I thought during this process we could gain information what could not be got in else way – like asking directly. They had no pressure on them, only could talk about those, which they wanted to. The responsibilities were big on the questioner though, because it is really easy to influence children at this age. That was the other reason why I chose pictures, because the task was only to show children and let them start a conversation about those, what they really know. It was not a goal to teach them any of them, although if they asked what an icon is, my students could tell them.

Looking through the parents answers I chose those Hungarian sites, what they mentioned as known by them. I wanted to match with children's knowledge and see they really do use them or not.

I considered knowledge when they could talk about the icon – where they saw it, what they used for, what can be done with it. Only saying 'I know this' did not count as knowledge in my research, because pre-school aged children tend to say something just for fitting into the expected or showing they are know more than they really do.

This part gave a really good opportunity to make conversations with children about their online activities, so that was another aspect of the importance of it. Only eight out of 120 said they did not know any of them. First of all take a look at the result of icons and picture recognition (Figure 17):

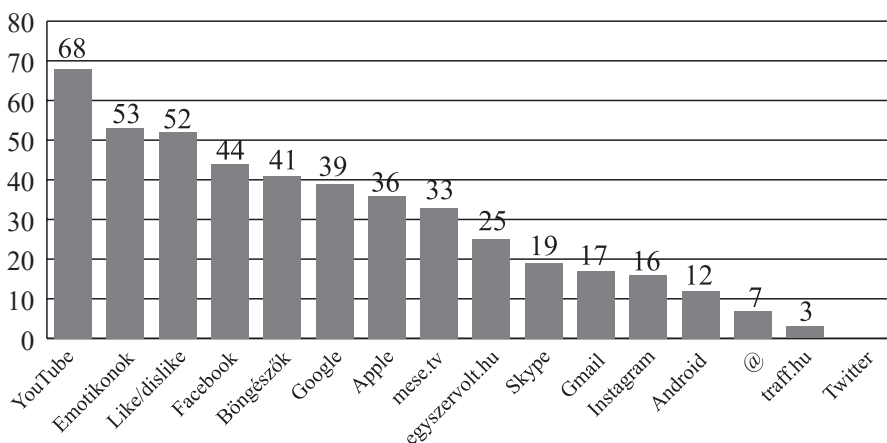


Figure 17. Icons and pictures known by pre-school aged children (n=120)

Not surprisingly *YouTube* was the most popular with more than a half of them knowing it. 68 out of the children got excited and said ‘*YouTube!!!*’ when they got a glimpse of the well-known icon. They immediately started to tell what they do on it: ‘*This is YouTube! I watch videos on it alone when neither of my parents can pay attention. I search videos mainly by my voice, but can search in other way too.*’ (girl, 6,5yr.); ‘*When I watch videos, this little icon is on the corner*’ (girl; 5yr.); ‘*I have to search for hours to find the music I want to listen*’ (boy; 6yr.); ‘*That’s where I watch cartoons*’ (boy; 6yr.); ‘*This is the sign of YouTube. That comes before the cartoon.*’ (boy; 4yr.); ‘*YouTube. You can listen to music and watch a good amount of things.*’ (girl, 5yr.).

The second one was *emoticons* with nearly the same amounts as *like/dislike*. Emoticons were taken from Facebook and Skype. The most of the children, who recognised them said they have already used smileys before and showed their favourite ones too. They knew these are used for showing emotions and are for sending to somebody: ‘*This is a sad and this is a happy one. I have already sent the happy one!*’ (boy; 4yr.); ‘*You have to send funny faces. There is one which explodes. This one is angry and this one excited.*’ (boy; 5yr.); ‘*We can send them in a message*’ (girl, 4yr.); ‘*My mum always uses them and when we talk to my grandmother we send heart to her.*’ (girl, 6yr.); ‘*Sometimes my mum allows me to send happy face and a skull too to my dad.*’ (boy, 6yr.); ‘*My favourite one is when the poop is smiling. When you see a picture then you can click on them and react something. I always send ‘heart’ to Bogi, because I love her.*’ (girl, 7yr.); ‘*These are on Facebook and in Messenger.*’ (girl, 7yr.)

Like/dislike buttons are also close to them and they knew they are used for showing something whether is good or bad. They sometimes even use them for

real showing their thumbs up or down: *'When people watch some videos and they don't like them then click in this, but if they like then click the other one'* (boy, 5,5yr.); *'My mum said she like somebody's picture that's when I saw these'* (girl, 6yr.); *'It's like ewww and yeah!'* (girl, 5,5yr.); *'This for what I like and what not, but we must not show this at Pre-school.'* (girl, 5yr.); *I see them on Facebook and Viber.'* (boy, 5yr.).

The next one what was known the most is *Facebook*. We could be amazed by that, but if we consider them as being passively around their parents usage, we can't be surprised. They mentioned parents a lot when seeing the icon of Facebook: *'Oh no! My dad always watches this'* (boy, 7yr.); *'My mum always facebooking'* (girl, 6yr.); *'My mum writes here to her friends.'* (boy, 6yr.); *'My mum talks here with her friends and watches videos. Sometimes I can use it as well and watch funny videos about cats.'* (girl, 6yr.); *'My mum works on Facebook. She sometimes shows me my baby photos.'* (boy, 6yr.); *'It shows you when somebody contacted you.'* (boy, 5,5yr.); *'Facebook. Everybody uses it, that's what I know.'* (boy, 4yr.); *'We go to Facebook with this icon.'* (girl, 5yr.); *'There are my mum's every friend.'* (boy, 5,5yr.); *'ah... Facebook. (she sighs)'* (girl, 7yr.). Their parents 'facebooking' was told by those children, who recognised the icon and talked about the amount of time their parents are on it. This could put responsibilities on parents again.

Browsers were the next one and I put them in, because I wanted to know if they meet them and know what are they for. The well-known were *Google Chrome* and *Mozilla Firefox*, few also mentioned *Opera* and *Internet Explorer*. The knowledge of this absolutely depends on which browser is on their devices, what their parents or they use for searching: *'If we click on this (Google Chrome), we can write whatever we want to see'* (boy, 6yr.); *'My mum searches things here (Google Chrome) for me'* (girl, 5,5yr.); *'That's what Internet like (Mozilla Firefox).'* (boy, 6yr.); *'I use Internet with this (Google Chrome)!'* (girl, 5yr.); *'That's (Google Chrome) where I'm Interneting'* (girl, 5yr.)

Next to browsers comes *Google*, what function also known by one third of children. Who recognised it, exactly knew what it's used for: *'You can search something. Once I wrote Ronaldo. He is my favourite footballer.'* (boy, 7yr.); *'It's on my dad's computer, it's the Internet, he writes everything there.'* (girl, 6yr.); *'This is what you can get in everywhere with.'* (boy, 5,5yr.); *'We call it Uncle Google, because it knows everything'* (girl, 6yr.); *'You can write there everything'* (girl, 5,5yr.); *'If we write anything, it just finds it!'* (girl, 5 yr.); *'You have to write the thing what you search on the Internet. My mum does that. For example we write 'cars' and then there cars are.'* (boy, 5yr.).

They referred to Google as something what is found everywhere and knows everything, so whatever can be written, what they want to know (Figure 18.).

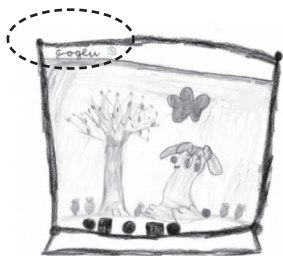


Figure 18. Google is everywhere and knows everything



Figure 19. The popularity of Apple

After searching functions comes *Apple*, what those children knew whose parents, siblings have such type of device: ‘It’s on my mum’s phone’s back.’ (girl, 6,7yr.); ‘My dad has got a phone which has it on it’s back’ (girl, 4yr.); ‘This is on our tablet and laptop too’ (girl, 5,5yr.); ‘We have such Ipad, phone and tablet at home.’ (boy, 5,5yr.). The sign Apple was found in drawings as well and tied to devices (Figure 19.). The similar sign *Android* (robot) was not that popular, only 12 children recognised it: ‘this shows up when my tab froze or upload’ (boy, 6yr.).

After these icons came two sites which are for children and what parents mentioned in their answers as webpages they know and use with their children. Only 33 of 120 recognised the icon of *mese.tv* (even though it is on the left side of the page when it’s opened) and only 25 of them said they knew *egyszervolt.hu*.



Figure 20. Icon of mese.tv and the start page of egyszervolt.hu

What we can see, they more likely to use YouTube for video watching than mese.tv (cartoon.tv.), where only cartoons found especially for children. Some of them reacted this way: ‘Ah, that’s mese.tv. There is more likely to find cartoons for babies.’ (girl, 5yr.) On the other hand she happily saw YouTube icon and told what she watches there.

When icons came to children sites some of them didn't show that excitement, what they did when seeing icons mainly used by adults. The reason of this might be that, they wanted to show they are not that 'babies', so they know contents what designed for adults.

Egyszervolt.hu (onceuponatime) is a page where we can find games, songs, poems, cartoons (mese.tv), animations by clicking on animals. When we go to an animal it says out loud what you can find clicking on it, so children can use them without being able to read: *'my dad has it on his tablet, the TV tells tales, the squirrel gives games and the bird can sing songs'* (boy, 6yr.). It's absolutely designed for children, therefore only appropriate content can be found on it. We can see the same as with *mese.tv* in some children's responses: *'it's surely some baby-game, we have got more serious games like Lego masters. We can control it with tablet and phone too'* (boy, 6yr.).

Traff.hu was recognised even lesser, only three of them mentioned they knew it (it's a car game which can be reached from *egyszervolt.hu* too).

Skype was the next one with 19 responses, they mainly use it for phoning somebody: *'everybody has on it's laptop and we call my granny, if we are not in Budapest.'* (boy, 5yr.); *'We use it for skypeing with granny, grandpa, Oszi and Marci. This means we talk with them, but not just hear their voices but see them in picture.'* (boy, 5,5yr.); *'I talk with Rékus on it, she doesn't write just talks in the camera.'* (girl, 6yr.)

Gmail and *at (@)* understandably were not known widely by them, although who recognised, knew what they are used for: *'it's a post-like place, you can send letters.'* (boy, 5,5yr.); *'Letter-sending place, my mum and das use it.'* (girl, 5yr.); *'It's connected to Google and you can send e-mails with it.'* (boy, 5yr.); *'@ is in every email address.'* (girl, 5,5yr.); *'@ is on gmail.'* (boy, 5yr.). The interesting thing is *Gmail* and *at* were known only by 5 year-olds, older ones did not mention anything about them. That also shows being passive users are something, which should be considered as an important role.

Instagram was chosen because of its big popularity and adults use them a lot for photo/video sharing, so I was interested whether children know about it or not. As we can see only 16 of them said they did know what it's for: *'my dad put pictures what he takes on here.'* (boy, 6yr.); *'On my dad's black phone there is it. Secretly I clicked on it once and I saw lots of pictures of women and men there. But don't tell him.'* (boy, 6yr.); *'Instagram. It's photo-facebook'* (girl, 5,5yr.) There was no correlation shown between parents age and children's knowledge of *Instagram*, so we can't say just younger parents' children recognised it.

Twitter is the only site which was known by none of them. They only said it's a 'bird', but didn't connect to that site's function. The reason of this could be that, in Hungary *Twitter* is not a very popular site, so parents do not use it

at all.

120 children were asked about pre-chosen icons of popular online sites. I wanted to get information from them about these sites and see whether they know their usage or not. In the *Top 5* got sites which *not designed for children* like YouTube or Facebook and activities used on these sites – emoticons, like/dislike. They got really excited when they could talk about their ‘adult-sites’ experiences and they also knew these are not made for children.

Websites for children only were known nearly below one-third of them, which also can make us think what kind of content they could possible meet online? This thought was supported by children’s responses during the drawing process and icon, picture recognition too.

4. SUMMARIZATION OF DATA

In my reasearch I wanted to get a deeper sight of pre-school aged children’s digital device usage, their online presence and the depth of their knowledge about Internet. I had four main questions what I searched the answers for with the help of my methods. 120 children and their parents took part in it from pre-schools around Budapest, so my sample could not be considered as representative, although I think it gives a sight of their online lives.

As we could see in my sample, every household has at least *one device*, which has Internet access, what means every child has *the opportunity* to use or at least see somebody uses them around. According to parents answers only 14 children used neither of them, although nearly all of them had exact information about Internet and recognised websites on it. That once again brings up the role of being *passive users* can be considered important, when we think of this age group. They are curious and observe everything around them include digital technology, whether we are aware of it or not (examples are shown in Figure 10). The second part of my research with children also strenghtens this, due to icons they have not used yet (for instance Gmail), but had already known their functions, because they saw their parents used them.

As we could read in studies, my research also confirmed the same – both parents’ and children’s responses showed children this age use the Internet mainly for watching videos and playing games. They use it *whenever they allowed* to: ‘*I use tablet when they (parents) allow me.*’ (boy, 6yr.); ‘*I always use my tablet, every day. Only then not when my mum says I must not. That happens when it’s charcing.*’ (girl, 5yr.). Usually they use it *alone* or with their older siblings and use for whatever they want (sometimes even that, what their parents tell them not to): ‘*We must not use tablet alone, becasue our parents don’t allow us. There are things on it which are not for kids.*’ (girl, 5,5yr.); ‘*Facebook is on*

my dad's tablet but I must not click on it' (boy, 6yr.); 'I know this (YouTube), but my mum doesn't allow me to click on it.' (boy, 5yr.); 'I must not Facebooking, because I'm young yet.' (boy, 5,5yr.). Strict parental control was not typical, actually we hardly could see any sign of control apart from saying not to click this or that icon (what seemed to be futile).

A very little sight of dependency was shown in two cases: 'He's got his own tablet what he uses daily. Once he even peed himself while using tablet, he was so into it. I hardly can take it away from him because he is in tantrum until he gets it.' (6yr. old boy's mother); 'We had a tablet what I really do miss nowadays. Maybe it cracked or something happened to it. I really do miss it, because I liked to play on it. I miss it so very much.' (girl, 5yr.)

They definitely are online and happy to use whatever their parents or older siblings do. In fact, they showed more interest in websites designed for adults than for children, which were usually mentioned as 'sites for babies'.

Parents generally responded they knew online contents for their children – mainly cartoons and games which develops skills – although hardly of them named exact websites.

Children concepts about the Internet had three main charachters: devices they or their parents/siblings use, online cartoons or games they play and the connection what can be hold by Internet. In Chaudron's study (2015) children were said to be know or understand a very little of Internet, but in the light of my research I would not say the same. They may not have a coherent knowledge of it, but surely do have an understanding what Internet can be (Figure 16.) or used for (Figure 21.). Also are aware of its 'everythingness' and neverending-kind.

Figure 21. What is Internet for? (with main recognised icons by children)



Parents answers showed their children mainly interested in watching

cartoons and playing games downloaded on device. An interesting thing is conversations with children showed a little else: children mainly were talking about their *online games experiences* (boys especially about Minecraft, girls about dress-up games). Only four of the parents mentioned *social activity* when considering their children’s Internet usage, but much more of the children talked about their own Facebook or Skype activities (a few even mentioned Instagram). Maybe parents considered this as not children’s usage, because most of the times they are the one on Facebook and children are just around or with them during this time. We could see this has a big impact on children, at least conversations during icon recognition showed this (Figure 22.).

Figure 22. Children’s online interest – according to parents (left) and children’s



responses (right)

When we think about this age group’s (4-7 year old) Internet usage we should consider the *age characteristics*. One of this is the *urge of imitating* – especially what adults or older children do. This put big responsibilities on adults, who are around them – parents, older siblings and even pre-school teachers. In this case, it results they want to do *what we do* – we share, we like, we send emoticons or take selfies and upload – they exactly want to do the same. Children are *hungry for information*, so they want to observe everything what gets their interest – again especially what beloved adults usually do. Strongly connected to this, new information is *quickly adopted and used* – ‘we did not have to show her how to use, she has already known it’ (5yr. old’s girl parent). We can see whatever device is given to children, they are able to use it.

Talking about *cyber safety* and pre-school aged children there were thoughts in recent studies which said they should not get into the focus of internet safety because they have few knowledge about it yet (Chaudron 2015). On the other hand a more recent one noted the urgency of cyber-safety education at this young age (Edwards et al. 2018) what I think the results

of my research also strenghten.

Somehow pre-school aged children should also get support from adults, because the most of them use devices – and Internet – daily. They can face riskful things on it while using alone. In *Chaudron's* study (2015) older siblings were mentioned as proactives in risk-prevention, although I did not find the same role of them in my research due to their still very young age (between 7-9 generally) and also inexperienced. Older siblings (10 and above) seemed to be also riskful, because the content of videos or games they watch and play. Parents and pre-school teachers should get some help in websites what should be appropriate for their children and should be warn about the risks what their children can meet in front of the screen. The fact they can't read and write could mean bigger danger, because of the accidental clicking what could cause more troubles than when they know what they do and how to exit. In my research children mentioned unexpected pop-ups and adverts a lot what they clicked on or had to watch before and during their videos. In *Edwards' study* (2017) we also could read 89% of the asked children would click on a pop-up (even if only 9% of them could describe what they are) and 73% would tell their name and adress what are frightening data.

In the near future we really should find a way to teach younger children (between 0-8) *how to be safe* while using Internet and what kind of risks they can meet there. Adults around them should be aware of these risks themselves as well and *be there* for their children to prevent them from potential negative experencies.

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Érintéstől a kattintásig – online jelenlét és internethasználat óvodáskorban

A XXI. században az internet és a digitális eszközök nélkülözhetetlen részévé váltak mindennapjainknak. Ezt figyelembe véve a gyerekek egyre korábbi életkorban kerülnek kapcsolatba a cybertérrel, ami azt eredményezi, hogy nem hagyhatjuk figyelmen kívül az ő felhasználói mivoltukat sem. A 2010-es évek elejétől ugyan növekvő tendenciát láthatunk a 0–8 éves korosztály internethasználatának kutatását tekintve, de még így is kevés figyelmet kap ez a korosztály. Több kutatás során is arra az eredményre jutottak, hogy az okostelefonok és a táblagépek térhódításával ennek a korosztálynak a jelenléte is egyre növekvő módon jelenik meg.

Kutatásomban éppen ezért az óvodás korosztály (4–7 évesek) eszközhasználatát, online jelenlétét és internetről való vélekedéseit vizsgáltam. Ehhez hozzáférés alapon és véletlenszerű módon 120 szülőt és 120 gyermekét választottam mintámba Budapest különböző kerületeiben lévő óvodáiból. A mélyebb megismerés érdekében mind kvalitatív és kvantitatív módszereket alkalmaztam.

Kulcsszavak: IKT, koragyermekkor, online, internet, óvodás gyermek

Od dodira do klika - prisustvo na društvenoj mreži i korišćenje interneta u predškolskim ustanovama

U XXI veku, internet i digitalni uređaji postali su nezaobilazan deo našeg svakodnevnog života. Imajući to u vidu svesni smo da se deca u sve mlađem uzrastu povezuju sa sajber prostorom. Što znači da ne možemo da ignorišemo ni mogućnosti njegovog korišćenja u vaspitne svrhe. Iako od početka 2010. godine možemo da uočimo trend porasta istraživanja o upotrebi interneta u starosnoj grupi od 0-8 godina, ova starosna grupa i dalje nije u dovoljnoj meri u fokusu pažnje istraživača. Rezultati nekoliko istraživanja su takođe pokazali da se širenjem pametnih telefona i tableta takođe povećalo i prisustvo ove starosne grupe među korisnicima. Upravo zbog toga sam u svom istraživanju ispitivao upotrebu digitalnih sprava, prisustvo na mreži i mišljenja o internetu među predškolskom grupom (4-7 godina). Da bih to uradio, izabrao sam nasumično 120 roditelja i 120 dece predškolskog uzrasta koji borave u vrtićima u različitim kvartovima Budimpešte. Da bih došao do dubljeg uvida u situaciju koristio sam i kvalitativne i kvantitativne metode.

Ključne reči: komunikacione tehnologije, rano detinjstvo, online, internet, predškolski uzrast

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