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KIDS' DIGITAL LIVES IN COVID-19 TIMES

Digital practices, safety and well-being of the 6- to 12-year-olds

*A qualitative study –
National report – CROATIA*

BIBLIOTEKA *ELABORATI*

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A qualitative study – National report – CROATIA

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Abstract

In this report we present the results of a qualitative research study focusing on children's use of digital technology at home in Croatia, during the spring 2020 lockdown caused by the pandemic of COVID-19 virus. The research was done as part of a larger study named Kids' Digital Lives in COVID-19 Times (KiD-iCoTi), a research project coordinated by the Joint Research Centre (JRC) of the European Commission. In Croatia, guided interviews with 10 families were conducted in May and June 2020. Participants were children aged from eight to eleven years old and one of their parents. The report includes detailed portraits of each family that participated in the study, followed by conclusions according to the research questions. It also includes information and recommendations for stakeholders regarding parent's and children's perspective on remote schooling.

I. EXECUTIVE SUMMARY

Key findings

1. During lockdown, all families report an increase in children's screen-time, but for different purposes. For some, such increase pertains to school-related activities, for some to leisure activities, and for most to both types of activities.

2. Children enjoy the increase in the use of digital devices for leisure activities, but not so much for school-related activities.

3. Most children gained at least some new digital skills, depending mostly on the school demands placed on them. Less development could be seen in other domains.

4. The strain of online schooling varied greatly between the children, and it varied in terms of how much it relied on the use of digital technology. This was most probably related to teachers' personal digital skills and interest in this approach to schooling, and it often changed with time.

5. Regarding the use of digital technology for online schooling, we can distinguish between: (1) the use of digital technology to receive assignments from teachers and send the completed assignments back for review, and (2) the use of digital technology by children to complete the assignments. All the children in the study used digital technology more for the former than the latter.

6. Due to the online school process, traditional home-related use of digital technology merged with the school-related use and the load of digital media education shifted to parents. Children, as well as their parents, were not prepared for such a scenario and had to, at least to some extent, improve their digital literacy skills. Parents often needed to download new applications, such as Zoom and Microsoft teams, and learn how to use them in order to teach their children how to use them so they would be able to complete their online school tasks. Some of those platforms were

also used by the entire family for communication with friends and other family members.

7. Some parents often had difficulties finding the time and energy to balance their own and their children's work/study assignments.

8. Some parents expressed their concerns about what children had actually learned through the online school program, especially in comparison to what they would have learned had there been no lockdown and had they attended regular school. They feel that online school was quite demanding for them, and had questionable long-term results.

9. None of the children mentioned any negative experiences with the use of digital technology, and only few parents mentioned that something negative had happened. These were minor incidents.

10. Despite their concerns about the children developing addiction or eye sight problems due to prolonged use of digital media, most parents feel positive about the use of digital technology during lockdown. They often refer to it as something that "saved" them during that time, enabling them to work, study, shop, communicate and entertain themselves without leaving their home. Many of them also emphasize their rising awareness of how much their activities depend on the use of digital technology.

Recommendations

– Our results point to an often-heavy burden of children's education being placed on the parents during online school. Most parents feel they managed well in the end, but some of them often felt overwhelmed with the amount of support they needed to provide in order for their children to complete their assignments on time. We therefore recommend providing additional support for parents in regard to this issue if a similar situation arises.

– Furthermore, if a similar situation occurs again, we recommend that online school for primary school children in lower grades be organized in a different way. This would include more real-time online interactions with the teachers and less need for parents to step into the role of teachers.

– Additionally, when online school heavily depends on the use of digital media, we recommend that the government provides both educational support for parents, as well as support in making digital devices available to all children, at least through a rental program.

– Finally, although this was not the primary focus of the study, teachers' experiences with online school for lower grade primary school pupils and the use of digital technology should also receive additional interest.

II. INTRODUCTION

During unprecedented crisis occurring in the spring of 2020, most children in Europe (and beyond) experienced lockdown. Education, leisure time and social contact have taken place at home and mostly via digital media. Children were, therefore, more than ever, consumers of digital media and content. However, previous research (Hasebrink, 2019) noted that 'Increased time spent online should increase the likelihood of negative experiences - and also opportunities'. One can indeed expect that the more children are online, the more online risks increase (encountering inappropriate content, overuse, commercial pressure, unwanted contact, cyberbullying, physical and mental health impact, ...), but also that the situation provides new opportunities for them (Livingstone et al., 2017).

To depict an image of the threat landscape in the home context, mitigate those risks and support the positive externalizations of this unexpected crisis, it seemed essential to gather quickly comparable cross-national data. The ultimate goal of the study was to inform stakeholders of the current trends and possible impacts of the Corona crisis on children's use of digital technology, online safety, privacy and well-being at home. In this report we present findings from a study done in Croatia.

Since April 2020, JRC, in collaboration with selected European research teams, has been developing a research protocol to gather, as quickly as possible, data on the impacts of COVID-19 crisis on the use of digital technology by children across Europe. The analysis maps the evolution of children's digital engagement in times of Corona Crisis with a particular focus on children online safety, privacy and well-being.

A cross-European research network has facilitated this effort. At the moment of writing, 26 research centers in 17 European countries and the research office of UNICEF have been collaborating on this new study.

The aim of this research is to provide answers to five research questions related to children's use of digital technology at home during the lockdown caused

by the pandemic of COVID-19 virus, using semi-structured interviews with 10 diverse families with children under 12 years of age. The research questions are as follows:

1. How do children aged 6-12 engage with digital technologies during this specific time in the interviewed families?

2. How did the lock-down disrupt or change the children's and families' behavior and activities related to technologies?

3. What are the children's and parents' attitudes towards digital technology use and online activities during the lock-down?

4. How did the lock-down disrupt or change the children's and families' attitudes towards digital technology and online activities? How do parents perceive the associated risks and opportunities?

5. What impacts are expected in the future?

III. METHODOLOGY

The results presented in this report are from a qualitative, interview-based study exploring how children younger than 12 and their parents use digital technology in their homes during the lockdown period due to the COVID-19 pandemic. It is a part of a Kids' Digital Lives in COVID-19 Times (KiDiCoTi)[1] research project coordinated by the Joint Research Centre (JRC) of the European Commission under the lead of Stephane Chaudron. The project included a qualitative and a quantitative study, but in Croatia only the qualitative study was done. The qualitative study included 15 countries (Austria, Belgium, Croatia, Denmark, France, Germany, Ireland, Italy, Lithuania, Norway, Portugal, Romania, Slovenia, Spain, Switzerland) and in each country the research was done using the same research protocols. The research instruments included pre-interview questionnaire for parents and a time capsule activity for children that also preceded the interview and interview protocols for parents and children. They were developed by the international research team.

Procedure

In this section, the implementation of the qualitative study in Croatia is discussed.

The sampling procedure

In Croatia, 10 families were selected with children under 12 years of age. The first guideline of our study's methodology aimed to reach out to the families who participated in the previous research in Croatia, namely the studies "Young Children (0-8) and Digital Technologies"[2] and "Young Children (0-8) and Dig-

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[1] Kids' Digital lives in COVID-19 Times (KiDiCoTi): https://ec.europa.eu/jrc/en/science-update/kidi-cotikids-digital-lives-covid-19-times

[2] Young Children (0-8) and Digital Technologies: https://www.bib.irb.hr/950774

ital Technologies: What Changes in One Year".[3] Those families were already familiarized with the researchers and we believed they would be more open to participate in the research at this uncertain and demanding time. From that group, we were able to reach only 4 out of 10 families. Other families that participated in previous studies have either moved away or their children were over the age limit set for this research. Also, in a few cases the families were uninterested in participating in another study. The remaining 6 families in this research were recruited through personal contacts of researchers or the previously recruited families, based on the snowball principle. When selecting the new families to be included in the research, we considered the construction of a diversified sample in terms of the children's age and gender, family composition, and socioeconomic status of the families.

We first contacted the families by telephone and invited them to participate in this new study. If they agreed, we sent them the following documents by e-mail: an informed consent form for parents and children, a pre-interview questionnaire about the technologies for one of the parents to answer, and a time-capsule activity for the children to play with that would serve as an ice-breaker during the interviews. When the parents returned all the documents by e-mail or instant messenger, we scheduled an interview with them.

During the time of recruiting participants and preparing the interview questions, the lockdown in Croatia had mostly ended. The schools reopened and most adults went back to work. Still, the recommendation of social distancing still remained in force. Therefore, most interviews were done online, with only three done in person, at the family home.

The sample

Table 1 provides information on the basic demographic characteristics of the participants.

Implementation of the interview protocol

The interviews were conducted between May 25 and June 17. The online interviews were conducted using Zoom or Skype, whichever the participants were better familiar with, and were video recorded. In-person interviews were done at the participants' homes. In most cases, the child was interviewed without the parent immediately present, after which the parent was interviewed alone as well. The interviews usually lasted for 45-60 minutes, out of which the last 15-30 minutes were spent with the parent.

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[3] Young Children (0-8) and Digital Technologies: What Changes in One Year: https://www.bib.irb.hr/950774

Table 1 – Information on the basic demographic characteristics of the participants

Family	Family Members	Age	Socioeconomic status	Occupation
HR1	Marin, father **Barbara, mother** **Ines, daughter**	41 41 10	High	Economist Historian 3rd grade
HR2	Dinko, father **Jana, mother** **Maja, daughter** Mirta, daughter	36 39 11 7	Medium	Administration/Delivery Lawyer 4th grade Pre-School
HR3	Darko, father **Sanja, mother** **Ivan, son** Tena, daughter	43 41 11 7	Medium	Deminer Economist (cashier) 4th grade Pre-school
HR4	Slaven, father **Ana, mother** **Nikša, son** Maša, daughter	45 45 9 7	Medium	Economist Psychologist 2nd grade Pre-school
HR5	Ivan, father **Karla, mother** **Marat, son** Luna, daughter	43 39 7 8	Medium	Economist Psychologist 1st grade 1st grade
HR6	Franjo father **Marija, mother** **Boris, son**	45 43 11	Medium	Electrician Nurse 4th grade
HR7	Boris, father **Doris, mother** **Lovro, son** Luka, son Marko, son	41 41 11 9 7	Medium	Geography teacher Language teacher 4th grade 2nd grade Pre-School
HR8	Davor, father **Marta, mother** **Lidija, daughter** Dino, son	37 37 8 6	High	Software engineer University Professor 2nd grade Pre-School
HR9	Tomislav, father **Marijana, mother** **Tamara, daughter** Ivica, son	39 39 11 7	Medium	Economist School teacher 4th grade Pre-School
HR10	Petar, father, **Mirta, mother** **Ana, daughter** Lucija, daughter Nikolina, daughter	40 38 11 9 4	Medium	Gas station clerk Hairdresser 4th grade 2nd grade -

Note: The interviewees are marked in bold and the names of all participants have been changed.

The structure of the interviews was as follows:

1. Introduction to the family, information about the project and its aims, about the interview and information consent (5 minutes)

2. Interview with the child (15-20 minutes)
   a. Ice-breaker conversation about the activity booklet (approximately 5 minutes)

     b. Interview covering the use of technology during lockdown, online school, entertainment, parental mediation of digital media, wellbeing and perceptions concerning this experience (10-15 minutes)

3. Interview with the parent, covering the use of technology during lockdown, online school, entertainment, parental mediation of digital media, wellbeing and perceptions concerning this experience (20-30 minutes)

4. Thanking the family (5 minutes)

Implementation of the analysis protocol

The video data were transcribed and all family members were given pseudonyms. The entire dataset was coded according to the coding scheme developed by the European team of researchers.

There were two levels of analyses. The first one was the family level. Through family portraits, we presented the answers to basic research questions, but also more general information regarding their specific situation during lock-down. The second one was conducted using the principle of thematic analyses (Braun & Clarke, 2006) of the entire sample, based on the previously developed codes. These codes were developed by an international team of researchers to help the later international comparisons of study results, but were also later supplemented with additional codes in each country once the research material was transcribed.

The research questions focused on how children 6-12 engage with digital technologies during this specific time in their home, how did the lock-down disrupt or change the children's and family's behavior and activities related to technologies, what are the children's and parents' attitudes towards digital technology use and online activities during the lock-down and how did the lock-down disrupt or change the children's and family's attitudes towards digital technology and online activities. Finally, we were interested in what impacts are expected by parents and children in the future?

Discussion of methodology

Semi-structured interviews accompanied by the pre-interview questionnaire and the time capsule material for the children provided a good base for answering our research questions. Diversity of families included in the study was very important. In our opinion, diversity was achieved, but still, with only ten families, the sample has its constraints. A larger sample including families from more rural communities or with different family circumstances, such as having a special needs child, would bring more diversity and more interesting data. Out

participants have similar ethnic background, and come from lower and upper middle class.

Additionally, most interviews were done online, which might also have an effect on the data collection process when compared with face-to-face interviews. In the latter situation, researchers are better able to observe the family dynamics and the use of digital devices than during online interviews. Also, in face-to-face conversations with children, researchers are better able to get them more relaxed and open to conversation, because in such situations, the interview might seem less formal than in the case of online interview.
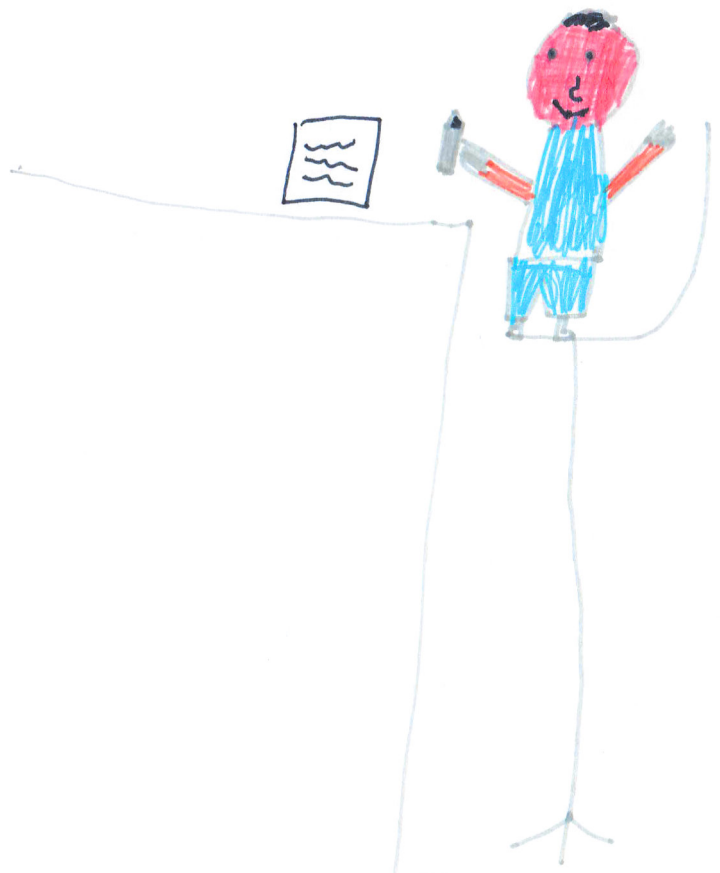
IV. COUNTRY PORTRAIT IN COVID-19 TIMES

The timeline of the Covid-19 pandemic in Croatia starts with February 25, when the first case of the virus was detected in a Croatian patient. The patient was a young male who had recently come home from a short vacation in Milan, Italy, experiencing only mild flu-like symptoms. Since that date, Croatian citizens have been following the guidelines of the Civil Protection Directorate of the Republic of Croatia. On February 29, there were 7 patients infected with Covid-19 in Croatia.

On March 11, the Minister of Health declared the epidemic of virus SARS-CoV-2 for the entire country. By the decision of the Civil Protection Directorate of the Republic of Croatia of March 16, schools and kindergartens were initially closed for a period of two weeks. On March 19, another decision followed and resulted in the closing of most shops (excluding those that sell food, medical supplies and gasoline), entire service industry, catering, cafes, restaurants, gyms, etc. Also, traveling within the country was restricted to traveling within one's municipality. This measure that had to ensure public safety is now often referred to as the 'lockdown' or 'quarantine' and it ended up lasting for over a month. During this period, children of all ages and most adults were quarantined in their homes. Some adults still had an obligation to work, some worked from their homes, where that was possible, but some, due to the nature of their jobs, were just confined to their homes with no work obligations. Public transportation was temporarily suspended, children's playgrounds and outdoor sport facilities were declared unsafe for use, and citizens were advised to keep social distance from everyone other than close family members.

On March 22 at 6:24 a.m., Zagreb, the nation's capital, and its surroundings were hit by an earthquake with a magnitude of 5.5 on the Richter scale. It was the strongest earthquake in this area since 1880, and it caused considerable material damage, as well as additional stress to a large number of Croatian citizens.

During the lockdown period, online school for primary school children was organized in two different manners, depending on whether the children were in lower or higher grades. Generally, lower grades (1st to 4th) have one primary teach-

er who teaches all the subjects except foreign languages, which are taught by different teachers. The same is the case for elective subjects such as Religious Studies. In the 4th grade, children have a different Music teacher as well. During lockdown, these children did not have online classes in real time. Rather, they had an obligation to follow the school TV program. It was a special program shot in preparation for lockdown and organized by the Ministry of Science and Education. In the beginning, it lasted for three hours a day for each grade, but it soon became comprised to one hour a day. It was aired each day at the same time and it combined different subjects, including PE, in order to avoid children sitting passively for three hours. The purpose of the TV program was to support the additional tasks which the teachers would assign to their pupils. The problem was that in Croatia different schools use different student books from different publishers, which process the same material in somewhat different order. Additionally, different classes have different pace of teaching, so, at the time of the lockdown, not all children in the same grade were at the same point in their study program. All this made it difficult for some children to follow the school TV program, because some were behind with the material, and some were ahead and found the program to be boring. Additionally, all children would get daily assignments from their teachers via e-mail or Viber. These assignments had to be returned to teachers and they were eventually graded. Teacher graded both the quality of the answers provided by the pupils and their compliance with the set time-limits. Foreign language and Religious Studies teachers would often assign tasks using different platforms than the primary teachers, and some even organized occasional real-time online classes, which complicated the situation even more.

Higher grades of primary school (5th to 8th) generally have a different teacher for each subject. During lockdown, they had online classes in real time using different platforms, such as Microsoft teams or Zoom.

During the entire lockdown period in Croatia, the total number of patients infected with Covid-19 since the start of the epidemic was approximately 2000, and there was no special pressure put on any of the hospitals.

The lockdown measures gradually started to relax on April 27, with opening of the shops and reinstalling public transportation. That was soon followed by reinstalling the full capacity of medical services, and on May 11th, primary schools for pupils in lower grades, as well as kindergartens were opened again. Opening of high schools followed on May 18. In the same period, most adults returned to work as well.

During the period of 30 or more school days, children were being educated at home, using technology, internet or television. Those new circumstances proved to be a great strain on children, parents and teachers. They had to spend more time at home and more time using the technology to communicate with their colleagues, friends, family, teachers etc.

V. FAMILY PORTRAIT GALLERY

Family HR1

Osijek, Croatia, a large town with 95 000 inhabitants, but not with high population density areas

The interview took place online, on June 17, 2020

Family members

- Marin, father, 41 (HR1m41)
- **Barbara, mother, 41 (HR1f41)**
- **Ines, child, 10 (HR1g10)**

"My attitude changed to a bit more positive. I am not a fan of digital technology, but yes, my attitude was more positive."

Barbara, mother, 41 (HR1f41)

Context

A family of three living in a spacious apartment with two balconies, in a small building in a low population density area. Both parents have higher education, they are employed and during the pandemic, they mostly worked from home, but not in full capacity. The father worked from home for two weeks, then went to the office for two weeks. The target girl is 10 years old and she attended the third grade of primary school. During lockdown, the family spent most of their time indoors, avoiding social contact with others and avoiding going outside not to meet someone. They didn't visit other family members with whom they kept in contact using phones and Viber calls. They spent their time completing their work/school obligations, and relaxing, mostly using digital media – watching television or using smartphones. Sometimes, they played board games or cooked together. They own one laptop, three smart television sets and three smartphones. During lockdown, they borrowed another laptop and a scanner/printer device from the father's firm, which he also used for working from home. They didn't get any other new devices or streaming services, and after the lockdown, things returned to the way they were before.

Their digital skills are at a medium level, and both parents needed to learn how to use Zoom and Microsoft Teams to help the child with her school obligations.

The girl increased her time of digital media use, and this change came spontaneously, without specific considerations about the rules or possible consequences. The mother was worried about this, thinking that her child might get addicted to smartphones, but she accepted the situation because she feared the child would otherwise get too bored, and this was her way of making her daughter happy. The family didn't have strict rules about digital technology use prior to lockdown, and they didn't introduce any new rules at this time either. The girl's sleep pattern was changed with later bedtime and later waking up time in the morning. During the day, there were no strict rules about what was done at specific times, except the time for watching school program on television.

Online school was not very demanding and the girl was able to complete her obligations quite quickly, although it would sometimes take her longer due to her lack of motivation. She attended the third grade of primary school. The official school program on TV was not very interesting and stimulating, and she would sometimes fall asleep while watching it on the couch. She would receive the school assignments from the teacher on her mother's e-mail, which they would check together using the mother's smartphone. After completing the task, they would scan the homework and send it back to the teacher. She learned how to use a scanner application on her smartphone to scan and then send her homework to her teacher. Her out-of-school activities include English classes, which continued in lockdown over the Zoom platform. Her father helped her with this application at first, but later she managed to join on her own. In the beginning, she had a few Zoom meetings with other teachers, and she used Microsoft teams, but after one of the users in the team accidently deleted all the children's work, this was abandoned. Her biggest joy was learning how to create stickers on Viber and editing photos, which she would then send to family members and friends, as well as watching YouTube videos or television.

She was very happy during lockdown because the family was together at home, and they did everything together. Also, there was no real school and she didn't even need to attend her English classes by leaving the house. She missed her friends to whom she didn't speak often using digital media. When asked what she learned from this period, she replied "That health is most important, just as freedom."

The mother's attitude to technology is that she is not a fan, but the lockdown turned her attitude more to the positive side, because it helped them keep in touch with friends and family. After the lockdown ended, they only kept the scanner/printer, and all other things returned to normal. She also felt happy during lockdown, since the family was together, they felt safe indoors and didn't really have the need to go anywhere.

In the future, she would like to keep using the printer and continue to create stickers.

Family HR2

Osijek, Croatia, a large town with 95 000 inhabitants, but not with high population density areas

The interview was done in person, at the family home, on May 29, 2020

Family members

- Dinko, father, 36 (HR2m36)
- **Jana, mother, 39 (HR2f39)**
- **Maja, child, 11 (HR2g11)**
- Mirta, child, 7 (HR2g7)

> "I was worried that she would get too addicted because she spent more time using it (digital technology) and it was too much for school, with those tiny letters on the smartphone and she squinting into them, and if she was outside there was also the reflection…"
>
> Jana, mother, 39 (HR2f39)

Context

A family of four, living in a house with a garden. They have cats as pets. Sisters share a bedroom. The father has high school education and the mother has higher education. They are both employed, and for the first part of the lockdown they were at home with their children, not working. Later on, the mother started going to work again, and the father stayed at home with the girls and attended to his work obligations once the mother came home. They are both very involved with the children and allow them very limited screen time. During the pandemic this changed a little, and the girls were allowed 15 minutes longer screen time. They own three smartphones (none of which belongs to the children), two smart television sets, one computer that is used only by parents, and three gaming consoles, one of which they acquired during the lockdown. They also downloaded two online platforms for learning and one for following the news.

They maintained their usual schedule of daily activities, as well as bed time and waking up time. The family followed the guidelines of the Civil Protection Directorate and for the first 35 days of quarantine, they didn't leave their backyard. They did spend a lot of time outside, but only in their garden. They played a lot of board games together as a family. They kept in contact with other family members through Viber video calls or Skype calls.

The target girl attended the fourth grade of primary school and she had quite a lot of school obligations. The teacher would send tasks and Power Point presentations to a Viber group on the mother's smartphone and the girl would copy the tasks from the smartphone to her notebooks and do what was required. The parents would spend 3 to 4 hours a day helping her with school obligations.

Once she was done, they would take a photo of the homework and send it back to the teacher. The teacher would send her feedback, indicating what had to be re-done in the notebook and sent back for another inspection. On some occasions, the girl used her mother's smartphone for a more creative homework, for example she had to create a commercial for local food products. On that occasion, she prepared the products and created a costume and her mother filmed her presenting the produce. Also, for other classes she needed to learn how to use Zoom and Kahoot. She learned how to send e-mails to her English teacher.

In general, the target girl didn't like the lockdown period. She felt angry, tired and disappointed and she missed her friends and walking the dogs in the asylum. She is used to spending a lot of time outdoors, walking with family and hiking at the weekends, and she now spent her days indoors or in the small garden, with a lot of time dedicated to completing school obligations. When asked what she learned from this period, she replies: "That some diseases can be very dangerous".

She would really like to have her own smartphone, because she is the only one in her class that doesn't have one. Her use of digital media was quite limited, but she enjoyed using it for up to an hour a day. She likes playing simple games with animals. She has a habit of downloading a game, playing it and then deleting it after she is done playing. She gets bored with games very fast. She would like to have a Tik-Tok and Lucky account, but she is not allowed. Sometimes, she would play a game on a gaming console with her father and sister.

The parents' attitudes towards digital technology have changed compared to the time before lockdown, because they feel it helped them a lot during this period, both for school and for leisure activities. Still, since the target girl had to spend quite a lot of time copying assignments from a smartphone into her notebook, they were worried that she would have problems with her eyesight. Also, they are a little worried about her fascination with smartphones and they feel she would use any given opportunity to get her hands on one and use it for fun – watching YouTube videos or playing games.

Family HR3

Osijek, Croatia, a large town with 95 000 inhabitants, but not with high population density areas

The interview took place online, on May 31, 2020

Family members

   – Darko, father, 43 (HR3m43)

"Technology as technology, it's so artificial for me that I can't say it's something positive"

Sanja, mother, 41 (HR3f41)

- **Sanja, mother, 41 (HR3f41)**

- **Ivan, child, 11 (HR3b11)**

- Tena, child, 7 (HR3g7)

Context

A family of four lives in a house in the city. They have a pet dog who they take for a walk every day. The father has high school education and the mother has higher education. During the pandemic, they were both at home, not working for a period of time. They spent time with their children and doing their choirs, going for long walks and bike rides, but without the company of other people. Their daily schedule didn't change much and they kept similar going to bed and waking up times.

They own one tablet, three computers, one smart TV, 3 smartphones. Children's access to television is mostly controlled, but to computers and smartphones less so, because the target child owns his personal computer and smartphone. The target boy attended the fourth grade of primary school and his younger sister was still in kindergarten. During lockdown, he felt satisfied and he was happy to be with his family. In addition to watching TV school, he got all the assignments from his teacher on his mother's Viber account. She would then forward the messages to his Viber account, which he accessed on the computer. After he completed a task, the mother would photograph it and send it back to the teacher. Foreign language assignments were usually published on the school web page. The target boy was very independent in his school work, even keeping track of the deadlines on his own. He learned how to make a sound recording in the Power Point presentation.

In his spare time, he spent more time than usual using his computer and this change came spontaneously. He played Roblox and watched story time animators and gaming channels on You Tube. Sometimes, he would talk to his friends about the games they played, using Viber. His favorite device is his computer.

The parents felt confident in their digital skills, and had no need to learn new things in addition to what they already knew. The family didn't acquire any new devices or streaming services, but they did add a new TV channel to their usual TV subscription package. They felt good about what they had regarding digital devices and felt no need to change that. They value digital technology for allowing their son to be creative while playing games and improving his English while chatting to other players. The increase in the time spent using the computer came spontaneously, with the important rule still being that all other obligations had to be finished before that.

Family HR4

Višnjevac, Croatia, a suburban settlement with 7000 inhabitants

The interview took place online, on May 30, 2020

Family members

Slaven, father, 45 (HR4m45)

Ana, mother, 45 (HR4f45)

Nikša, child, 9 (HR4b9)

Maša, child, 7 (HR4g7)

"Somehow I gave in, in the sense that in order to have peace in the house – I let them each do what they were interested in (using digital technology), rather than always banning and saying – no, don't..."

Ana, mother, 45 (HR4f45)

Context

The family of four lives in a spacious house in s suburb of Osijek. They have a dog and a cat as pets and a very large backyard. Both parents have higher education, are employed and worked from home during lockdown, but not in full capacity. The target child attended the second grade of primary school, and his younger sister was still in kindergarten. The family spent time doing their work and school obligations, playing and being outdoors – gardening or riding bikes, but without meeting other people. The boy was happy that the family was together, but he felt disappointed with the lockdown. He missed his friends and going places. He said he missed going shopping, and when asked if he missed anything from the stores, he replied negatively – he was just unhappy about not being able to act as usual and go shopping with his mother to the grocery store.

The family owns one tablet, one smart TV and two smartphones. The children have access to everything except smartphones. The target boy mostly used the TV. The online school assignments were not demanding. The teacher would send assignments to a Viber group on the mother's smartphone, but he didn't need the smartphone to complete the assignments. After he was done, the mother would photograph the homework and send it back to the teacher. He would rarely get a link to a mathematical game or Word wall quiz, which he liked very much. On some occasions, he needed to make a video recording of himself while singing a song or exercising. He used his mother's smartphone for that, but he did it by himself.

Parents have a very strict screen time policy, but this changed during lockdown and both children were allowed more screen time. The change happened spontaneously, because the parents sometimes needed time to complete their work and they needed the children to be calm and quiet during that time. This changed from day to day. The children slightly changed their usual schedule, with a little later bed time for example, but this also varied from day to day. After the lock-

down ended, things went back to how they were before, with children spending most of their leisure time outdoors with friends from the neighborhood. They didn't acquire any new devices during lockdown, but they did borrow an LCD projector, which they used to watch film projections on the wall, which was a lot of fun. They also borrowed a synthesizer and the target boy learned how to play a few simple songs. These devices were later returned.

The boy likes to watch YouTube and cartoons on TV. He and his younger sister would reach an agreement on what they would watch and would then watch it together.

Generally, the parents don't have a positive attitude to children's use of digital technology, but this attitude changed slightly during the lockdown. The kids were allowed more screen time, which made them happy, and in return, that made everyone happy.

Family HR5

Zagreb, Croatia, a large town with 850 000 inhabitants and high population density areas

The interview took place online, on June 15, 2020

Family members

- Ivan, father, 43 (HR5m43)
- **Karla, mother, 39 (HR5f39)**
- **Marat, child, 7 (HR5b7)**
- Luna, child, 8 (HR5g8)

> "For me it was great, it enabled me to discover so many things and I am already prepared for the summer, we will have enough things to do all summer."
>
> Karla, mother, 39 (HR5f39)

Context

The family of four. The target child was the younger boy, since the year and a half older girl is a special needs child. They both attend the first grade of primary school, but the girl goes to a special class. The father has a high school education and the mother has higher education and they are both employed. During the lockdown, the mother worked from home but not in full capacity, and the father worked either from office or from home, in two-week intervals. They live in an apartment in the Croatian capital. They are both very involved with their children's upbringing, especially since the girl has a lot of therapy and rehabilitation. Some of the experiences with her in regard to the use of digital media are what shaped the entire family's attitudes to digital media. They spent the lockdown mostly inside the apartment and on the terrace, playing traditional games together, cooking together, and dealing with their work/study obligations. The

family owns one tablet, two computers and two smartphones, and children have access to all the devices. They also have a number of applications or online platforms for studying, but these are mostly used by the older girl. They also use 4 different game apps, two of which they obtained during lockdown.

The target boy watched the TV school, and would then complete his assignments. These were sent to his mother's e-mail by the teacher. Since, in her words, his assignments were very undemanding, she had a personal study system organized, so, she would monitor all his assignments and then use the material that was studied to create additional quizzes and crosswords using digital tools. She also found two games for her son in which he had to complete mathematical assignments in order to advance, which he liked very much. Her motivation for that was to keep him motivated for learning, thinking he would otherwise get bored and tired and it would take him too much time to complete his assignments, which would, in turn, take up too much of her time as well, since he couldn't do it on his own in the first grade. Since she had another child that needed her attention, this way they would gain some spare time. She created a recurring Zoom meeting for her son and his classmates every day at 5 pm, so anyone who wanted could join in and hang out. He even celebrated his birthday during one such meeting. Since he was a first-grade pupil, he was not required to use digital technology to complete his assignments, but rather to receive them and send them back to the teacher.

The family used digital technology in a very creative way. Together they would explore different topics that the target boy found interesting, such as Ancient Egypt, or Napoleon, and then they would talk about them, find additional material on the web, or connect the topic to films and cartoons they would watch together. Since they also experienced the earthquake during lockdown, they used digital tools to learn about the waves, how an earthquake begins, etc. The Internet searches were done together, since, according to the mother, they had some problems with computer viruses which sometimes caused inappropriate commercials to pop up, so she always stayed with the child when he was online. They also acquired a piano and the mother found some apps that helped the target boy learn how to play. Later on, they made plans to make a family project – a film, using green canvas, creating costumes, etc.

Mother's attitude towards digital media is positive in general and it has become even more positive since the lockdown. She saw digital technology as an extremely useful tool to help her children gain new knowledge in a fun and interesting way. To make it happen, she spent a lot of time researching and preparing, but in the end, the children used digital media in a very creative way, with high educational potential.

Family HR6

Tenja, Croatia, a suburban settlement with 7400 inhabitants

The interview was done in person, at the family home, on May 31, 2020

"It has now become clear that we cannot live without DT"

Marija, mother, 43 (HR6f43)

Family members

– Franjo, father, 45 (HR6m45)

– **Marija, mother, 43 (HR6f43)**

– **Boris, child, 11 (HR6b11)**

Context

The family of three lives in a new, large, spacious, country house with a large back yard. Both parents have high school education, both are employed and during lockdown, they both worked in a combination model: from home and from the office. The father did part of the work from home and part at the office. The mother worked at the hospital throughout the lockdown. The target child attended the fourth grade of primary school. The family spent most of their time indoors, avoiding social contact with others and avoiding going out unnecessarily so as not to meet anyone. They did not visit other family members with whom they maintained contact using phones and calls via Viber. They spent time doing their work / school obligations and relaxing using digital media - watching TV or using smartphones. They often exercised and played sports together, cooked together and sometimes played board games. They have one tablet, four laptops, one smart TV, three smart watches, one digital camera and three smartphones. They did not acquire any new digital devices or streaming services during lockdown. Their digital skills are at a high level.

The target boy spent longer time than usual using digital media during lockdown, since he communicated with friends more often using online tools and he did his school work through the use of DT. Before lockdown, the family had clear rules regarding the use of digital technology, which remained the same during this period. The child had a controlled access to a tablet, laptop, smart TV, telephone and digital camera, and free access to a smartwatch. The boy's sleeping habits changed with later bed time and later waking up time in the morning.

The online school was relatively demanding in the sense that it took the boy all morning to finish the assigned tasks. The official school program on TV was not very interesting and stimulating, and it often showed the content they had already done at school. He would receive assignments from his teachers in the Viber group, and had to return them to the teachers after completion. Parts of the assignments had to be photographed or recorded and sent by e-mail. He did

not learn any of the skills during this period, but he learned how to use an Apple computer with a completely different operating system, which had been purchased just before the pandemic.

His extracurricular activities include sports (football and karate), and these were all cancelled during lockdown, so he played music to a greater extent. He played the drums and worked on his playing skills.

At first, he was very upset and frightened by all the news he could hear through the media, and he was especially worried about his grandparents, whom he did not visit during this period to protect them from possible infection. He missed sport training and friends with whom he spoke much more often using digital media.

The mother's attitude towards technology changed to a more positive one, because this situation made it evident that DT is not used only for entertainment, but also for educational and business purposes. She says: "It has now become clear that we cannot live without it. I think the kids have just seen what it looks like in practice".

She concluded the interview by a remark on the relationships with other people: "Relationships between people have changed because habits have changed. People move less and do not socialize. We are not going anywhere, and since everything opened up again, we have been to only one gathering. We've actually seen it suits us better that way".

Family HR7

Osijek, Croatia, a large town with 95 000 inhabitants, but not with high population density areas

The interview took place online, on May 31, 2020

Family members

- Boris, father, HR7m41
- **Doris, mother HR7f41**
- **Lovro, child, HR7b11**
- Luka, child, HR7b9
- Marko, child, HR7b7

"I'm worried that he's still too young, but at the same time old enough to get things that I may not be able to control, and that worries me."

Doris, mother, 41 (HR7f41)

Context

This is a family of five – mother, father and three children, all three boys. They live in a spacious apartment with a huge balcony. Both parents have higher education, they are employed and during the pandemic, they worked from

home. The father is a primary school teacher and during the lockdown, he taught classes online, and the mother also did her work from home. The target child is the oldest child in the family and he attended the fourth grade of primary school. The family spent most time during lockdown indoors, avoiding social contact with others and avoiding going outside so as not to meet someone. They didn't visit other family members with whom they kept in contact using phones and Viber calls. They spent their time doing their work/school obligations, and relaxing by using digital media and other activities – playing PS, playing board games or cooking together and sometimes watching television together or playing sports. The family owns two computers, three smartphones, one smart TV, one smartwatch and PlayStation. They did not get any new devices or streaming services during the lockdown. Their digital skills are at a high level.

During the lockdown, the target boy significantly increased the time spent using digital technology, and this happened because otherwise, the parents would not have been able to complete all their commitments on time. In addition, school obligations were done through digital media, they did not see anyone, but communicated with others exclusively over the smartphone. Prior to the lockdown, the family had clear rules on the use of digital technology, which changed during this period. Previously, PS could only be used for two hours at weekends, and now they were allowed to use it for two hours every day. The child had controlled access to a computer, smart TV and PS, and free access to a smartphone. The boy's sleeping time has not changed in this period.

The online school was quite demanding and the boy received a lot of content to process through links to the school website, Viber messages from the teacher and via email. It was interesting for him to solve quizzes, create PPT presentations, record himself while performing certain activities and send them to the teachers. Nothing bored him, but he was frustrated with not being able to go out and hang out with friends. For this reason, he used all possible ways to communicate with family and friends: Viber groups and video games for communicating with friends ("We are all online and talking while playing"), and video calls for communicating with his cousin and grandparents. During this period, he learned to send e-mails and created his own e-mail address.

The boy and his brothers normally spend a lot of time doing outdoor activities and doing sports, so this period of lockdown was extremely challenging for the whole family because they were limited exclusively to the activities in their own home.

In general, the boy had conflicting opinions and feelings about the lockdown period. He really liked that he and his brothers were allowed to play PS for two hours every day and he liked the online classes. He didn't like that he couldn't go out and hang out with his friends. He would like it if some parts of his classes

continued to be online (video recordings, presentations, quizzes) because they were a lot of fun for him and he increased his knowledge about DT.

The mother's attitude towards digital technology is mostly negative because she thinks that it does not work well for her children and leads to addiction ("They are irritable, quarrelsome, more nervous... they are not their usual selves..."), so, they quickly switched to board games and staying in the yard as soon as the sunny weather came. The mother is also concerned about the child's excellent skills in using DT, in the sense that information could come up that could upset him. However, the mother believes that not everything is negative and finds something positive in the lockdown experience. She states that it has been shown that everyone is able to adapt to a different way of working, both the teachers and the children, the old and the young.

Family HR8

Osijek, Croatia, a large town with 95 000 inhabitants, but not with high population density areas

The interview took place online, on May 30, 2020

Family members

– Davor, father, HR8m37

– **Marta, mother HR8f37**

– **Lidija, child, HR8g8**

– Dino, child, HR8b6

Context

This family of four lives in a new, large house in the city, with a spacious terrace and a yard. Both parents are highly educated and worked from home during lockdown. Both parents were involved in daily online meetings with colleagues and/or students. The target girl was attending

"If I could choose, it would be crazy... I would stay in bed longer, I would watch TV while eating breakfast, I would always be using the tablet in my room, I would get dressed with the tablet, then I would play games on the tablet in bed until the afternoon, I would have lunch watching TV, ice cream and tablet after lunch, taking sweets upstairs and games on the tablet until dinner... during dinner I would watch TV, after dinner I would shower with the tablet, brush my teeth while watching something on the tablet and then again TV until I fall asleep... on the tablet I would play games and watch YouTube. I would spend 10 hours a day using DT if only they would let me."

Lidija, child, HR8g8

the second grade of primary school, while the younger son was not yet in school at the time.

There are two interesting circumstances regarding this family's life organization during the pandemic. Firstly, the target girl's school assignments were rarely given and done through digital media. Namely, the girl's teacher sent print-

ed work materials for all the children every three weeks through one mother from the class. Then the children would solve the assigned tasks and return it to her after three weeks. She would then resubmit new work materials. Both the girl and her parents liked it, because the girl was able to organize her time for learning and writing homework as she saw fit. Also, deadline was always long enough, so there was no additional stress. Secondly, the parents decided not to fully comply with the recommendations from the Civil Protection Directorate, and every afternoon, after all the work and school obligations were met, they went out with their children to the playground to socialize with several other families. The parents of those children agreed that the children would play together every day on a small playground, so that they did not miss the company. They were at the playground together until 9 p.m. every day. They did not visit each other at home, nor did they visit other family members, but the children were allowed to socialize outside. They communicated with other family members via Viber calls.

The family owns two tablets, two computers, one smart TV, three smartphones, a smart toy and a digital camera.

Before the pandemic, children did not use DT extensively because they did not really have time for it. The younger child was in kindergarten until 4 p.m., and the girl was in an after school extended stay program, so they were left with little time together during the day. This changed during lockdown, especially for the younger child. The parents and the girl had their work / school obligations, and the boy did not have any obligations during the day, so he was allowed unlimited use of DT. The parents had no other choice, but they felt guilty about it and the mother's conscience burned because he was on the tablet while they all worked.

In the evening, after 9 p.m., after the children returned from the playground, they would all watch cartoons together, so the children went to bed much later in this period.

In addition to watching cartoons together, the family cooked together and occasionally played board games.

The girl did not feel a significant difference in the lockdown, since they hung out with their friends every day, and she liked this way of schooling because she did not have to study several subjects every day, but she chose what she would learn every day.

During the lockdown period, she learned to type on the keyboard, but for fun, not because someone asked her to. If she could create her own day, the girl would use DT for up to ten hours a day, even when eating and doing hygiene. She loves watching YouTubers and playing simple games on her smartphone.

The mother is worried about the fact that children watch YouTube, where everyone can upload whatever they want, and children do not know how to judge for themselves what is good and what is bad. So, after a while, they blocked the kids from using YouTube because they don't see anything useful or good in it.

The mother generally views DT positively because without it we would not be able to live or function today, which was especially evident during the lockdown period. However, when it comes to children, her opinion is that the use of digital technology should definitely be limited both in content and screen time because children alone cannot assess what is good for them and what is not.

Family HR9

Osijek, Croatia, a large town with 95 000 inhabitants, but not with high population density areas

The interview took place online, on May 29, 2020

"I currently have no restrictions on my smartphone because I have learned to control myself."

Tamara, child, HR9g11

Family members

– Tomislav, father, HR9m39

– **Marijana, mother HR9f39**

– **Tamara, child, HR9g11**

– Ivica, child, HR9b7

Context

A family of four living in a semi-detached family house with a common yard. They have a dog as a pet. Children share a bedroom. Both parents have higher education. They are both employed and both worked from home during the lockdown. The mother had fewer commitments during the day, but the father worked significantly more than before the pandemic. His task was to transfer the complete range of the store to an online shop, which he had not done before, so he spent minimal time with his family during this period. Children had limited access to DT before pandemic, but this changed significantly during this period. Namely, the total time of using DT significantly increased, but not the amount of playing games.

The girl watched the official school on TV every day and she used her smartphone because the assignments from the teacher were given in a Viber group. English language assignments were posted on the school's website. After the assignment was completed, she would photograph it and send it back to the teach-

er via Viber or by e-mail. She learned to send e-mails on her own and discovered new websites. Since the family complied with the recommendations from the Civil Protection Directorate, for the first month of the quarantine, they didn't leave their house or the backyard. They communicated a lot with relatives and friends using Viber video calls. They had communicated that way before, but it was much more frequent now because they could not see anyone. They also spent a lot of time cooking together, staying in the backyard, playing with the dog, playing sports at home, and playing board games.

The family owns one tablet, three computers, two smart television sets, three smartphones and one smartwatch. The girl most often uses her smartphone for listening to music while performing other activities. She is very controlled and responsible, so no special rules need to be set for her. During lockdown, the family installed Minecraft, but because of the younger boy's overuse, they had to limit the use of the game after two weeks. Namely, the boy completely neglected all other activities and toys, so, realizing this, they limited playing to an hour and a half a day.

Generally, the target girl didn't like the lockdown period. She felt anxious, worried, scared and missed her friends and her usual activities - going for walks with her mother, staying at the cottage with her family, dancing in a dance club, etc. She is generally not a child who likes to spend a lot of time with DT, so she wouldn't change anything significantly.

If a similar situation happened again, instead of watching the TV school, she would like to go on more walks and spend time outdoors, and DT would be used between an hour and two a day, as it is now.

Parents generally view the girl's use of DT positively. Of the negative aspects, they mention wearing glasses, which the girl has been wearing for several months, and which they believe has something to do with staring at the screen. They think that people today cannot function without DT, so everyone has to adapt to that. They are more worried about the younger child, who does not know how to control himself.

After the lockdown, they would like to keep some rituals because they were a revelation to them, such as Zoom meetings and Webinars.

The mother said they learned a lot during the pandemic period and the positive side was that they were able to focus on each other and they learned to tolerate each other to a much greater extent.

Family HR10

Tvrđavica is a suburb of Osijek and has approximately 750 inhabitants.

The interview was done in person, at the family home, on May 27, 2020

Family members

- Petar, father, HR10m40
- **Mirta, mother HR10f38**
- **Ana, child, HR10g11**
- Lucija, HR10g9
- Nikolina, HR10g4

> "Dad says my knowledge of DT is enough because he's afraid I'd pick up a computer virus if I knew more and wanted to use DT more."
>
> Ana, child, 11 (HR10g11)

Context

A family of five living in a large, comfortable house in a suburb of Osijek, with a large yard and garden. The girls share a room. Both parents have high school education, and both are employed. During the lockdown, the mother exercised her right to an extended maternity leave, while the father went to work at the gas station every day. Family members have only basic knowledge of using the Internet and computers. In general, DT does not play an important role in the life of this family. The family owns one computer, two smart television sets, four smartphones and one smartwatch. The two older girls have free access to their smartphones and smart TV, and the target girl has free access to her smartwatch. Access to the shared computer is controlled. They downloaded one online platform for learning during lockdown.

The target girl attended fourth grade of primary school. Her amount of digital technology use was increased during the lockdown due to online school and the inability to see other people. The family maintained the usual schedule of daily activities, as well as sleep and waking up times. They followed the recommendations of the Civil Protection Administration and did not leave their yard and garden for the first month of lockdown. They spent a lot of time outdoors, but only in their garden and with each other. Together as a family, they played a lot of board games, played sports in the backyard, cooked, did gardening, and watched movies and TV shows together. They stayed in touch with other family members and friends via Viber video calls and Viber messages.

The target girl had quite a lot of school obligations. The teacher would send assignments to a Viber group on the mother's smartphone and the girls would copy the tasks from the smartphone to computer and do what was required. The parents would spend 1 to 2 hours a day helping her with school obligations.

Once she was done, they would take a photo of the homework and send it back to the teacher.

Regarding other activities, the girl filmed a dance with her sister for fun, and for the school assignment she filmed a dance with glasses for Music Education. The mother recorded the dance, and then the girl e-mailed it to the music teacher. She shared her recordings in the Viber group with friends so they could see it too. She really liked the recording and the comments of others. She would love to keep doing that even after the lockdown. She acquired the skill of writing e-mails with the help of her dad and transferring material from a cell phone to a computer.

The mother views the child's use of DT as mostly positive. There was nothing particularly negative. There was more fear of such a way of schooling in the beginning because they were not sure if they could cope with the use of digital technology adequately. However, they mastered most of the skills step by step or with the help of neighbors (e.g., for program installation). The mother liked the educational quizzes and the Zoom application for group meetings, so she would like to continue to have this way of learning from time to time during school.

VI. FINDINGS

1. How do children aged 6-12 engage with digital technologies during this specific time in the interviewed families?

- Most families report an increase in the children's screen-time, both for school related task and leisure activities. Devices were used both actively – by being engaged in the activity while holding or operating a device, and passively – by playing a play list of songs while the child dances or does other things.

- Children's favorite devices were smartphones, television and computer (if available).

- Their favorite activities were watching YouTube videos, playing games and watching television. Other activities involved listening to music, communication with friends and relatives.

- Online communication with friends and family using video calls is something that most families introduced for the first time, and stopped pursuing after the lockdown.

- All families tried to organize their family life according to the new circumstances. This varied a lot, especially depending on the way the parents organized their work obligations. Some parents worked as usual, outside of their homes (in hospitals, pharmacies, shops that sell food products, caterings, etc.), because their work was declared essential. Some parents worked online from home, similarly as they would from an office – in 8-hour shifts. Some worked from home, but had the possibility to adjust their working time at least to some degree. Finally, some did not work at all, but rather spent their time at home with the government making compensations for about 80% of their wages. Depending on this factor, families with children would adjust their daily schedules accordingly, and this is what influenced their children's screen time the most. Additionally, if

the parents worked from home, they had to rearrange the space in their home in order to be able to work without being disturbed by other family members. The same was true for children who also needed their space to study, either using digital technology or not. The distribution of devices was also a matter of organization, since it could happen that all family members had online obligations at the same time. Finally, families with more than one child, especially if they were school children, had an additional burden of organization.

– In some families there is an increase in the time spend using digital devices together, not just each member on their own. This is evident not only regarding school work, but also for leisure activities.

– Some parents used digital technology in a very creative way, on their own initiative, to help their children learn school material, but also for other things that were interesting to the children – creating personal Word Wall quizzes for example or creating games that involved mathematical assignments, learning how to play the piano and organizing family concerts.

– Some children used digital technology in a very creative way, but without the need for parental support. These are mostly older children in the sample. They would use smartphones for recording their music playing, and then replaying it to identify mistakes, creating music using special apps, or creating play lists to listen to while dancing or doing other things.

– New rules about digital device use were installed, mostly spontaneously, but sometimes in a planned manner. Four children had a stricter set of rules even during lockdown. In all the families, these rules were mostly related to limiting screen time, with less consideration for the content being consumed. On the other hand, apart for school-related activities, most children didn't get access to new content, but rather chose to use their extra time for activities they enjoyed before lockdown.

– Most families tried to offer their children activities which didn't include screens – such as playing board games, joint reading, doing DIY projects, etc. Also, most families spend at least some time during the day outside with their children, especially if they had a garden.

– Despite prolonged use of digital media during lockdown, most children didn't have any negative experiences during such use. This might be because they don't use social networks and their online communication was mostly limited to friends and family members. Also, most parents in the study are quite involved in monitoring their children's use of digital media, at least from a distance, and this might also help in preventing them from visiting sites that might bring more problems.

– Most children had at least one negative experience with completing on-line school activities, because they either couldn't send the homework because there was a problem with e-mail or the internet connection or they had difficulty completing the task because the link that the teacher sent wouldn't work, or they had trouble accessing online learning materials, etc.

2. How did the lock-down disrupt or change the children's and families' behavior and activities related to technologies?

– Most parents had to develop at least some new digital skills to help their children cope with online school. These are not highly sophisticated skills and involve learning how to use the applications such as Zoom or Microsoft teams, how to compress files and send them to teachers using e-mail or Viber, etc. They would then teach their children the same and additional skills.

– Children acquired some new digital skills and these were mostly related to completing online school tasks. For example, they learned how to send an e-mail, how to use a printer, how to make an audio or video recording of them singing or doing physical exercise, how to make a Power Point presentation or how to put audio recordings in Power Point presentations. In some cases, they learned how to use Zoom, Skype or Viber calls, to communicate with their teachers, friends and family members.

– Most children, especially younger ones, were quite dependent on parental support for completing their school tasks, especially in the beginning. Children were often introduced to new digital tools that they had not used before, such as completing quizzes on Word Wall or similar sites.

– The increase in their screen time dedicated to leisure activities lead to discoveries of new games or new internet sites. Apart from one boy (HR6b11), other children do not use social network sites and don't have social network accounts. But they often mention they would like to use Tik-Tok.

– Most families didn't introduce any new devices or services, but rather managed with what they had had before. On some occasions, they borrowed a device and then returned it after the lockdown.

– Half of the children in the sample felt happy and content during lockdown, but the other half mentioned that while they felt good about being with the family, they also felt unhappy because they missed their usual way of life, their activities, spending time with friends, going outside, etc.

3. What are the children's and parents' attitudes towards digital technology use and online activities during the lock-down?

– All of the parents have mixed feelings about increased digital technology use during lockdown, both their children's and their own. On one hand, they all feel positive about digital technology because it enabled them to work, shop, communicate, etc. from home and it helped their children continue their education. Also, they value the entertaining value of digital technology. On the other hand, they fear that this excessive use of digital technology might have negative consequences for all members of the family, but especially children, and they feel bad because of the children's increased screen-time.

– The biggest concern the parents have is that the increased use might affect their children so as to make them more tired, nervous, and overexcited and that it might cause an addiction. Also, some of them feared that this overuse might hurt their children's eyesight and posture.

– Some parents feared the negative effect of media coverage of the corona crisis on children, because they mentioned that children would come across disturbing news regarding the number of new cases while surfing the Internet. Some children expressed this concern as well.

– Children mostly welcomed the increase in use of digital media for leisure activities, but some of them also expressed their concern about how this affected their psychological well-being, by stating they would sometimes feel tired and nervous after prolonged use, and that everything else would later appear boring.

– As for the online school, most children preferred the traditional school because they could meet their friends. They felt that it might be easier to go to school and do all the school work and studying there, and then go home and have the rest of the day free for other activities. The reason for this is that in some families doing school work would last the entire day, with other members of the household also needing devices or space to fulfill their work obligations. In other words, the border between study and leisure time was blurred and this was a problem for some children. Also, since there were no direct online classes, children often felt school became a series of tasks that needed to be completed at a given time, without the feeling they were learning or advancing in their knowledge.

4. How did the lock-down disrupt or change the children's and families' attitudes towards digital technology and online activities? How do parents perceive the associated risks and opportunities?

– Most parents express that during the lockdown, their attitudes towards digital technologies shifted to more positive compared to what they were before the lockdown.

– There is a sense that parents have an internal conflict regarding this shift, and that they fear the consequences at the same time.

– All the children gained at least some new digital skills during lockdown, which is something that parents value, hoping it will help the children in their future activities related to digital technology.

– Only two families reported any negative on-line experiences with children's use of digital technology, and those occurred only once. One family reported that a child saw an inappropriate add pop up. It was a sex shop commercial for costumes, and the mother handled the situation quickly by closing the add and explaining that it was about strange Halloween costumes. In another family, the girl saw frightening content on YouTube (a Momo doll) and she felt scared, so her parents decided to forbid further access to YouTube.

5. What impacts are expected in the future?

– All the children welcomed the end of the lockdown and returning to school, even with the newly established epidemiological measures. Only one girl preferred to stay at home even after the lockdown ended.

– All the families returned to their usual level of digital media use once the lockdown ended, with a significant decrease in children's use of digital media for studying.

– One family was determined to use the new experiences with digital technology to advance their children's education process in the future as well.

6. Surprising findings

– For most families, the lockdown was a negative experience and they were very glad to reach the end of it. There are however some families to which the situation was acceptable and one family which considered the lockdown as an extremely positive situation. This is because, as the mother puts it, they were able to concentrate on themselves, create their own daily schedule, and work individually with the child, which resulted in his better understanding of school material and better progress in this regard.

– All the families say they would act the same in case of a new lockdown in terms of not acquiring any new devices or digital services.

– Different from what we expected, it seems that the fact whether the families had more space (a house with a garden for example) or less space (an apartment in the city) made no difference regarding how active they were outdoors or how satisfied they felt during the lockdown. Rather, the families that were usually less sociable were quite content to remain in their space, and those that were used to spending more time outside, managed to do so even while avoiding social contact.

VII. CONCLUSIONS

The aim of this research was to get an in-depth look into how 10 diverse families from Croatia experienced the lockdown period in regard to digital technology use. We learned that although they had different experiences, most of them found this period to be quite challenging and digital technology was something that helped them overcome those challenges. It enabled them to stay in contact with friends and relatives, to keep informed, to shop, entertain themselves and to meet their work and school obligations. For most of them, digital technology is seen as something that made their lives easier in this period, and since they saw the increase in its use as being only temporary, it eased their concerns regarding children developing eye sight problems or addiction to some extent.

The online schooling for children in lower grades of elementary school in Croatia during lockdown has proved to be a challenge for some of our participants, but that mostly depended on the teacher's demands. The burden of homeschooling fell mostly on the parents, because a lot of the children needed their support in order to complete the given assignments. It would be interesting to see how this worked out in families who live in rural areas with bad internet signal and with parents who have to work outside of the house a lot. Also, families with special needs children should also be of interest in relation to how they handled online school during this period.

What children missed most was socializing with friends and the feeling that they may go out and do the usual activities. It wasn't that being home all the time was a huge problem for most of them, but the fact that it was not their choice and that the world outside their home wasn't functioning as usual was a problem.

It is vital that the government recognizes that parents need support in helping their children with school obligations and that this is very hard to do if at the same time they need to work full time from home. It is also important that

schools offer a more unified way of communication with children and parents and more interactive or real-time online support in learning.

VIII. REFERENCES

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Ja sam...
Zaokruži ono što je točno

Djevojčica
Dječak

Živim ...

Na selu

U kući u nizu

U kući

U stanu

Živim u _Osijeku_ u _Hrvatskoj_

Moj grad + zemlja

1

Tko sam ja?

Nacrtaj sliku sebe i svoje obitelji!

tata

mama

ja

2

Uobičajen dan...

1 Day i
during covi

Ljuto
Sretno
Razočarano
bunjeno

Kako se osjećam u vezi toga? (povuci liniju do osjećaja s lijeve strane)

Vrijeme

Igram

Gledam

Gledam TV.

5

IX. APPENDIX

The time capsule used in the study.
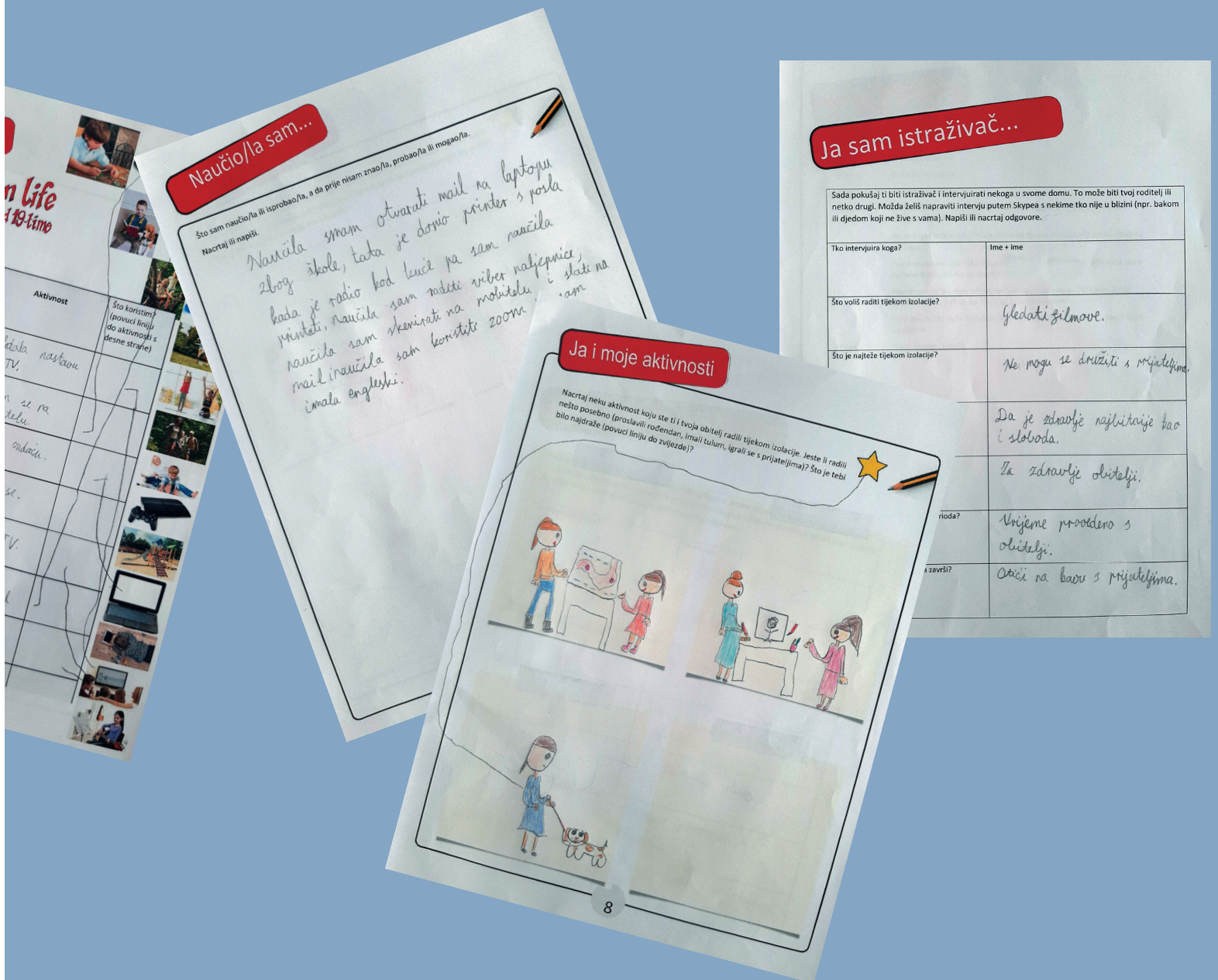
Digitalni životi djece u vrijeme Korone

(KiDiCoTi)

Tko sam ja?

Ja sam…
Zaokruži ono što je točno

Djevojčica   Dječak

Živim …

Na selu

U stanu

U kući
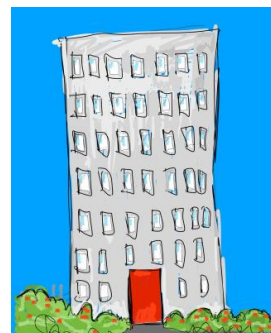
U kući u nizu

Moj grad + zemlja   Živim u _____ u _____ (ime države).

Tko sam ja?

Nacrtaj sliku sebe i svoje obitelji!

Kako se osjećam?

Kako se osjećaš tijekom izolacije?
Zaokruži raspoloženje koje pokazuje kako se najčešće osjećaš.

Ljuto
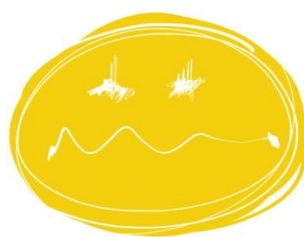
Zbunjeno

Umorno

Sretno

Zadovoljno

Zabrinuto

Razočarano

Tužno

Šokirano

Vrijeme provodim...

Zaokruži sve ono što radiš!
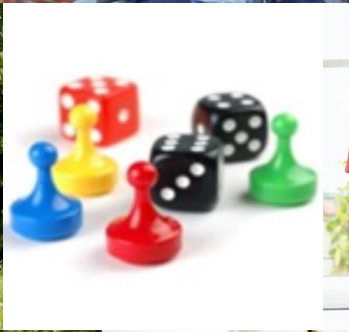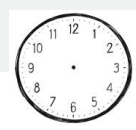
Uobičajen dan…
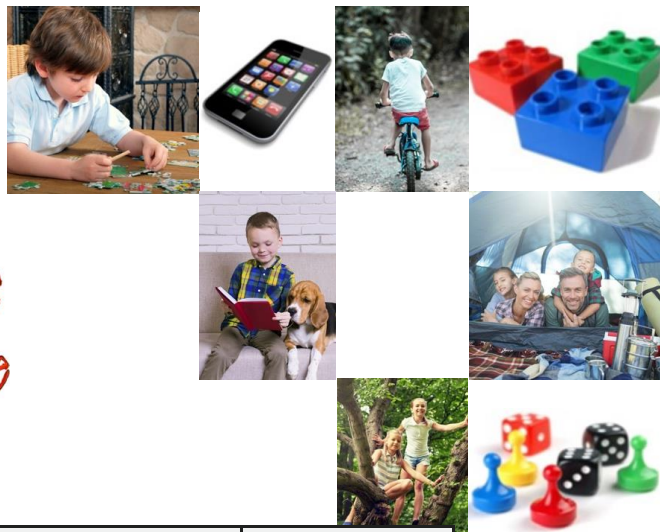
1 Day in life during covid 19-time

	Kako se osjećam u vezi toga? (povuci liniju do osjećaja s lijeve strane)	Vrijeme	Aktivnost	Što koristim? (povuci liniju do aktivnosti s desne strane)
Ljuto				
Sretno				
Razočarano				
Zbunjeno				
Tužno				
Šokirano				
Zadovoljno				
Zabrinuto				
Umorno				

5

Što mi nedostaje?

Tri stvari koje želim napraviti kada izolacija prođe.

Nacrtaj ili napiši.

Naučio/la sam...

Što sam naučio/la ili isprobao/la, a da prije nisam znao/la, probao/la ili mogao/la.

Nacrtaj ili napiši.

Ja i moje aktivnosti

Nacrtaj neku aktivnost koju ste ti i tvoja obitelj radili tijekom izolacije. Jeste li radili nešto posebno (proslavili rođendan, imali tulum, igrali se s prijateljima)? Što je tebi bilo najdraže (povuci liniju do zvijezde)?

Ja sam istraživač…

Sada pokušaj ti biti istraživač i intervjuirati nekoga u svome domu. To može biti tvoj roditelj ili netko drugi. Možda želiš napraviti intervju putem Skypea s nekime tko nije u blizini (npr. bakom ili djedom koji ne žive s vama). Napiši ili nacrtaj odgovore.	
Tko intervjuira koga?	Ime + ime
Što voliš raditi tijekom izolacije?	
Što je najteže tijekom izolacije?	
Što si naučio/la zbog izolacije?	
Zbog čega se brineš?	
Što bi želio zapamtiti iz ovog perioda?	
Što želiš raditi kada izolacija završi?	

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