KiDiCoTi National Report – Norway

Authors

LETNES, Mari-Ann NTNU
VEELO, Nicole NTNU
STÄNICKE, Line Indrevoll UiO, LDS
NÍ BHROIN, Niamh UiO
RASMUSSEN, Ingvill UiO

Kids' Digital Lives During COVID-19 Times
Digital practices, safety and well-being of 6- to 12-year-olds – a qualitative study

NTNU
Norwegian University of
Science and Technology
Faculty of Faculty of Social and Educational
Sciences
Department of Teacher Education

UiO
University of Oslo
Faculty of Social Sciences
Department of Psychology, LDS
Faculty of Humanities
Department of Media and Communication
Faculty of Educational Sciences
Department of Education

Kids' digital lives during coronavirus times: *risk or opportunity?*

#DigitalSkills

European Commission

NTNU
Norwegian University of Science and Technology

UiO : Universitetet i Oslo

SINTEF

European Commission

Kids' Digital Lives During COVID-19 Times

Digital practices, safety and well-being of 6- to 12-year-olds – a qualitative study

AUTHOR
LETNES, Mari-Ann NTNU
VEELO, Nicole NTNU
STÄNICKE, Line Indrevoll UiO, LDS
NÍ BHROIN, Niamh UiO
RASMUSSEN, Ingvill UiO

ABSTRACT

This study is a Mixed Method Study where we combine elements of qualitative and quantitative research approaches to investigate Kids' Digital Lives During COVID-19 Times (KiDiCoTi) a research project coordinated by the Joint Research Centre (JRC) of the European Commission. This report presents and discusses the results from the qualitative part of the KiDiCoTI study for Norway: In Norway, guided interviews with 15 families were conducted in June 2020, with children ages 6 to 11 years old. The report includes portraits of each family and conclusions drawn from the research questions, with regard to providing overview information and recommendations for stakeholders. The portraits focus on the general standard of digital technologies, including parents and children's perspectives on remote schooling, online risks, screen-time regulations and parenting during the lockdown, as well as lessons learned from these experiences.

Executive summary

Key findings

Digital media and social interaction – Many parents highlighted the importance of letting their children use digital media to compensate for a lack of social contact. The children expressed a longing for more time with friends and grandparents. They missed being with other children at school, being outside together and participating in organised activities. The children in our study used digital technology both in connection with their schoolwork and during their leisure time (including both organised activities and free time). This included producing and consuming digital content, gaming and communicating with friends and family. Nevertheless, a common perception among the families was that children's social needs couldn't be fulfilled through digital devices alone.

More time spent with digital media during the lockdown – Most families experienced significant increases in time spent with digital media and on online activities. Families who reported lower levels of digital media use before the lockdown experienced smaller increases. Most children devoted more time to the digital activities they already were enjoying. The parents expressed concerns about the amount of time their children spent online, particularly on gaming. Some parents were concerned that they would not be able to reduce and 'normalise' the amount of time their kids spend online after the crisis. However, parents did not otherwise describe major changes in how they regulated digital media use and online activities.

More family time – Many children and parents appreciated having a quieter life and spending more time together during the lockdown. Parents described initiating more common activities, such as cooking, hiking or watching movies together. Some parents felt that they had to take more initiative to arrange activities for their children. At the same time, children reported missing their extended family, including grandparents, significantly.

Remote schooling – A major driver of change regarding both behaviour and activities was remote schooling. How schools organised the school day varied greatly, with three aspects in particular varying significantly:

a) *Attendance* – Some schools had regular meeting times each day, with some meeting twice a day. Other families reported more flexible appointments with teachers based on students asking their teachers for help with learning activities.
b) *Frequency of assignments* – School assignments were communicated daily in some cases and several times a day in others. Other schools sent weekly schedules without further follow-up or contact.
c) *Communication strategies* – Some teachers communicated via learning platforms, while others did so via parents' email, text or video. Both synchronous and asynchronous communication forms were used. The frequency ranged from once a week to several times a day.

Parental remote schooling practice and follow-up – The parents described different approaches to how they organised the school day and coordinated daily routines with their children. Some maintained regular routines and followed a schedule that the children were familiar with before the pandemic, with regular school hours and recess. Some parents needed to help their children regulate and arrange their schedules, as the distinction between school and leisure time became more fluid.

Recommendations

Our analysis emphasises the importance of good remote schooling communication in times of crisis. We found that schools with well-established routines for communication with parents benefitted from such routines during the crisis. Other schools did not have these routines in place. **Thus, we recommend that schools prioritise remote schooling communication routines.**

Parents reported that school and classroom learning environments that functioned well before the lockdown continued to do so during remote schooling. Parents emphasised classroom routines, communication and engaging tasks as markers of quality. **We recommend supporting teachers in the important work of creating high-quality learning environments online, as well as offline.**

Introduction

KiDiCoTi, a JRC (Joint Research Centre)-coordinated study, examined the impacts from the COVID-19 lockdown on children's use of digital technology, online safety and well-being.

In March 2020, the world was struck with a pandemic from the COVID-19 virus. Erna Solberg, Norway's prime minister, described the measures that were implemented to limit the spread of infection in Norway on 13 March 2020 as 'the strongest and most intrusive measures we have had in Norway during peacetime'. Families in Norway and worldwide were forced to work from home and participate in remote schooling. In Norway, the term *home schooling* quickly entered everyday language, even though the correct technical term is *remote schooling*. Work, schooling, leisure activities and social interaction were conducted via digital media.

During the early days of the pandemic – in collaboration with 26 research centres in 17 European countries, UNICEF's research office and the EU's Joint Research Centre (JRC) – we planned a research project titled Kids' Digital Lives During COVID-19 Times (KiDiCoTi). The JRC coordinates the research project. In April 2020, an international research group developed a protocol to gather, as quickly as possible, data on the impacts from the COVID-19 crisis on children's use of digital technology across Europe.

To chart the range of risks that children experience at home, mitigate these risks and support positive externalisations of this unexpected crisis, the JRC-coordinated team started gathering comparable cross-national data, via both qualitative interviews and nationally representative quantitative surveys. This research aimed to map the changes in children's digital involvement during the lockdown (and afterward), with an emphasis on children's security. Therefore, we investigated how children and young people between the ages of 6 and 18, as well as their parents, used digital technology during the lockdown, and how these experiences may have affected children's safety online and their well-being in general.

This report presents the results from the qualitative interview study, the goal of which was to inform stakeholders of the current trends and possible impacts from the COVID-19 crisis on children's use of digital technology, online safety, privacy and well-being. The Norwegian research was funded by NTNU, UiO and SINTEF Digital.

Research Questions (qualitative interview study)
1. How did children ages 6-12 engage with digital technologies during this specific time?
2. How did the lockdown disrupt or change children and families' behaviour and activities related to digital technologies?
3. What were children and parents' attitudes towards digital technology use and online activities during the lockdown? How did parents perceive the associated risks and opportunities?
4. How did the lockdown disrupt or change the children and families' attitudes towards digital technology and online activities? How did parents' perceptions of the associated risks and opportunities evolve due to the lockdown conditions?
5. **What future impacts are possible from the lockdown?**

A country portrait during COVID-19 times

Norway is located on the western and northern part of Scandinavia. The country borders Sweden, Finland and Russia to the east. In the north, west and south, Norway is surrounded by oceans: the Barents Sea in the northeast, the Norwegian Sea in the northwest, the North Sea in the west and southwest, and Skagerrak in the southeast. The country is long and narrow, with a very long coastline. Norway is sparsely populated, with a population of about 5.4 million inhabitants (2020).

Norway is a well-developed industrial country, with high standards of living and life expectancy. Social distribution policies, funded by the discovery of vast oil reserves, have contributed to the development of prosperity. In almost all areas, the overall goal has been for as many people as possible to experience economic progress, regardless of gender, age, background, occupation or other attributes. This has contributed to a relative equalisation of income, resulting in a relatively homogenous society economically and socially.

Key national events during the COVID-19 crisis in 2020

Date	Event/Action
26 February	**First case detected in Norway**
1 March	**Quarantine rules for employees in healthcare services**: Employees in healthcare services who had been in areas with a persistent COVID-19 spread were asked to stay home for 14 days.
10 March	The Norwegian Directorate of Health recommended that anyone who can work from home do so.
11 March	**Recommendation to cancel events planned for over 500 people expected to attend**
12 March	**First death in Norway** **Closing of kindergartens and schools**: Kindergartens, primary schools, secondary schools, upper secondary schools, universities, colleges and other educational institutions were closed. **Government prohibition on various events and services**: Cultural events, sports events, gyms, swimming pools and businesses that offered hairdressing, skin care, massages, body care and tattooing were prohibited from opening. **Pubs closed, but not restaurants**: Pubs where no food was served were closed. **Health personnel were prohibited from traveling abroad** **Stricter quarantine rules for travellers entering Norway**: specifically for anyone returning after traveling outside the Nordic region **Residents advised to avoid public transport**

13 March	**Change in test criteria:** Testing was reserved for certain patient groups and healthcare professionals who developed respiratory symptoms.
14 March	**All travel abroad discouraged**
16 March	**Extensive border control**
19 March	**Overnight cabin trips prohibited**: The government banned overnight stays at holiday properties outside of registered home municipalities.
24 March	**Residents advised to avoid gatherings of more than five people**: Exceptions include those from the same family or household. A distance of one metre should be kept from people outdoors. People indoors should maintain a distance of at least two metres.
25 March	**Cancellation of exams**: All exams in primary schools and written exams at upper secondary schools were cancelled.
20 April	**Kindergartens reopened** **Hairdresser shops and psychologists' offices reopened** **Cabin ban lifted**
27 April	**Schools partially reopened**: First to fourth grades reopened.
29 April	**Change in test criteria**: Based on an increase in test capacity, the list of those prioritised for testing was expanded. The extension included everyone whom a doctor suspected had COVID-19.
5 May	**New advice on public transport**: Buses, trams and trains should be only half full, and passengers should sit in every other seat.
7 May	**Events of up to 50 people allowed**: Events in which it was possible to keep a distance of at least one metre between people (not in the same household) were allowed. These events required responsible organisers with overviews of attendees. The advice on keeping distance was changed to one metre.
11 May	**Schools reopened for all pupils**: Primary and secondary schools reopened.
13 May	**More people could enter Norway**: The Ministry of Justice and Emergency Preparedness decided that a larger selection of people who normally entered Norway could do so again. This meant that more EEA citizens could enter.
15 May	**New advice on holiday and leisure travel**: The government confirmed that it was safe to travel to Norway during the summer. At the same time, unnecessary travel abroad was not recommended until 20 August.
1 June	**Bars, swimming pools and amusement parks could reopen**: Bars and cafes (i.e., places that do not serve food) could reopen. Organised swimming, such as school swimming, was allowed. Amusement parks could reopen.
2 June	**New guidelines for kindergartens and schools**: As of 2 June, entire school classes and kindergarten groups could be together, regardless of classroom size.
15 June	**Up to 200 people allowed at events and fitness centres, and the Premier League reopens**: Fitness centres, water parks and swimming pools could reopen [with infection-control measures], and Premier League football games were allowed as of 16 June.

	Permission for children's contact sports: Anyone under age 20 could play football and other sports with so-called 'limited physical contact' outside.

Increased permission for leisure trips to Nordic countries: The government allowed travel to and from Denmark, Finland, Iceland and Gotland in Sweden as of 15 June. The rest of Sweden was still covered by travel restrictions. |
10 July	**Leisure travel allowed to more countries from the EEA and Schengen**: Exceptions include Portugal, Hungary, Croatia, Romania, Bulgaria and Luxembourg. Trips to the three southernmost regions in Sweden also were allowed.
30 September	The government relaxed some national infection-control measures. At the same time, municipalities were obliged to consider stricter local measures wherever infection rates were high.
31 October	Business travellers who, in the previous 10 days before coming to Norway, had stayed in areas with high levels of infection, were required, as a general rule, to be quarantined.
7 November	**Everyone who entered Norway from abroad**, with the exception of specific areas in the Nordic countries and Europe (yellow regions), were required to be in **quarantine for 10 days**. Those who entered Norway to carry out planned visits to parents and children were fully exempt from quarantine. **All pubs stopped serving alcohol at midnight:** Consumption of alcohol was required to cease no later than 30 minutes after midnight. Restaurants with a license to serve alcohol could not admit guests after 10 p.m.
9 November	**Prohibitions on indoor events for more than 50 people without fixed seats, and on private gatherings of more than 20 people in public places and rented premises:** Organisers were required to ensure that all attendees could keep at least 1-metre distance from each other, measured from shoulder to shoulder. People who had been diagnosed with COVID-19 were required to self-isolate. **Travelers from red countries were required to present a negative COVID-19 test certificate** upon arrival in Norway. The test should have been taken less than 72 hours before entry. If no certificate is presented, entry could be refused. Those in quarantine, including Norwegian citizens, were required to remain at a quarantine hotel for 10 days.
14 November	People who were in close contact with a person confirmed infected with COVID-19 less than 48 hours before the infected person experienced the first symptoms of infection should be quarantined.

Assessment of COVID-19 risk in Norway

Risikonivå

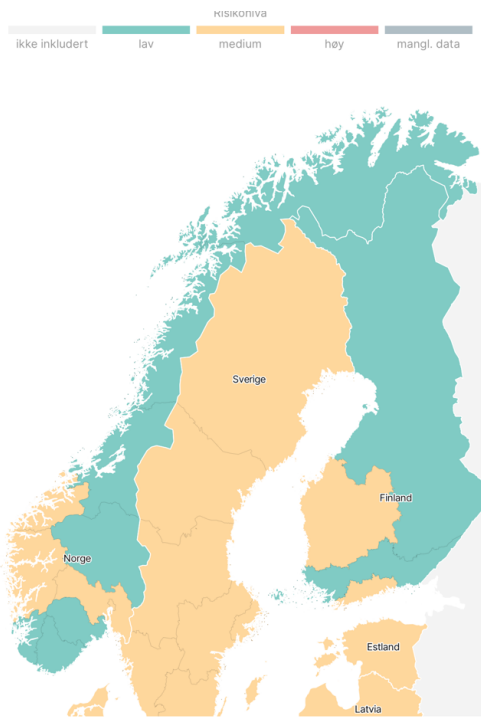ikke inkludert   lav   medium   høy   mangl. data

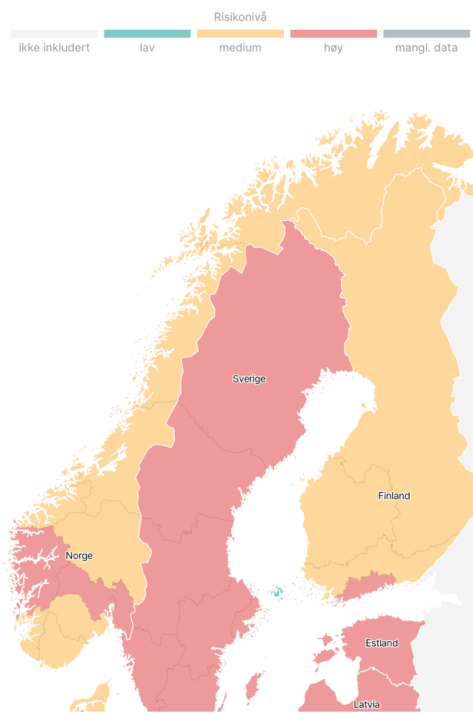Figure 1. Assessment of COVID-19 risk in Norway (5 Oct.)

Figure 2. Assessment of COVID-19 risk in Norway (22 Nov.)

(green = low risk; yellow = middle risk; red = high risk)

Methodology

Kids´ Digital Lives During COVID-19 Times (KiDiCoTi) is a research project that examines how children and parents have engaged with digital technologies during the lockdown period in Europe. A qualitative interview study and a quantitative survey were conducted to investigate how children and their parents used digital media in the context of remote schooling, leisure time and management of (distant) social contacts. The project also aimed to understand whether and how these experiences have impacted family well-being and online safety for children. The European Commission's Joint Research Centre (JRC) coordinated this research project under the leadership of Stephane Chaudron.

In this report, we presented the results from the qualitative study, which was conducted in 15 countries (Austria, Belgium, Croatia, Denmark, France, Germany, Ireland, Italy, Lithuania, Norway, Portugal, Romania, Slovenia, Spain and Switzerland). The international team carefully developed the research instruments (interview guide for children and parents, pre-interview questionnaire for parents, time capsule for children). Wherever findings from the qualitative study are addressed, the focus in this particular report lies in the Norwegian sub-study. In Norway, 15 families with children ages 6 to 11 were interviewed online via video conferencing from the middle of June to the middle of July 2020.

Norwegian research team

In this qualitative part of the study, the Norwegian team comprised five researchers: Mari-Ann Letnes (project manager) and Nicole Veelo, from the Department of Teacher Education at NTNU, and from the University of Oslo (UiO), Ingvill Rasmussen, Department of Education; Line Indrevoll Stänicke, Department of Psychology and Lovisenberg hospital; and Niamh Ní Bhroin, Department of Media and Communication. The team also included two assistants. In planning and carrying out the research process, the five researchers worked closely together to understand and implement the interview and analysis protocols, then write this report.

The two research assistants at UiO also contributed to the study: Lise Toft Henriksen contributed to data analysis and coding, and Anna Vik assisted with transcription and data analysis.

Procedure

Sampling procedure

We recruited a rich and varied sample (see overview below). The selection criteria emphasised diversity in terms of children's ages, gender and family composition, as well as parental education background and income. This facilitated an exploration of the heterogeneity of digital experiences during the lockdown. The sample's core comprised families with children ages 6 to 12, in which at least one parent and one (willing) child participated in an online interview. Some children had older and/or younger siblings. The sample included families with a range of

technological devices used at home (from few to many) and a range of digital competencies (from low to high). All families had high-speed Internet access. The families had one and/or multiple children and single and/or multiple parents. Some families included non-Norwegian nationals.

Altogether, 19 families were identified strategically through acquaintances and extended contacts using the snowball strategy. Each of the five researchers nominated three to five families who were invited to participate. These families then suggested further families who also were invited. Altogether, 15 families participated in an online interview (four withdrew during the initial recruitment).

The sample

Family code	Family members	Age	Work situation, school/kindergarten
NO1	**Valentina, Mother**	39	Active in the workplace
	Rose, Daughter	8	Second grade
	Patrik, Son	4	Kindergarten
NO2	**Tim, Father**	47	Active in the workplace, working from home
	Kate, Mother	40	
	Chloe, Daughter	6	First grade
	Annie, Daughter	3	Kindergarten
NO3	Kåre, Father	*	Active in the workplace, working from home
	Trine, Mother	44	Active in the workplace, working from home
	Marius, Son	9	Third grade
	Vidar, Son	9	Third grade
	Line, Daughter	7	First grade
NO4	Kris, Father	44	Self-employed (laid-off)
	Stine, Mother	39	Student
	Sverre, Son	11	Fifth grade
	Trine, Daughter	9	Second grade
	Grete, Daughter	4	Kindergarten
NO6	**Bård, Father**	43	Active in the workplace, working from home
	Randi, Mother	*	Unemployed
	Casper, Son	11	Sixth grade
	Peder, Son	9	Third grade
	Mikkel, Son	3	Kindergarten
NO7	Sten, Father	50	Employed, working from home
	Anne, Mother	48	Employed, working from home
	Snorre, Son	9	Third grade
NO8	**Sverre, Father**	41	Active in the workplace, working from home
	Lisa, Mother	*	Active in the workplace, working from home
	Maren, Daughter	9	Third grade
	Alma, Daughter	14	10th grade
NO10	**Kari, Mother**	50	Employed, working from home
	Per, Son	10	

NO11	Tor, Father	41	Employed, redundant
	Tuva, Mother	367	Employed, working from home
	Pia, Daughter	3	First grade
	Petter, son		Kindergarten
NO12	Ulrik, Father	41	Employed, working from home
	Astrid, Mother	44	Employed, working from home
	Frederik, Son	9	Third grade
NO13	Kristian, Father	*	Active in the workplace, working from home
	Lene, Mother	47	Unemployed
	Ella, Daughter	6	First grade
	Sander, Son	3	Kindergarten
NO16	**Petter, Father**	49	Employed, working from home
	Siv, Mother	*	Employed, working from home
	Anja, Daughter	13	Eighth grade
	Emilie, Daughter	9	Third grade
NO17	**Josefine, Mother**	43	Working from home
	Tobias, Son	16	First grade (high school)
	Kjersti, Daughter	12	Eighth grade
	Lucy, Daughter	7	First grade
NO18	Steinar, Father	*	Active in the workplace, working from home
	Trine, Mother	45	Active in the workplace, working from home
	Stine, Daughter	7	First grade
	Liv, Daughter	3	Kindergarten
NO19	Gunnar, Father	43	Employed, working from home
	Maria, Mother	39	Employed, working from home for three weeks before she was laid off
	Sofia, Daughter	14	10th grade
	Oskar, Son	8	Third grade
	Emma, Daughter	3	Kindergarten

Implementation of the interview protocol

Fifteen interviews were conducted between mid-June and mid-July 2020. The families were divided among the five researchers and contacted by phone to arrange the interviews. The families received the following documentation by post or email: informed consent forms for both parents and children, an activity book in which the children could draw and write, and a link to a pre-interview questionnaire with general questions about the family's technological inventory and use. The activity book served as an icebreaker during the interviews, and the questionnaire formed the basis for the conversation between the researcher and the family.

The interview protocol was translated from English to Norwegian. The research team thoroughly discussed the guide to ensure a common understanding and approach. Each researcher conducted between two and four interviews on the Zoom platform. The average duration of each interview was just over one hour. All interviews included a child and one of the child's parents.

All recordings were encrypted and stored in a temporary repository at the University of Oslo as long as was required to produce an anonymised transcript. As soon as the transcript was completed, the recordings were deleted permanently. After anonymisation, the information was analysed and compiled in this report. During the entire study, all personal data collected were stored with appropriate security and protective measures. Each family's members were coded as follows: Country code – two letters (NO); family number – 1 → 19; member of the family (f/m/b/g) f: father, m: mother, b: boy, g: girl; and age (* = age unknown). For example, NO04b7 = Boy age 7, from family 4 in the Norwegian sample.

Interview structure
During the first five minutes, the children and parents were given additional information about the project, the interview and their personal data protection. We also emphasised their right to withdraw from the research project at any time without any negative consequences for them.

The interview with the child (which lasted between 15 and 30 minutes) started with a conversation about the activity booklet (about five minutes), then shifted to a conversation about their use of technology, remote schooling, leisure activities, parental mediation, well-being and perceptions of the lockdown (between 10 and 25 minutes). The parents were present or in the background while the children were interviewed. When the conversation with the child was over, the interview continued with the parent. Most children preferred to leave the room, but some remained while the parent was interviewed. The conversation with the parent focussed on the use of technology, remote schooling, leisure activities, parental mediation, online security, well-being and perceptions about the lockdown (between 20 and 35 minutes). Finally, the families were given the opportunity to ask questions before we thanked them for their participation (five minutes).

Analysis of the collected material

In the analysis of the interviews, we used a descriptive and semantic thematic approach (Braun & Clark, 2019, 2006). This included the following phases:

1. Transcription of video and audio recordings
2. Open/exploratory coding of the transcribed interviews
3. Reviewing the pre-interview questionnaire and 'My Corona Time Capsule'
4. Constructing 15 family portraits (according to the JRC template)
5. Encoding the interviews using the JRC codebook
6. Axial coding to find patterns across the empirical material and family portraits
7. Writing the report

Implementation of the seven phases overlapped. For example, different people conducted phases three and four simultaneously.

During the first phase, all interviews were transcribed, either by the researchers who conducted the interviews, a scientific assistant or a professional transcriber. The international research team developed a codebook for the transcribed interviews, but the Norwegian research team wanted to apply an open coding process first to identify empirical codes that were not pre-

determined. Therefore, during the second phase, an open coding process was implemented. Team members listened to the interviews and read the transcripts several times to enhance their familiarity with the material. We were particularly interested in the participants' experiences with and attitudes towards digital activities during the lockdown and any changes that they made to daily routines. Meaningful units were coded systematically for all interviews.

In the transcribed interviews, the themes that emerged through the open coding, the questionnaire and the activity booklets that the children had worked with formed the basis for the construction of family portraits during the fourth phase of the analysis. The family portraits contain descriptions of each family's experiences with and attitudes towards digital activities and any changes in daily routines concerning these activities. The portraits are organised according to five main themes: (1) context (including an overview of technology at home); (2) remote schooling; (3) parental mediation; (4) online safety; and (5) well-being. Each family portrait is a reproduction of the participants' description of their experiences, actions and opinions. The portraits are also systematically produced to address the overarching research questions, as well as the study's central themes. The analysis sheds light on how the families experienced their use of technology, remote schooling, risk and opportunities, parental mediation and well-being during the lockdown.

During the fifth phase, the transcribed interviews were coded according to the JRC codebook. Our scientific assistant Lise Toft Henriksen conducted this phase. She had an impartial view of the material, as she had not participated in the interviews, nor in the initial discussions about the study. The codebook alone formed the basis for her analysis.

During the sixth phase, we systematically searched for sub-themes and themes (Braun & Clark, 2006), also called 'axial coding' (Glaser & Strauss, 1967). Each of the researchers concentrated on one of the five research questions to find patterns across the transcripts and family portraits. Connections between key concepts were examined by combining data in new ways and in relation to the research questions. Henriksen also analysed the data according to the research questions using the JRC codes.

Finally, the researchers compared the material and selected a limited number of key categories that are the study's main findings. These categories informed the discussion of the five research questions and are presented in this report.

Methodological discussion

Through a reflexive approach, in this concluding section, we discuss key methodological conditions and challenges that emerged from this study. Proximity to the field is an important prerequisite for understanding and requires a reflexive attitude to support an analytical interpretation of the empirical material. Reflexivity (Stiles, 2003) is a research position that means we, as researchers, can view our role's significance in interactions with the participants, the empirical material, the theoretical perspectives and the pre-understanding that we bring with us into the study (Ingierd, 2010). During the implementation of this research project and the writing of the report, we discussed different understandings of what emerged from the collected data. Knowledge about families' experiences with children's use of digital technology during the lockdown emerged during interactions between the research participants (the

interviewed families), the collected material and the researchers. In this discussion, we benefited from an interdisciplinary research team with members from education, pedagogy, psychology and media studies fields. We learned from each other and utilised the methodological diversity within the group: 'Good research environments are characterised by researchers who actually read each other, who give each other positive and negative criticism' (Kalleberg, 2006, p. 27). Throughout the analytical process, we read each other's texts and findings, thereby strengthening our study's reliability.

Validity and reliability
Through our account of the seven analytical phases described above, we have provided an overview of our systematic interpretation process. Our team comprises an interdisciplinary research group of experienced researchers who systematically collaborated in the collection, analysis and interpretation of the empirical material. During the research process, we held regular meetings during which the study's implementation and findings were problematised and discussed. As individual researchers, we noted reflections that influence how we interpret our data (reflexive noting; Levitt et al., 2017) and subsequently discussed these interpretations with the team. In this way, we collaboratively assembled our individual analyses into a whole through regular consensus meetings (Levitt et al., 2017). Throughout the process, our interdisciplinary collaboration was a strength. In addition to these national meetings, we also participated in regular international meetings organised by the JRC, during which similar issues were addressed and discussed. In this way, we, as researchers, experienced quality assurance in relation to the results that we now present in this report.

Research ethics
The interaction between us as researchers and our research participants is guided by fundamental principles of trust, loyalty and confidentiality. We operated under these principles, both implicitly and explicitly, in the relationships created and developed during the interviews and in the treatment of the empirical evidence afterwards. In this study, the research participants are children as young as 6 years old, a factor that places high ethical demands on us as researchers.

Interactions with research participants in this study took the form of an online interview and pre-interview questionnaire. With the interview, it was important that we, as researchers, were responsive and aware of signals that could indicate that the child did not want to sit any longer – a task made more difficult because we were not sitting in the same room, but communicating remotely, e.g. Teams. Furthermore, it was important that we listen to and engage the child in discussion and react to interesting topics that emerged. These were elaborated on where necessary. Attempts were made to follow the protocol as far as possible, but during the conversation, it also was important to follow the children's way of thinking. The children were not always interested in answering the questions we asked, so it was important to acknowledge aspects that were revealed through the children's associative mindset. The interviews with the parents were in many ways closer to the interview protocol, but the researchers also were responsive and allowed the parents' input to shape the conversation's structure.

Considerations of confidentiality. When research participants and families open their homes and make themselves available for interviews, they expose themselves. How people speak and act is linked closely to their identity; therefore, it is not possible to distinguish completely between the object of research and individual research participants when linguistic utterances

and experiences are studied and interpreted. This requires caution in the use of qualitative research methods, which can elicit harmful effects, particularly breaches of integrity. Furthermore, with the family portraits, it was especially important for us as researchers that what is described and presented during these interviews did not portray the research participants negatively. Norway is a small country, so including cross-cutting information about individual families could reduce their anonymity, affecting how data relating to research participants should be treated and presented. The family portraits are an attempt to provide a comprehensive and truthful presentation of what emerged from the interviews. Both what is included and how it is presented are an interpretation of the interview and the interview situation. Although the researchers' interpretations are what were presented in the family portraits, they are grounded in a desire that the research participants should be able to recognise themselves, despite the portraits being sufficiently anonymised.

Benefits and risks from research. Analyses of individual practices and experiences concerning how digital technology is used in family contexts can be viewed as a benefit from participating in the interviews, which may have given the research participants the experience of sharing something important with someone who approached them with interest, understanding and recognition. Our interpretations of the research participants' contributions also can provide research participants with increased insight into their own situation and practice related to the use of digital technology. In addition, it can be meaningful for families to be able to participate with a voice in a European project about their experiences related to an extraordinary situation.

Consent and consent competence. Although children are valuable contributors to research, they may not have the competence required to consent to participation. Parents were invited to provide both legal and ethical consent to their children participating in the interviews. Despite this, the children also had the opportunity to give their own explicit consent to participate. Even though the participants provided their informed consent in advance of the study, they also were reminded that they could withdraw from the study at any time without negative consequences.

Family Portraits

All family portraits below are formatted using the following structure:
- Family member list, with the interviewed members in bold
- A highlighted interesting quote
- Context (the family's living and working situation, as well as its technological inventory)
- Remote schooling
- Parental mediation
- Online safety
- Well-being

Family NO1

Norway, major city. This online interview was conducted in the middle of June 2020.

Family members:
Valentina, mother, 39 (NO1m39)
Rose, daughter, 8 (NO1g8)
Patrik, son, 4 (NO1b4)

> 'In the e-mails that came from the teacher, there was no focus on schoolwork, but rather that the time we spend together is important and that we should not worry about schoolwork. The tasks were very easy'. –**Valentina, NO1m39**

Context – technology at home
The family of three lives in an apartment with a balcony and a terrace. Valentina moved to Norway as an adult, so the children speak multiple languages. Both the mother and father were categorised as 'essential workers' during the crisis; therefore, their two children were allowed to be in school and kindergarten part of the time while other children had to stay home. Rose attends a private school.

The family, proficient with technology, owns one smartphone, one PC, two tablets and one TV. They have no gaming consoles in their household. Rose (NO1g8) has a smartphone and access to a PC and iPad. The family owned all this prior to the pandemic; therefore, they did not need to acquire any new technologies during the lockdown or for remote schooling.

Remote schooling
Rose and Patrik were at school or in kindergarten approximately half the time during the lockdown. Valentina received e-mails from their teachers containing instructions as to what the pupils should do during the coming week. In her experience, the school demanded very little of the pupils: '*In the e-mails that came from the teacher, there was no focus on schoolwork, but rather that the time we spent together was important and that we should not worry about schoolwork. The tasks were very easy…. For example, build a rowboat from two spoons, three pieces of paper and … I don't know',* says the mother, shrugging her shoulders. '*These were very easy things; it was more like playing together*'. For this reason, Valentina decided that she and Rose should create a book together, in which Rose would learn to write and read in Valentina's mother tongue as part of her school activities. This became a nice activity for both mother and daughter. The only time the school made direct contact with Rose was on her birthday. During the lockdown, she was not in direct contact with her teacher through video-conferencing. Valentina is of the opinion that the school should have implemented a better dialogue with their pupils, instead of sending a weekly email that she was to read to her child.

Parental mediation
Valentina says that the children watched cartoons every day during the lockdown. She stopped saying that they should not watch so many cartoons and is now of the opinion that it is OK if the children are watching cartoons if she is busy cleaning or preparing food. Rose is not particularly interested in the iPad because the games that are downloaded on it are old. Valentina does not wish to download new games because she does not have the capacity to find good games for the children. Furthermore, she says that when the children have gone to

bed and she finally gets some time for herself, her only wish is to relax. Valentina states that she hardly uses technology and that she finds it difficult to see any positive aspects in it because she uses it very little herself. Her work does not require the use of technology, and she barely has used the PC during this period. Despite this, she says that she spends a bit too much time on Facebook. The children's school also has not encouraged the use of technology. The family has not explored the use of technology for creative activities yet either. Valentina says that as long as Rose does not specifically ask for games or software, she will not encourage this.

Online safety
Rose is not online without supervision from her mother, and she barely uses her tablet, as she is more interested in drawing and crafts.

Well-being
During the lockdown, Valentina tried to refrain from watching the news. She talks about one time when the TV was on while the children were still awake: '*There was a man from the Institute for Health, and he said, "Dear friends, if you wish to protect your family, please keep your distance and wash your hands because the coronavirus is most dangerous for the elderly". After this, they began to wash their hands three times within half an hour,* she said. She talks about another incident in which the children made multiple tents for themselves around the house. When her little brother wanted to go inside Rose's tent, she said: '*You should not come into my tent; these are corona times, and you should have your own tent, so you have to get out so we can keep our distance'.* Valentina decided that because of this, she always turned off the TV after 8 p.m. while the children were awake. She maintains that children do not need to watch the news and that she can take care of them and tell them what they need to know. Valentina describes how '*the first week felt like a chaotic period'.* After that, she decided to write a list every morning of what she and the family should do. This was a strategy to bring structure into their lives and regain control over what she describes as a tough and frightening time.

During the lockdown, the family had a joint project. They created crafts and hung them on the living room wall. The children either drew or built something or brought something home from outdoor walks. This might include flowers pressed to things made of *papier mache*. In this way, the children had their own place to express themselves during the entire period. This activity united the family and was a way to invest their energy into something creative while keeping more serious topics at a distance.

Family NO2

Norway, major city. This online interview was conducted towards the end of June 2020.

Family members:
Tim, father, 47 (NO2f47)
Kate, mother, 40 (N02m40)
Chloe, daughter, 6 (N02g6)
Annie, daughter, 3 (N02g3)

'The digital aspect of home schooling was that lessons were distributed digitally rather than that lessons were done digitally. Chloe notes that she has "a giant pile of papers" in her bedroom'. –**Chloe, N02g6**

Context – technology at home
The family lives in an apartment with a balcony in the city. The father has a PhD and is employed in higher education. He worked from home during the lockdown. The family owns one desktop PC, one laptop PC, one tablet and one smart TV. They use these devices together, although Chloe prefers to use her iPad on her own and not with her 3-year-old little sister. Chloe does not have access to a smartphone, although both her parents own smartphones.

Chloe has had her own iPad for about two years, and she is allowed to use it for one hour every day. Her father, Tim, says that they are '*relatively strict with technology*'. However, both Chloe and Tim note that she sometimes spent more time using her iPad or watching TV at the beginning of the lockdown because of what Tim refers to as a period of adjustment, during which there was no '*typical day*'. Tim needed to work full-time from home, Chloe was participating in remote schooling and the family had a 3-year-old who required full-time care.

Chloe mainly has controlled access to streaming subscriptions, particularly YouTube Kids, online learning platforms and apps. She uses her iPad to browse YouTube Kids and find, download and play games. If Chloe could make up her own rules about how to use technology, she would make her own video games and play them as long as she wanted – '*like- super girl games, like a big dragon monster chasing a unicorn*'.

Remote schooling
Both Chloe and her father emphasise that the digital aspect of remote schooling is related to the fact that her schoolwork was uploaded into an educational platform, then downloaded, completed offline and uploaded again. In this sense, the lessons were distributed digitally, rather than worked on digitally. As a result, Chloe has '*a giant pile of papers*' in her bedroom.

The school recommended that Chloe's parents download two new apps to support learning. The first was a reading app and the second was an app for practising math. In addition to these apps, Chloe's parents downloaded one other educational app that provided a range of content to support remote schooling for children. Tim notes that the reading app recommended by the school was something that Chloe used often and that it was a good complement to her book reading, particularly during the period when the public library was closed.

Parental mediation

Tim mentions that he is fairly certain that most of the content Chloe engages with is age-appropriate. At the same time, Chloe reads many different books, including non-fiction. He notes that she sometimes becomes disturbed by what she reads and has difficulty sleeping at night. However, he does not view this as a problem: '*I'm not going to keep her away from reading. That's just normal stuff'*. Tim also talks about a creative project that they engage in together as a family. Chloe narrates stories that he transcribes. These stories then are shared with Chloe's grandparents who live abroad. In this way, Chloe and her extended family engage in a process that is both digital and creative. This was something that they did before, during and after the lockdown.

Despite their strict approach to regulating screen time, Chloe's father is slightly concerned that this approach does not align with that of other parents. Because of this, he is somewhat concerned that Chloe might have fewer opportunities to develop digital or social skills. He wants '*to find a balance*' while also promoting good habits regarding engaging with '*non-technology stuff*'. Neither Chloe nor her parents noticed any meaningful changes in how she used digital technology during the lockdown. As an international family, they always have used apps like FaceTime and WhatsApp to keep in contact with relatives. Chloe's parents would like her to continue using educational apps, particularly the reading app that the school recommended and the remote schooling app that they downloaded.

Online safety

Chloe's parents are comfortable with her exploring content on her own iPad because she is the only one who uses it; therefore, she is not exposed to content or algorithmic recommendations that might arise if others use the device. The family does not use digital devices early in the morning or late at night, and they do not like Chloe to hold the iPad too close to her face. Chloe and her parents are both quite clear about these routines and rules, which did not change during the lockdown. Tim also notes that they are not concerned about how Chloe uses her iPad because she is interested in many different things. He notes in particular that she is an avid reader and loves arts and crafts.

Well-being

Chloe is an outgoing child who really likes school and spending time with her friends and family. She missed her friends during the lockdown, but was happy that she could see them online. She also was happy that she was able to spend more time with her family.

Family NO3

Norway, major city. This online interview was conducted in the middle of June 2020.

Family members:
Trine, mother, 44 (NO3m44)
Kåre, father (NO3f*)
Marius, son, 9 (NO3b9)
Vidar, son, 9 (NO3b9)
Line, daughter, 7 (NO3g7)

> 'We had work to do for all subjects really…. The thing that was a bit weird was that we had, like, 15 subjects a day! First, I had to go through mathematics, then I had to go through Norwegian, then I had to go through science, then I had to go through social studies, then I had to go through gym'. –**Marius, NO3b9**

Context – technology at home
The family lives in a house with a garden. The mother works at a museum, while the father is an artist who normally works from home but also has an atelier that he can work in. During lockdown both the mother and the father work partly from home and partly at work. The family owns two mobile phones, two PCs, one tablet, one PlayStation, two TVs, one smartwatch and one digital video camera. During the lockdown, the family acquired two PCs, specifically Chromebooks. The children had access to their parents' mobile phones, and they used the TV and PC together with their parents. They could use the PlayStation on their own.

Remote schooling
Marius **(NO3b9)** received a lot of schoolwork during the lockdown and had to keep working long after the school day should have been over. Marius says, *'We had work to do for all subjects really…. The thing that was a bit weird was that we had, like, 15 subjects a day! First, I had to go through mathematics, then I had to go through Norwegian, then I had to go through science, then I had to go through social studies, then I had to go through gym'.* Marius pauses, then adds, *'And then there were many other subjects that I didn't understand',* he says with a slightly hopeless expression on his face.

Trine also found remote schooling to be demanding. She found it challenging to be a teacher with her own children. Sometimes the relationship was too close and caused arguments and discussions. She also was concerned about her role. She did not want the children to miss out on learning. The parents had to help their children a lot – such as with logging on to complete their assignments. The parents had to work in shifts as a result, spending one day at home with the children and one day at work so that they could concentrate fully on what was at hand. They did the best they could, and the results of the national tests were better than expected. They also bought two new Chromebooks and supplemented this with equipment from work so that sufficient devices were available.

Every morning, the children met their teachers online for a common information meeting. If there were any assignments that the pupils did not understand, the teachers could be contacted through the chat function on Google Hangout. The teachers were quick to reply, Trine notes. *'I understood most things, but there were some math questions that were very challenging',* says Marius, with a serious face, *'but I never needed to contact the teacher, I received help from mom and dad'.* Marius also says, *'I write faster on the computer now compared to before'.* All the children in the family became better able to log in on their own and figure out where they

should deliver tasks and where to find things. Marius thinks that remote schooling and normal school both have their advantages: *'You can concentrate more when you sit alone and it is quiet, but in the classroom, you can get help from the teacher',* he explains. Line, who is in second grade, struggles a bit with writing letters properly on paper, so being able to write on a keyboard has been more enjoyable for her.

Parental mediation

The children do not own any mobile phones or tablets. In this sense, Trine thinks they are a bit restrictive with technology. In his free time, Marius enjoys playing football and being with friends. During the lockdown, he missed his friends a lot. This presented a challenge for the family regarding the kinds of games the boys could play on PlayStation. The boys in the class met online to play Fortnite together. This is a game with a recommended minimum age limit of 12, so Trine and Kåre did not let the boys play this game. However, as Trine explains, *'We know that there is a 12-year age limit for Fortnite, but during Easter, we realised that there were so many friends that met in this game online, each in their own living rooms, so we said OK'.* Marius enjoyed playing Fortnite with friends very much; he liked how they *'could chat, speak and play together again',* Marius states with a glowing smile. The family has rules for gaming, including gaming days, but Marius says that they also have them *'when we have visitors. I think we are allowed to play', he says* as he looks up at his mother: *'Yes, a little more, but when do we have gaming days?'* she wonders. *'Tuesday and Thursday',* Marius answers. *'Then a bit more during the weekends … in the mornings, for example',* answers the mother, while nodding with a smile and looking at Marius. *'But I can stop doing that',* Marius says assuredly and looks at his mother with a smile, adding *'only that it is so very hard to stop'.* He explains that it is so much fun to play because it is exciting to get access to higher levels. The family's attitudes and approaches to gaming are influenced by this situation. The lockdown reduced opportunities for the children to be outside and play with friends, so they spent more time gaming and watching TV.

Online safety

When discussing online safety, Marius explains, 'When I log onto the PlayStation, there is probably already someone else there, so I invite them to play with me, and then we play'. 'I only play with people I know', he notes, with a serious expression. During the lockdown, the parents overheard Marius speaking English while gaming, and they were concerned that he was in contact with a stranger. Even though they discovered that Marius was speaking to a relative of one of his friends, this situation increased their awareness of the potential risks associated with online gaming.

Well-being

'I was a bit confused; there was so much to remember, to keep one metre's distance and to remember to wash my hands a lot, and after all the things I had done', Marius states. The lockdown was challenging for the family in many ways. The house was crowded with five people involved in remote schooling and working from home. They solved this by trying to be kind to each other and to give each other space. They chose their battles with regard to rules and regulations carefully. Marius thinks that the family has had time to do a lot together. He liked preparing dinner together in particular. The parents are also working on teaching the children to be more independent when using digital devices, so that they don't need help when communicating with teachers and fellow pupils. Trine would prefer that the teachers communicate assignments in smaller parts so that the children could gain a deeper understanding of the subject matter.

Family NO4

Norway, Large city. This online interview was conducted in the middle of June 2020.

Family members:
Stine, mother, 39 (NO4m39)
Kris, father, 44 (NO4f44)
Sverre, son, 11 (NO4b11)
Trine, daughter, 9 (NO4g9)
Grete, daughter, 4 (NO4g4)

> 'In the corona period, when we were home, I liked most of all that we could use the Mac to do things. I also concentrated more because there wasn't as much talking as in the classroom. So, I could focus very well here at home'. –**Sverre, NO4b11**

Context – technology at home
The family lives in a house with a garden. They have a high-speed Internet connection with fast and unlimited access. Collectively, they own three mobile phones, two PCs, one tablet, one TV and one smartwatch. They did not buy any additional devices during the lockdown. Sverre does not use digital technology much. He does not like gaming, but occasionally uses his phone to listen to music. He likes to watch Netflix, and sometimes YouTube, but he mostly likes to read books in English on his Kindle. He likes that it is easy to hold and that it can store up to 50 books.

Sverre is a ballet dancer and occasionally watches YouTube interviews with ballet dancers. Grete (NO4g4) is very fond of her iPad and uses it often. A couple of years ago, Stine had what she called a digital detox. This was a positive experience, and she now feels that she devotes more time to the important things in life.

Remote schooling
The family needed three days to get accustomed to the routine of remote schooling. The parents spent four to five hours every day helping their children with schoolwork. Sverre received tasks twice daily – in the morning and at noon. The teacher also had live videoconferences with the pupils once or twice a week. One was optional, and the other was mandatory. The teacher knew what the pupils were working on because they submitted their work at the end of each day. The school day was planned thoroughly with working sessions lasting from 8-11 and noon-15 The pupils received a variety of tasks in all subjects. The school emailed all pupils to let them know that they could borrow digital equipment if they did not have what they needed at home.

Sverre learnt to make presentations and use apps, such as Pages, that he was not familiar with together with his mother. They experimented with FlipBook and made a brochure in which you could turn pages with a simple touch. Sverre and his mother enjoyed this: *'During the lockdown, when we were home, I liked that we could use the Mac to do things most. I concentrated more because there wasn't as much talking as in the classroom. So, I could focus very well here at home',* Sverre explains. Sverre spent slightly more time on schoolwork than usual. He says that he understands much more now. He is usually fond of school tasks that require him to be active and creative.

Stine thinks that pupils experience a different dynamic in remote schooling. Because of this, she was motivated to help Sverre and asked him questions that made him think for himself to

ensure that he was learning what he was supposed to learn. She also attempted to compensate for the lack of interaction with classmates by being more active herself. However, Stine usually is quite involved in her children's schooling anyway and holds them accountable for their assignments. During the lockdown, she spent more time on this. She was particularly concerned with ensuring that the children mastered study techniques and established a good working routine. After a while, she realised that the children became more independent and could control their own learning processes.

Stine likes the school that Sverre goes to, and one reason is because they work a lot on specific topics. However, she would like the school to focus more on critical reading, as she thinks that this is important.

Stine noticed that Trine (NO4g9) improved her digital skills during this period, particularly at writing on a computer and using a variety of different programs.

Remote schooling allowed Stine to gain a deeper understanding of what her children did at school, and she liked that. She suggests, with a sparkle in her eye, that perhaps students could have one day at home a week even after the pandemic: *'Communication between home and school was, I think, very important to get everything to work smoothly'*. With this, Stine highlights that the collaboration between home and school is vital for the children to learn well and have good experiences. However, she believes that the pupils should have had more contact with each other during the lockdown.

Parental mediation
Sverre says that he is allowed to use digital technology to learn things. He has permission to use the iPad and Kindle without supervision, but he does not use his iPad often. Gaming consoles and video games have never been part of the family's daily life. In this sense, Stine says that the children don't know what they are missing. Furthermore, when exposed to gaming while visiting others, the children find this boring. The digital devices that the family uses facilitate communication, e.g., maintaining contact with friends and family.

Online safety
Sverre asks his mother or father when there is something that he wants to find online. The family has had no negative experiences with Internet use. Stine explains that this is because they supervise the children and pay close attention when they use digital technology to go online. In this sense, Stine says they are a bit restrictive regarding what they allow their children to do. They do not use social media that much, other than to remain in touch with friends and family. Stine maintains that parents are responsible for ensuring that their children do not have negative experiences online.

Well-being
In his free time, Sverre continued practicing ballet during the lockdown and received lessons from his ballet teacher twice a week on FaceTime. Stine records Sverre dancing, and Sverre watches these recordings to improve his technique. In this way, he uses digital technology to find solutions and different ways of doing things that he likes. They also send these to Sverre's grandparents. Once schoolwork was completed, the family went outside in the fresh air often.

25

Family NO6

Norway, major city. This online interview was conducted at the end of June 2020.

Family members:

Bård, father, 43 (NO6f43)
Randi, mother (NO6m*)
Casper, son, 11 (NO6b11)
Peder, son, 9 (NO6b9)
Mikkel, son, 3 (NO6b3)

> 'I usually play Minecraft with others'. – Casper, **NO6b11**

Context – technology at home

The family lives in a house. The parents have college degrees and worked from home during the lockdown. The family has access to three computers, three iPads/tablets, three smartwatches and two digital cameras. The two oldest boys both use digital equipment from school, i.e., 'learning tablets'. Both parents have their own computers, mobile phones and an iPad that they share. In addition, there is a computer in the children's room that is used for gaming. The family has not bought any new devices during the lockdown. Casper wrote in the activity book that he played games on a phone and a PC during the lockdown and that he plays Minecraft and other games online.

Remote schooling

The pupils in Casper's class received digital tablets a week before the school closed. Bård says: 'It was pretty random. The day they got the message to go home, they had a 30-minute crash course in Teams'. Before this, the class used the school's computer room. Casper talks about how they were accustomed to working with computers and that they had delivered assignments and homework to their teachers on the school's learning platform. Even then, there was still lots of new stuff to get used to with Teams and different tasks. Weekly schedules were published on Teams, and this platform also was used for video meetings, both with the whole class and with smaller groups. Casper talks about how they worked individually and in smaller groups. They wrote about attractions and made guides for tourists and menus for restaurants, among other things. Casper thought that many of the assignments were fun, especially those that lasted for a few days. During school, they had different ways of meeting digitally: 'For example, for common activities, such as when we did Kahoot (…) it wasn't every day, only some days. But when we had Kahoot, we had almost the whole grade. When we had smaller groups, we only did it with our class'. Furthermore, Casper thinks that the video meetings worked well – 'better than I thought'. He had anticipated technical problems when lots of people communicated simultaneously.

Bård states that the working methods changed for everyone in the family: 'Take, for example, Teams: I had never used this before in work either, so we really got a crash course in that. Both with regard to the way we worked and the way the kids communicated. Both of the oldest children worked in a completely different way with assignments, writing and drawing. They really did a lot on those learning tablets, yes really almost everything'. Bård says that he is happy with the school and that the teachers worked well to prepare online lesson plans. He mentions in particular fun projects that lasted for a couple of days, e.g., where they made a menu for a

restaurant and were required to go online and find different courses and recipes. Bård also talks about how the teacher had a group conversation right at the beginning of the period where he talked about how to communicate online. Both the children's school and kindergarten had direct contact with the parents online. Bård found this very positive and hopes that it will continue.

Parental mediation

Casper says that he usually decides himself how much he uses the computer. Bård confirms this and adds that Casper is pretty good at regulating this: *'You don't use it all day long.… We are pretty lucky that he manages. He gets a bit upset if he is sitting and busy for a long time. So, then something else happens'*. The family did not acquire any new devices during the lockdown. They were more concerned with *'getting established in a proper way. So, we have pretty much only laptops, both of us, so we had to kind of sort out ourselves with some folders and so on. Other than that, we had what we needed'*. It was more challenging for the parents to organise their workloads and follow up with all three children: *'We realised quickly that it was the job that had to be neglected when school, kindergarten, gym and all kinds of other things needed to be done. We managed luckily to get a pretty good schedule so that we had pre-designated times for being at school, for free time and so on'*. The family's youngest child used more technology during this period, often just to keep him busy while the parents had to work or supervise the other children.

Online safety

Casper had no negative experiences online. Bård reports that the school has worked a lot with online safety and that as a result, Casper's class was quite harmonious. It was a bit more challenging with the younger son, who had less experience working with digital tools and communicating online: *'There where multiple episodes where he had written things in group chats that he wouldn't necessarily say face to face to someone. So, it was a bit challenging, and there were some things that had to be sorted out'*.

Well-being

Casper says that he was a bit unhappy during the lockdown period: *'It is a bit annoying not meeting others in school'*. Bård says that the family had a ritual during the lockdown, in which they watched movies together, and that life was calmer than otherwise for the family: *'It has been both nice and unusual because it was clear that after four o'clock and when we were done with dinner, there was no one that had to go anywhere'*. We got to spend a lot more time together. Here, Casper joins in and says that '*it was way too much time'*. Bård laughs. Bård also says that the family has been less active than usual during this time: *'We have been less physically active, I think, during the lockdown. Even though we have had gym lessons in the middle of the day and have been out jogging and such, it has been a little bit calmer than otherwise'*.
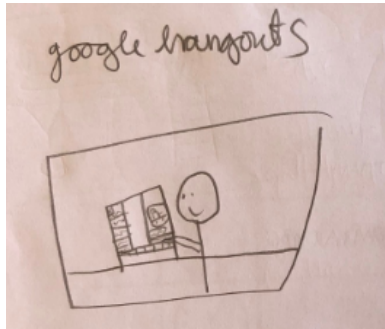
Family NO7

Norway, Large city. This online interview was conducted in the middle of June 2020.

Family members:
Anne, mother, 48 (NO7m48)
Snorre, son, 9 (NO7b9)
Sten, father (NO7f50)

> *'He is not the one that takes the most space in a classroom, so when he had home schooling with his father and I, it went mostly very well. We actually had some nice days together'.* **–Anne, NO7m48**

Context – technology at home
The parents are divorced and live in their own apartments in the same city. Both have college degrees and worked from home during the lockdown. Altogether, the family has four iPads, one stationary PC, one portable Mac and one Chromebook. In addition, they each have their own mobile phone. Snorre uses an iPad and Nintendo Switch for gaming. The family did not purchase any new devices during the lockdown period. The mother states that *'we have enough equipment'*. When the school was closed, Snorre mostly was busy with Legos, video games and puzzles. Snorre says that he games often, with friends and with his father. He says that his father joins in with many online games, as well as with Snorre's friends. Snorre plays lots of different games, from football games and strategy games to Minecraft. He says that it is fun to play video games because it gives him something to do.

Remote schooling
The biggest change during the lockdown was school. Snorre's class used Google Hangouts: *'It was introduced suddenly, and the teachers said we should use it',* but now they don't use it anymore. Snorre sent emails to his best friend and wrote a diary in Google Classroom. The class also used Kahoot, but they were using this prior to the lockdown. When asked if they received different tasks during this period, Snorre says that some things were new, but others were from textbooks. He also says, *'You can kind of do everything as fast as you want, and after that, you can do what you want'.* He felt that the lockdown was a bit weird, *'like it was the weekend the whole time'.*

Anne was not happy with the school or with remote schooling, especially not with how technology use was managed. She attributes this to a lack of experience and competence among the teachers. She notes that they were unlucky. A lot of work was left to the parents. However, for Snorre, there were some advantages with this situation. Anne says that both she and Snorre's father thought that he had a good time and that he almost said it himself when he *'commented that he didn't have to sit and wait much, and that he always got help'.* The parents think that he almost blossomed a bit during the lockdown *'because he is not the one that takes the most space in a classroom. So, when he had home schooling with his father and I, it went mostly very well. We actually had some nice days together'.* The parents designed schedules that they followed, with break and lunch times included.

The negative impressions of remote schooling were connected to the lack of follow-up from the teachers in Google Hangouts: *'They didn't know it; they didn't control it. They didn't know how to mute everyone.*

What they also did was simply to make a room and send the kids off into these rooms'. Anne says that the pupils were not prepared about how to behave online, and that the teachers did not follow up with any kind of guidance. The teachers left the pupils alone in the digital rooms, and this led to a good deal of bullying and exclusion. Some pupils posted links to porn and wrote at night. Anne says*: 'When an 8-year-old is up between one and half past two at night and is posting things into Google Hangouts – that the entire class sees, that is not good.* Lots of parents reacted strongly about the teachers not following up', Anne says. '*The children are pretty vulnerable because they are on their own with this. I didn't feel that they were taken care of really. I didn't have control about what was done and said in there'.* Snorre only had direct contact with his teacher twice during the lockdown period. Otherwise, a weekly schedule and diary were sent. Anne tells the interviewer that Snorre could finish all his schoolwork in one day. Snorre says: '*Then I could do my homework in one whole day and be done with it'.* Because of this, Anne says that they had to regulate how Snorre did his work: *'If not, he did everything on Monday, and then he was done, so he was free the rest of the week'.* Anne thinks that the experience of remote schooling varies, but that their experience was not good. However, she knows that others had more positive experiences. She emphasises that she supports so-called flipped teaching, and that she has found that '*this is really good, as one has more time for guidance'.* Unfortunately, they did not experience this with Snorre's remote schooling.

Parental mediation
Anne talks about how she view gaming as a social activity and that this social aspect has evolved over time, 'much more than before in the 2000s'. It became a completely different thing than what she remembers from her own gaming. Anne thinks that playing together is alright: '*They sit and shout and scream and are very engaged and help each other, and they team up in pairs and it's very much like "watch out!", "I'm hiding behind this over here!", "Yes, now I'm coming to help you!" so it's very active! I feel that saying that games are unsocial is just nonsense*'. Snorre spends around two hours gaming every day. Anne says that she recently discovered a setting that turns everything off after two hours. Snorre uses his time as he chooses, but after that, everything stops. The apps are turned off, and they don't work: 'This is a great system for us. It makes it easier to be consistent. It also helps Snorre be more conscious about how long two hours actually are', Anne says.

Online safety
This topic came up when Anne talked about the settings she uses to regulate the amount of time Snorre spends gaming. She also talks about online safety as an issue in certain situations when Snorre's school was closed. Both parents take part in their son's online activities. Anne laughs and says that she probably is '*more interested in this than the average parent'.*

Well-being
Snorre notes that his feelings at first changed daily: He started out sad, then it was completely OK, but then he was worried that '*corona would never disappear. And that many more would die'.* He explains*: 'I didn't quite get it in the beginning'.*

Family NO8

Norwegian town. This online interview was conducted towards the end of June 2020.

Family members:

Sverre, father, 41 (NO8f41)
Lisa, mother (NO8m*)
Alma, daughter, 14 (NO8g14)
Maren, daughter, 9 (N08g9)

> Maren says that she felt unhappy during the lockdown because she could not meet her friends at school. She also wasn't allowed to visit her friends as she wished. It helped a bit that she could meet them digitally and through social media. –**Maren, N08g9**

Context – technology at home
The family lives in a house with a garden. They own a lot of technological equipment, including four iPads/tablets, four smartphones, three smartwatches and five computers. In addition to this, they have cable TV and a subscription to Netflix. They watch movies, series, NRK Super, YouTube and TikTok. Maren is allowed to download apps that her father approves. The children received their iPads from school. The family did not purchase any new digital devices during the lockdown. We interviewed the father, Sverre **(NO8f41),** and the youngest daughter, Maren **(N08g9)**. During the interview, the mother, Lisa **(NO8m*)**, and the oldest daughter, Alma **(NO8g14)**, also contributed with some comments. Both parents have college degrees and have worked both at their workplaces and at home during the lockdown, while the children were at home participating in remote schooling.

Remote schooling
Maren used her iPad for remote schooling and attended at fixed times, including weekday morning meetings at 8:30 on Microsoft Teams. Attendance was taken before lessons began, and the sessions concluded with a personal conversation with the teacher. Teams was not something that the teachers or the class was familiar with, but it did not take long before they got the hang of it. Sverre says, '*The kids took it much better than the grownups'.* Maren says that they used their schoolbooks to do different tasks delivered online on the learning platform Zokrates. On this platform, they also could see their schedules and what their teachers published. According to Maren, the lessons were not that different from what they were used to in normal school.

The father says that Alma had more responsibility for her own learning and different assignments that were to be completed by set deadlines. She also had to log in at specific times – specifically 9, 11, 12 and 14 o'clock – to partake in lessons. Furthermore, he says that the schools have been unique and very competent with regard to following up with their children and that they, as parents, have been dependent on this. He mentions one time when the school called because their oldest daughter had not met up at a specific time because she had overslept. This remote schooling period introduced new practices for both parents and children, who had their iPads roughly half a year, so they were quite experienced, but encountered a big change regarding the use of iPads for learning and not for entertainment. Sverre talks about how Maren taught the parents a good deal about technology, such as how to record your screen and how to take screenshots. The parents also have had parent-teacher meetings on Teams.

Parental mediation

Both children have mobile phones and iPads. The oldest daughter uses Snapchat to communicate with friends. Maren talks about how she spends a lot of time on TikTok together with her friends, but not all her friends have TikTok because of the age minimum of 13 years. Sverre says that Maren downloaded the app before the age limit was implemented. The family's technology use has increased, particularly social media use in connection with the children's social lives. This has been both positive and negative.

Sverre says that the family's physical activity has decreased a lot. Because the mother works as a nurse, the family has been extra restrictive with regard to social distancing. As a consequence, digital and social media have been used more than before. This leads to more irritation and conflict at home. The children don't enjoy talking that much with each other or with their parents, so simple tasks such as taking out the trash or meeting friends feels like a bigger thing than before. The parents say that Maren should find something new to do that's not related to technology or a screen.

Online safety

Before Maren is allowed to download apps on her devices, she must send a request to her father so that he can approve: '*This is OK; if not, I think I would be broke',* he says with a smile. In this way, Sverre has control over the apps Maren has and uses. He says that maintaining control over what children actually do with their devices is demanding for parents. They say that it is much more important to trust children and talk to them about this than to take their devices and physically check what they are doing. Sverre thinks it is important to have a dialogue about potential risks.

Sverre says that the children usually behave, and he feels that they know what they are doing online. The family otherwise has not had any negative online experiences during the lockdown, but they mentioned a cousin who was bullied on Teams while both parents were at work. This was discovered by an older sibling who reported it to the school.

Well-being

The family usually engages in many sports and activities. Sverre is a voluntary trainer. Maren had been used to playing football, handball and skiing, but suddenly, this all stopped because of the lockdown. Sverre tried to organise training through different digital platforms, but does not feel that he has succeeded. Physical activities have not transferred as easily to digital platforms as schooling. As a trainer, Sverre suggested self-training programs, but realised that this is more dependent on parents (of 9- and 10-year-olds) and that there has been very little interest in digital training from Maren's side. Sverre thinks that it is easy not to be physically active and that the children create comfortable habits. He also thinks that children are more social with technology than grownups.

Maren says that she felt unhappy during the lockdown period because she could not meet her friends at school. She also wasn't allowed to visit her friends outside of school. It helped a bit that she could meet them digitally and through social media. She also says that she was concerned, confused, sad, angry and disappointed, but does not quite remember why. She was scared about catching COVID-19, but at the same time, she was happy because the school days were not that long, and she didn't have as much to do. It also was difficult to remember that she had remote schooling.

Family NO10

Norwegian town. This online interview was conducted at the end of June 2020.

Family members:
Kari, mother, 50 (NO10m50)
Per, son, 10 (NO10b10)

Context – technology at home
Kari and Per live in a house with a garden. Kari is a full-time manager and worked from home during the lockdown. She has a college degree. Kari has a boyfriend who also has two children. They do not

> 'Hmm … I mean, it got a lot more boring when we had home schooling.… After a while, you know. It was maybe … there were two weeks where it was fun. And then it was more about really missing school, and friends and – and traveling(?) and everything – like that you didn't ONLY have to be home around the house, and not being able to meet friends and so on'. The researcher asks: 'Was it a slightly weird experience – to miss school?' Per answers: 'Yes, VERY MUCH SO' –**Per, NO10b10**

live together. Per is interested in sports, including football; being outside with friends; and gaming on the PlayStation alone and with friends. They have two phones, two PCs, two iPads, one PlayStation, one iWatch and one TV. Per has access to digital services and apps in the form of streaming services, online learning platforms, online games, subscriptions to news services or apps online, online security tools and apps for communication and social media. Kari uses a mobile phone, PC and TV together with Per. During the lockdown, Kari bought a PC for Per and gave him increased access to streaming and a variety of subscriptions. They have a high-speed Internet connection. Kari says she has good digital skills.

Remote schooling
Kari spent roughly three to four hours every day helping Per with school during the lockdown. The remote schooling assignments were both digital and non-digital – and not all of them were compatible with her work situation and home office. Kari had to structure Per's school day herself, including integrating new digital applications. She herself uses platforms such as Skype, Zoom and Messenger. Kari talks about how remote schooling was centred heavily around everyone having a good time, but that they should be positive and creative, and that the things they did should be unifying. This was not compatible with a home office, in which you need your child to be occupied with something over a longer time period: '*They spoke about topics, but there was no structure with regard to what you should do first … or afterwards … or how much time should spend (…) so that Per – he is pretty effective I would say, whilst he – he is independent in problem solving, but needs maybe more of an order in which things should be done. So, that's why I had to supply additional assignments'.* In this context, Kari decided to subscribe to the audiobook app Storytel.

In the beginning, Per viewed remote schooling as fun, including making a book with Book Creator, writing texts etc., but he became bored with it after a while. The PC was used much more with schoolwork than before. After a while, he missed his friends a lot: *'Hmm … I mean it got a lot more boring when we had remote schooling … after a while, you know. There were maybe … two weeks when it was fun',* Per explains*, 'and then it was more about really missing school, and friends and – and traveling(?) and everything – like that you didn't ONLY have to be*

home around the house, not being able to meet friends and so on'. The researcher asks: 'Was it a slightly weird experience – to miss school?' Per answers: 'Yes, VERY MUCH SO'.

Parental mediation
Per and Kari agreed on how long he can spend gaming during the lockdown. Per is not allowed to watch YouTube and is not interested in TikTok or Instagram. He knows someone with a YouTube channel, and he wants one himself, but he is not allowed: *'Like all the others in the class, they are allowed, so … It's like when I play, for example, then ... when HE plays and streams … it's like – when I play then, then all the others in the class join HIM, and play, for example, with HIM. Then I don't have anyone to play with',* he explains. Kari says that she was more hostile towards games before, but that she now sees the positive side with regard to the possibility of social contact.
For example, she sees that Fortnite has a social aspect. She points out that this is a game with a 12-year age limit and that she held back for a year or two, but when Per turned 10 in January, he finally was allowed to play. Per had watched other people play the game previously on YouTube. Kari does not think that this is a very good activity, but sees the value in the game's social aspects and how children could reach out to each other during a time when they could not meet physically. She talks about how Per was looking forward to when he was finished with school and could talk to his friends through Fortnite. However, Kari is concerned that technology takes time away from other interests, and that Per spends too much time on this. She tries to limit this time, but this has been more difficult during the lockdown. The rules for how long Per can play have changed during the lockdown, and this concerns Kari. She does not want their home life to revolve solely around technology. Kari also experienced problems with her home office during the lockdown, as the division between work and private life became more flexible, and routines disappeared a bit. Kari feels that it is difficult to set boundaries – all things digital are a temptation for Per: *'I would have liked to be a bit more structured and more principled concerning the rules connected to gaming and screen usage',* she says, and adds, *'I can get kind of frustrated over that you quickly kind of',* Kari stops for a bit and thinks, *'it's almost a bit like a magnetic field that he is attracted to the whole time. And then it's up to me to regulate it. He has maybe not managed to create a sense of self-regulation connected to it, even though he says he would manage to',* she explains.

Online safety
Neither Kari nor Per has experienced anything uncomfortable online during the lockdown.

Well-being
Per states that the lockdown period has not introduced anything new for him, whether digitally or otherwise. His activities have not changed, but he has perhaps gotten better at gaming. He is unsure whether he has spent more time with games during this period than otherwise. He also is conscious about spending time outside with friends. Per agrees with his mother on certain aspects of his gaming, e.g., that he can play in the morning, but go outside afterward, then again a bit in the afternoon. Considering that he has not been able to participate in many activities during the week, he has taken more walks, rode his bike or visited the swimming pool with his friends.

Family NO11

Norway, Large city. This online interview was conducted in the middle of June 2020.

Family members:
Tor, father, 41 (NO11f41)
Tuva, mother, 36 (NO11m36)
Pia, daughter, 7 (NO11g7)
Petter, son, 3 (NO11b3)

'Yeah. It is a lot. … To begin with, it already WAS a lot. Then it became even more. But during a lockdown, the days have to be filled somehow'. –**Tor, NO11f41**

Context – technology at home
The family lives in an apartment without a terrace. Both parents work in administration/culture and worked from home during the lockdown. The family owns two mobile phones, two PCs, two iPads, one TV and one iWatch. During this time, the parents used mobile phones, a PC and a TV together with their children. Pia had access to streaming services, online learning platforms and apps. The mother has good digital skills. The family had upgraded to a high-speed Internet connection just before the crisis hit. They did not buy any new devices, but expanded the applications and platforms they used in combination with school, work and social life. Pia (NO11g7) is very fond of watching TV and Netflix, and she has many favourite series. She finds out about series from others or finds them herself on NRK Super. She is also very fond of using her iPad and playing Minecraft. Sometimes she talks with friends on FaceTime. She does not own a phone and does not use social media, e.g., TikTok etc. When asked if she gets enough time on digital media (PC, iPad etc.) she says that her parents take good care of her and that she has no complaints, but that she could spend more time on these activities.

Remote schooling
Pia started school in autumn 2019 and can write a bit. When the lockdown began, she learnt how to write on a PC and how to use a PC for schoolwork. Now she already has written her own book and completed math questions digitally. Pia thinks that it is best to make things herself on the PC, such as pictures, rather than answering questions. She missed being with friends, but the teacher made some appointments online for school friends. Regarding the future, Pia says that she thinks she will continue to use her PC at school. Most of all, she hopes: *'that the corona stops'*. Tor thinks that it is important for children to gain digital skills, but that they also need to learn to write by hand.

Parental mediation
During the remote schooling period, the parents spent less than an hour each day helping their children with homework and preparation. They were together with their children almost every day and focussed on school, watching TV, playing board games, doing physical activities and cooking. Tor talks about how they ensured that all of Pia's schoolwork was done, but also adjusted this to Pia's needs, as she already was quite good at reading and writing. They allowed her to control schooling herself, but helped when necessary, e.g., when tasks were difficult because they were time-consuming or parents were needed. Tor thinks that the remote schooling worked alright, but realistically, it demands that parents work a six-hour day. He points out that the digital world has created a lot of opportunities for living well during a lockdown, e.g., online shopping, and that they enjoyed their time together, and the children

became adept at playing with each other even though there is a three-year age gap between them. An important realisation for him was that the day should be structured to avoid spending too much time in digital worlds and instead spend more time together as a family. They valued keeping in contact with grandparents and found digital solutions for that. Tor talks about how work meetings have become more effective and that he gets more breaks and free time. He is slightly concerned that the focus on the digital stuff has gotten to the point that they no longer are physically exhausted at the end of a day, so they relax with digital media as well. The family tried limiting screen time during the lockdown, but found this to be difficult, considering that school, games and children's TV are all on screens. They used screens a lot before the lockdown, but even more so during it: *'Yeah. It is a lot.... To begin with, it WAS a lot. Then it became even more. But during a lockdown, the days have to be filled somehow'.* The family tried to compensate by taking five- to six-hour walks when they first ventured outside, and they were outside a lot with the children.

Online safety
Pia has not experienced anything uncomfortable with the PC or online, but she complains that she occasionally experienced Internet outages while she was working. Tor says that Pia can use the iPad on her own within time frames that he determines, but that the content is limited to NRK Super: 'Yes, there are filters – she can go into the NRK Super website. It's limited – even though they can take detours to other places and read about things as well. But that hasn't been particularly interesting because … when you have to choose between reading the news or watching TV … or playing, the entertainment is going to win'. Pia does not have access to YouTube or social media. Tor is not thoroughly convinced about the benefits of these: 'No, this is a world we are not going to enter, really (laughs a bit)'. The parents have not experienced any uncomfortable situations online with their children, but are aware, for example, that pictures are shared on paedophile networks online: *'And we are pretty aware of what happens and the kind of dangers and such things. We have closed profiles, but we do post pictures of the children on social media. We don't want to be scared by this'.*

Well-being
Pia describes feeling a bit sad in her lockdown diary. She likes to ride her bike, watch TV, build Legos, be with the dogs, go for walks, play games, use the iPad and play outside. She does not like to eat breakfast or go to bed early. During the lockdown, Pia missed her friends, her grandparents, playing outside and participating in a swimming course. She had many friends that met outside, and they went for walks together, but this was far from the social level that was usual before. Tor talks about being forced to make a good number of changes after the crisis hit, including the use of digital media to keep in contact with friends and grandparents. He realises the advantages of this, but also the challenges. Tor viewed the lockdown as a deprivation of liberty, but followed the rules. He missed being at meetings in person and other social contact, but also just being alone and together with others, e.g., at a café or pub.

Family NO12

Norway, Large city. This online interview was conducted towards the end of June 2020.

Family members:
Astrid, mother, 44 (NO12m44)
Ulrik, father, 41 (NO12f41)
Frederik, son, 9 (NO12b9)

> *'There was no transition in a way – it was not very hard for him – it was simply to go right into Google … and then he has his own group on classroom'.* –**Astrid, NO12m44**

Context – technology at home
Both parents worked from home in their apartment during the lockdown, Astrid as a special-education teacher and Ulrik as an accountant. Ulrik is very interested in technology, and the household has lots of technological devices, including four mobile phones, three PCs, two gaming consoles (PlayStation and Nintendo Switch), two TVs, Lego Mindstorms, Google Assistant, one smartwatch, one video camera, one virtual reality headset and one drone. Ulrik bought a new computer during the lockdown, first and foremost to have a bigger screen. The family also has a streaming subscription, unlimited high-speed Internet and a firewall that Ulrik installed.

Frederik (NO12b9) is very happy playing on his own phone, watching TV and using the iPad, PlayStation and Nintendo. His favourite game is Brawl Stars, which he plays with friends and with people he doesn't know in *'real life'* on the phone and iPad. Sometimes he chats with his friends in the game's chatroom. His love for Legos also extends to the Nintendo, where he plays Harry Potter, as well as Super Smash Bros., Brawl, Pikachu and Pokémon Sword. He also plays Fortnite and Minecraft. Sometimes he watches YouTube videos to learn new things about Minecraft. He also uses FaceTime to talk to his grandparents who live abroad. Frederik was accustomed to doing this before the lockdown.

Remote schooling
Frederik's daily schedule was structured to fit in with his parents' home office schedules. Astrid spent one to two hours daily supervising his schoolwork. Frederik mostly used Ulrik's PC during remote schooling, and sometimes also Astrid's. Frederik already had used Google Classroom since the first year at school. For Frederik, *'there was no transition in a way – it was not very hard for him – it was simply to go right into Google.… There, he has his own group on Classroom … so it was easy for him'.* He received all assignments in Google Classroom. His teacher published a weekly schedule and sometimes linked to apps, programs or videos. Frederik illustrates with an example of the use of YouTube for a music lesson: *'He (the teacher) had published a link, for example, to "Månemannen" which is a song … and another called "Madiba" and "Children of the rainbow". So, links to all kinds of different songs'.*

During the first two weeks of the lockdown, Frederik had no contact with his teacher. After that, the class began to meet in Google Hangout. Astrid says that this could be very spontaneous from the teacher's end, and she points out that Frederik missed multiple Hangout meetings because they were only announced 10-15 minutes in advance. It was disappointing that group activities were not organised by the school apart from a few meetings on Google Hangout. The last two to three Fridays, the teacher began to host a Kahoot meeting. Frederik announced his

birthday in Hangout, and the students in his class congratulated him. He also received some congratulations on FaceTime.

Parental mediation
Astrid says that they structured their daily schedules around Fredrik, and that this worked out well, especially in the beginning. She helped her son develop a handwritten plan for schoolwork, play, TV and games. This gave Frederik options, while the parents worked from home: *'When I wrote it by hand, it became much easier for him. Then he crossed off the things he had done. He found this a lot easier'.* However, it was tiresome that most of the schoolwork involved online assignments. After two to three weeks, Frederik's motivation dropped. For example, Frederik loves math, and even though there were questions in an ongoing math competition, the parents noticed that he also found this subject boring. Astrid wishes that Frederik had received more feedback on his assignments. He had no daily meetings with his teacher. Frederik was rather annoyed that the division between homework and schoolwork disappeared in a way: *'He thought schoolwork was homework.… It was done in the morning and then it was finished. It had been the same with homework before, but now he needed to fill a whole school day. He thought this was a bit stressful', Astrid says.*

Because Frederik found English difficult, and his parents were mostly at work and in meetings in the morning, Astrid and Frederik began working on English lessons together after 14 o'clock. Therefore, Frederik took a break and did some gaming before this time. It was tough to start schoolwork again, but Astrid thought that she had to help him with it. Frederik otherwise worked independently with digital tasks in Google Classroom. He also downloaded new apps: *'It is more likely to be me that downloads an app than mom',* he says proudly. Astrid, a teacher, spent a lot of time in the beginning helping her own pupils gain confidence with working digitally from home. Overall, the family found this to be a lot of work and that the division between work/school and free time was erased.

Online safety
As part of an assignment, Frederik tried to send an e-mail to his grandparents, but he received this in return because the recipient was not within the municipality's internal network. Astrid put this in a positive light because it means that Frederik cannot send e-mails to strangers, or vice versa. Astrid does not think that Frederik uses websites other than those the school has sent via specific links. Establishing rules for the use of the digital devices was difficult for Astrid. Before the lockdown, Frederik could play for half an hour daily, but during the lockdown, it was difficult to say no to gaming, e.g., if he suddenly came in while the parents were in an online meeting. Allowing gaming when he finished his assignments became a quick solution. Frederik was very aware that he was allowed to play video games more often during the lockdown, even though Astrid was sometimes strict, and stricter than Ulrik.

Well-being
Other than daily walks in the local area, the family engaged in little physical activity. Frederik received assignments for gym class that he could perform both in front of the screen or outside. Instead of running five times around the house, he often chose something less physical. This lack of physical activity may be the reason Frederik experienced sleeping difficulties during the lockdown. It was a challenge not being able to meet friends to play and run with outside.

Family NO13

Norway, major city. This online interview was conducted at the beginning of July.

Family members:
Kristian, father (NO13f*)
Lene, mother, 47 (N013m47)
Ella, daughter, 6 (N013g6)
Sander, son, 3 (NO13b3)

> 'I'm not against it; I just think that when they start school, they have to learn how to learn, and using a machine can make everything so simple'. –**Lene, N013m47**

Context – technology at home
The family lives in an apartment, and both parents worked from home during the lockdown. The mother works in film production, and the father is a web developer. In the household, they own two mobile phones that the parents use, one tablet and four computers. They have a 'digital story box', in which they can download a variety of different stories that the children listen to. They do not have a TV, but they watch TV and movies on a computer screen. During the lockdown, Ella listened to the 'story box' and watched a few films with the family. She sometimes plays on the tablet and computer. She also reads and draws. Ella also has spoken on Skype to friends and grandparents who live abroad.

Remote schooling
Ella's class used Microsoft Teams and Salaby for schoolwork. Lene says that at the beginning of the lockdown, the teachers sent emails with assignments and initially organised video meetings for the whole class on Teams, in which pupils were required to take turns reading one sentence each. However, they quickly realised that this did not work very well, as many of the children had technical problems, some were shy and it took a long time to get through all the pupils' turns. This resulted in Ella becoming bored and losing focus. After this, they split the class into smaller groups, which met in Teams once or twice a week.

Ella says the best part of remote schooling was taking tests on Salaby. She also mentions one task in which they were required to dance on Teams. She felt uncomfortable about this. Lene says that the days became more flexible with remote schooling and that Ella could do her assignments in the mornings so that her father had time to work and they could do other things.

Parental mediation
Ella's school offered digital equipment to the children who needed it, but Lene says that they did not need this. Ella says that she sometimes plays on the tablet and PC, but that it is best that the grownups decide how much time she can spend on these. Lene says that she is open to the idea of school digitalisation to a certain degree, but that she is happy that Ella does not have her own tablet yet: *'I'm not against it; I just think that when they start school, they have to learn how to learn, and using a machine can make everything so simple'.* On the other hand, Lene says that technology has changed Ella's life in that she can now be more independent. The family spends a fair amount of time watching movies, but also has tried to balance the use of technology with non-digital activities. Digital tools are used mostly for communication with friends and family.

Online safety
Ella says that she wants a computer and a phone, but that her parents *'only say no, and when I ask again, then they say no'.* She could imagine using the computer when she wants, but does not quite know how she should regulate this herself *'because then it is difficult to decide ourselves what we can do and what we can eat and all these things the grownups do'.* Lene says she knows how easy it is to become addicted to the tablet and does not want this for Ella. She thinks that there is a time and place for everything (and) that they should move one step at a time. She also thinks that the lockdown period has allowed the family to introduce the use of technology in a gradual way.

The parents have found apps on the tablet with games and yoga suitable for children. Ella is not always happy when her mother asks her to stop using the tablet and find something else to do, but she puts it away in the end.

Well-being
In her free time, Ella is active with her local scout group and a variety of other tasks and activities. This continued online during the lockdown, with Ella completing different tasks at home to get a scout badge, including making a camp inside and counting the stairs in the apartment. She also says that they read a little, did yoga and puzzles, drew and watched some TV. She says it was fun playing on the computer and learning new things, including taking different tests. Lene says that after a while, they went outside a bit to walk in the park and met some of Ella's friends. Even though Ella says that she felt angry, happy, sad and unhappy, she could not remember why, only that it was tiring to work with remote schooling, but nice to be home.

Family NO16

Norway, Large city. The online interview was conducted at the beginning of July 2020.

Family members:
Petter, father, 49 (NO16f49)
Siv, mother (NO16m*)
Anja, daughter, 13 (NO16g13)
Emilie, daughter, 9 (NO16g9)

> 'I don't want to use digital media too much. I often take breaks from it if I feel I am getting hooked because I don't want to be hooked'. –**Emilie, NO16g9**

Context – technology at home

The family lives in a house with a garden, and each family member owns a smartphone. They also have two tablets, one gaming console, one digital camera, one PC and one smart TV. The family does not watch traditional TV, but uses a variety of streaming media and social networks. During the lockdown, the parents took their work computers home to work remotely.

Emilie uses WhatsApp, Teams, Roblox and TikTok often. She looks at other people's videos and uploads her own on TikTok. These mainly comprise dancing to music videos. She also edits other videos with new pictures. Emilie only allows people who know her to watch the videos she uploads, but she also uses the app as a sort of news channel to keep up with things that are happening around the world. Emilie does not use other social media because she is too young, but would like to use Instagram to look at the pictures there. During the lockdown, Emilie played Roblox a lot with her best friend, who lives in another town. They multitasked, speaking to each other on the phone while gaming. Emilie likes to watch Netflix to relax. Petter has noticed that Emilie has become more adept with digital media both in terms of using a variety of different apps and services simultaneously, as well as solving technical challenges.

There were two important changes in how the family used digital technology during the lockdown. The first was that the parents weren't as strict about how often their children used digital media, mainly because the children needed to use these media for schoolwork and because they needed to keep in touch with their friends whom they otherwise socialised with at school. This more-relaxed approach resulted in less conflict in the family.

Petter worked from home during the lockdown, but did not view this as a major change. He used the same applications as he did before, and at work, they had a daily digital coffee break for informal conversations, which also did not change during the lockdown. Petter says that this period has shown that it is possible for people to work effectively from home. He would like to see more flexibility in this regard in the future.

Remote schooling

During the lockdown, Emilie spent half her time using digital technology for schoolwork and the other half relaxing and being with friends, including communicating on WhatsApp or gaming. Emilie downloaded Microsoft Teams for her schoolwork. While the teachers recommended this as a learning platform, the students used it mainly to communicate with each other. This

resulted in many notifications from the app, which became distracting after a while and had to be turned off: 'When we installed Teams, there were lots of messages because the pupils set up their own groups. So, notifications started hammering in. We had to turn these off; otherwise, it would have been pure chaos', Petter says. 'Yes, I tried to watch Netflix once, but it was hard because the only thing I heard was "pling, pling, pling, pling" ', Emilie says.

Both Emilie and Petter agree that it was hard to follow the schedule and programme that the school prepared. The parents received a timetable with tasks each week, but this was not always communicated to the children, resulting in some chaotic moments. For example, when the school summoned the children on Teams, they were expected to be ready for learning, but sometimes this happened while they were eating breakfast. Emilie also says that the teachers' attempts to get pupils to participate in group work in Teams did not work.

Parental mediation
The family mostly uses digital media individually, but once in a while, they watch a movie together. They view this as a nice way to be together. They also argue a bit about who has access to Netflix. The parents set up only one Netflix account because they think that this is the best way to control use of this service, as they found that getting hooked on it is all too easy. They think it is a good thing that the children must negotiate for access to this service.

Petter thinks that parents must be stricter about the amount of time their children spend on digital media when school resumes (autumn 2020). He is also afraid that digital media can promote antisocial tendencies, e.g., when watching several TV series alone in a row. Both Emilie and Petter say that they don't want to use digital media too much. Emilie says, 'I often take breaks from it if I get too hooked because I don't want to be hooked'. Petter has deleted apps like Facebook from his phone. He uses Facebook for work and thinks that this is enough. Petter thinks the pandemic also has made him more aware about how important it is to 'log off' and do things away from digital media.

Online safety
The parents' risk perceptions have not changed during the lockdown. They are still worried that digital media can promote antisocial tendencies. Petter states that he would have been more worried if their Internet connection had been faulty because this would have resulted in a completely different life for his family.

Well-being
Emilie thinks that the lockdown was weird, but that the overall experience was fine. Although she found remote schooling to be peculiar, as was not seeing friends and grandparents, she liked being able to sleep later in the mornings and have more time with the dog. Petter states that the pandemic was a calmer period for the family, and that they enjoyed spending more time together.

Family NO17

Norway, urban. This online interview was conducted towards the end of June 2020.

Family members:
Josefine, mother, 43 (NO17m43)
Tobias, son, 16 (NO17b16)
Kjersti, daughter, 12 (NO17g12)
Lucy, daughter, 7 (NO17g7)

> Josefine thinks the lockdown was like a 'weird weekend, with a bit of schoolwork in between'. –**Josefine, NO17m43**

Context – technology at home
Lucy lives together with two older siblings. She lives partly with her mother and partly with her father, as her parents are divorced. When she is with her mother, Josefine, she lives in an apartment without a balcony or terrace. The family of four owns three mobile phones, four PCs, three tablets, one smart TV, two virtual assistants and one smartwatch. No new devices were bought during the lockdown, and the children had access to online learning platforms and apps, online games, news media, communication apps and social media.

Josefine has a college degree and works full-time in communications. She worked from home during the lockdown and had much more work during this period. She worked up to 17 hours daily with a variety of tasks related to the crisis, so Lucy spent a lot of time with her grandmother or outside with friends in the neighbourhood. Josefine says that she used a mobile phone, PC and tablet together with the kids during the lockdown.

During the lockdown, Lucy used digital technology both for schoolwork, playing games, making videos, keeping in contact with family and playing together with a friend. Lucy is fond of digital games and likes to play Roblox, Toca Boca and Sims. She played all of these before the lockdown as well. During the lockdown, she played games after schoolwork was finished. Sometimes Lucy plays Roblox with her brother. She is also fond of making films in which she sings and dances. When she does this with her big sister, they sometimes edit the footage and add music. Lucy used FaceTime to maintain contact with a friend from school who lived far away. Lucy says that '*this was nice because we took out our toys, and then we had to decide what we would play, and it was fun in that way to act like we were playing together*'.

The most important change in how the family uses digital technology is that they have had to use this for schoolwork. This has resulted in the children using screens in the morning. Josefine is not happy with the fact that his has become a normal practice. The family also spent more time with digital media because these were used for schoolwork, entertainment and social interaction.

Remote schooling
Lucy thinks that remote schooling was both boring and difficult. It was not difficult to use digital technology for schoolwork, but the assignments, especially in mathematics, were difficult. Lucy spent an hour with her teacher every morning, during which they planned the day and had some lessons, e.g., in science class. Norwegian and mathematics lessons comprised mostly doing assignments in the textbooks that Lucy already had.

Josefine says that Lucy thought it was a bit weird to go back to school after the lockdown and deal with so many infection-control rules, so she did not want to go to school for a while as a result. Josefine is happy that the school does not use digital technology as much now. The children put their phones in a 'mobile hotel' when they arrive at school, and they cannot access them during the school day. Josefine thinks this is a good thing. She likes that the children experience school as a place where they need not use a screen.

Parental mediation
Josefine is not happy that the children regularly use digital media in the morning since the remote schooling period began during the lockdown. This began as a practice to keep track of lessons, but has become a permanent habit in the household. Josefine thinks that it is difficult to get the children to do anything else other than use digital media now. She also thinks that it was difficult for the family because they had so much extra work during the lockdown. At the same time, she thinks that the children had an OK experience during the lockdown because it was a bit like a *'weird weekend, with a bit of schoolwork in between'.* Josefine got help from her mother, who took the children out for walks and tried to do a bit of remote schooling with them. This involved, for example, asking the children to gather flowers and name them.

The family introduced technological limits on 'screen time' before the lockdown. The children's devices automatically turn off at a certain time each evening. Josefine says that this is mainly because she does not want screen use to affect their sleep. She also likes that this means she need not confiscate the devices from the children at night and that everyone knows that they are no longer usable. When we asked what the children thought of this, Josefine said: '*The oldest one can be a bit irritated, but accepts it. They know that these are the rules'.* Josefine says that the lockdown has not changed how she uses digital technology for work significantly, but that she has become more positive about digital meetings. At the same time, she says that she has become more negative toward remote schooling because she saw how her children received many assignments – but very little teaching – during this period. This resulted in the children quickly finishing their schoolwork and sneaking away to do other things that they were more interested in doing.

Online safety
Josefine's perception of online risk has not changed during the lockdown. She is not concerned about risks related to content or security, but is more concerned about how the children's use of digital technology takes time away from other activities. She also does not want her children to have screen time in the morning or late at night.

Well-being
Lucy explains how she had mixed feelings about the lockdown. She thought it was nice to have more time with her family, but also was disappointed because she did not get to swim or see her friends.

Family NO18

Norway, Large city. This online interview was conducted in the middle of June 2020.

Family members:
Trine, mother, 45 (NO18m45)
Steinar, father (NO18f*)
Stine, daughter, 7 (NO18g7)
Liv, daughter, 3 (NO18g3)

> 'Stine tries to use her iPad whenever possible. As she is the oldest, we are developing the rules as we go along. We haven't quite decided how things should be here at home'. –**Trine, NO18m45**

Context – technology at home
Stine's family has two mobile phones that the parents use, two PCs and one iPad that Stine's (NO18g7) school assigned to her. They also own one TV and three digital cameras. The family has not bought any new devices during the lockdown. The children use their parents' mobile phones occasionally under supervision. The family has streaming subscriptions and usually watches TV together. Stine likes to watch TV, and she can choose what she wants to watch herself. Sometimes in the morning, Stine watches Netflix. During the lockdown period, Stine used the iPad more frequently than before, and sometimes Stine and Liv played math games on the iPad together. Stine has used the iPad and FaceTime to talk to a friend and to show her room to others online. Trine has a master's degree and Steinar holds a doctoral degree. Both parents worked from home during the lockdown.

Remote schooling
Trine (NO18m45) spent roughly two to three hours every day helping Stine (NO18g7) with her schoolwork during the lockdown. Stepping in as a teacher with a first-grader demanded a lot from Trine, as this was not compatible with working from home. It was difficult for the parents both to help Stine and do their own work online.

The school uses iPads, and the pupils already had received these in the autumn 2019, so Stine had her own digital device during the lockdown. Trine criticised the fact that the children start using technology as early as first grade. She thinks that they could have waited until they were older. Trine and Steinar would not have given Stine an iPad this early. Trine thinks that the use of technology in schools should be controlled centrally, with national guidelines and a strong emphasis on security. Trine is critical of the fact that the school does not block any websites. Furthermore, the Showbie platform that the school uses contains advertising.

During the remote schooling lockdown period, the teacher published introductory videos in which she presented daily pre-recorded assignments. The pupils could use a discussion forum to communicate with the school in writing. This helped Stine improve her writing skills. One of the assignments received was to hunt for signs of spring and upload these to Showbie. Another was for the pupil to summarize what he or she did over the weekend.

Parental mediation
Sometimes the children use their parents' mobile phones, e.g., when they are out shopping. They then can watch a movie. The parents choose the films that the children watch. Stine

generally watches programmes that her parents approve of, but sometimes she finds films and series that are not allowed. Examples include ' *"Barbie" and, I don't know, maybe "My Little Pony" '*, Stine says. These are series that Trine does not want her children to watch because they have too much drama. During the lockdown, the parents acquired better insight into what the iPad could be used for, as they had assumed Internet access on the iPad could be limited to school hours. They discovered that Stine visited sites on the iPad that they had not approved, as iPads were sent home with the children since the first day of school.

During the lockdown, the parents discovered that Stine could send pictures to her friends with the iPad, and that it was used for more than just schoolwork. Trine discovered that Stine can sneak away for a bit to sit alone with the tablet, and, as it is her iPad, which she knows the password for, it can be challenging to know what she is doing. Trine also thinks that she has discovered elements of addiction connected to using the iPad. Stine likes using it a lot: *'Stine tries to use the iPad whenever possible. As she is the oldest, we are making the rules as we go along. We haven't quite decided all the rules or how things should be here at home',* Trine says. Trine and Steinar are dependent on screens and PCs for their work, so they realise that this can be too much to resist, even for grownups. Trine is considering gathering all the mobile phones and storing them in a box when they are not in use. She says they may need more rules surrounding technology after a while, then they must discuss and agree on common practices as a family. This way, they can have more structure around their daily digital media use.

Online safety
Stine did not report any negative online experiences, but Trine notes that Stine occasionally takes pictures while not having properly reflected about what she is wearing. Trine wishes that cybersecurity would be discussed more often at school, particularly when they distribute iPads to the pupils. Trine believes that the school focuses too heavily on how iPads can be used to educate and not enough on the risks associated with this.

Well-being
Stine is an energetic girl who is very active. She likes going outside to be with friends and is very social. The family tried finding activities that do not include using a screen during the lockdown. At the same time, they are happy to sit down in front of the TV as a family to watch programmes together. Trine experienced a lot of insecurity during the lockdown, as it was difficult not knowing how long it was going to last.

Family NO19

Norway, medium size city. This online interview was conducted at the beginning of July 2020.

Family members:
Gunnar, father, 43 (NO19f43)
Maria, mother, 39 (NO19m39)
Oskar, son, 8 (NO19b8)
Sofia, daughter, 14 (NO19g14)
Emma, daughter, 3 (NO19g3)

> 'He gets so demotivated, and the longer the lockdown period lasted, the more demotivated he became. If I was to get him to do his schoolwork, then I would promise, "OK, you can play for half an hour afterwards"'. –**Maria, NO19m39**

Context – technology at home
Oskar's family lives in a house with a garden. Maria holds a bachelor's degree and works as a graphic designer and uses digital technology at work. Unfortunately, she was temporarily laid off three weeks into the crisis. Gunnar has a master's degree and works in the public sector. Working from a home office was a new experience for him, although Maria had some occasional experience with this. The family owns four mobile phones, six PCs, two iPads, two gaming consoles, one TV, one smartwatch and one digital camera. They have high-speed unlimited Internet and a 4G smartphone connection. Oskar has his own PC and Nokia phone that can be used only to call his parents and older sister Sofia (NO19g14). He also has access to an iPad, gaming consoles, TV and digital camera. Maria says that they have used digital technology often during the lockdown. They also tended to their garden, took walks often and maintained contact with family abroad through Skype and Messenger.

Remote schooling
Both schoolchildren were given PCs to take home with them during the lockdown. Oskar's (NO19b8) class used Microsoft Teams for schoolwork. According to Maria, he was very independent during this period: *'The boy was on his computer until he was done with school. In addition to this, he used his iPad in breaks between work sessions'.*

Maria (NO19m39) compliments the teachers for following up with their pupils during this time: *'He talked to the teacher every day … a wonderful teacher that made very good plans.… She was very good at keeping the class in contact socially. They had some time each morning where they had to write something to each other in Teams … like "good morning" and something nice …. They also sometimes worked in groups in Teams and talked together'.*

Parental mediation
Microsoft Teams was new for Maria. Her work uses Google Hangouts; therefore, Teams had to be installed on Oskar's PC: *'There were some problems there. It had to be installed again. Other than that, the family was familiar with most things from before',* Maria says.

The parents used less than an hour each day to help Oskar with his schoolwork. The school and Oskar's parents determined his daily schedule. While both Oskar (NO19b8) and Sofia (NO19g14) could manage this largely by themselves, Emma (NO19g3) needed full-time care. She often was left sitting beside Maria and was allowed to watch more NRK Super on the iPad than usual. For

Maria, this meant a lot of distractions, with Emma, age 3, sitting beside her: *'That's how, instead of working from 8 to 4, it became working until 10 o'clock in the evening almost every day'.* This included breaks during which she took care of the children, helped with schoolwork, went for walks and made food. This led to Maria feeling that the family spent more time with digital devices. Oskar also tried using photo editors and drawing programs with Maria.

Online safety
Oskar uses digital devices and the Internet by himself almost all the time. Maria says that '*this is really not that good because we should probably supervise more … but we know a good deal of what he watches and then we talk about it*'. Furthermore, Maria thinks that it is embarrassing that they do not have a firewall at home.

Maria looks at Oskar's iPad and checks what he does: 'I see then that there is a lot of Legos … a lot of Harry Potter and Google searches about Harry Potter, actor Daniel Radcliffe and various animals or beasts. But of course, he has YouTube … so I cannot totally limit what he looks at. I am confident that he doesn't go into the things he isn't supposed to, but perhaps that isn't so smart'. This school year, Maria (NO19m39) is on the parents' committee for Oskar's class. She is very firm about staying within the age limits of apps and games: *'I believe they shouldn't have Snapchat before they are 13 because there is a reason for the age limit of course … so it's going to be difficult with Fortnite when all the boys in the class have Fortnite, except him.… So, that is what I am opposed to. Not the things he plays now because they are pretty innocent. Oskar plays mostly Lego Marvel games on his Nintendo Switch, not Fortnite and such games, because he is not allowed'.*

Well-being
'Oh, gosh, I can't be bothered', Oskar wrote in a speech bubble in his activity book in front of the PC. He jots down this thoughts as his mother asks him about schoolwork that should be done. The boy does not always have the patience required: *'He becomes demotivated after a while. The longer corona lasted, the more demotivated he was. If I was to get him to do schoolwork, then I said, "OK, you can play for half an hour afterwards" ',* Maria explains. *'If I could play as much as I wanted, it would be 24 hours every day!'* Oskar states, smiling. Maria added, *'Earlier, we allowed gaming only (on) the weekend, on Friday night and on Saturday and Sunday.… Now we have become a lot more lenient because of the corona situation.… We really have no rules right now.… He wants to play, and he has been allowed to play more. His big sister Sofia* (NO19g14) *was on a screen the* **whole** *time.… It was totally out of control'.* Sofia used both Snapchat and FaceTime to communicate with her friends. It was the only way to keep in touch during the lockdown. The parents also have been at a digital bar: '*Here we have met friends online and drunk a few glasses of wine and talked. We had not done this before corona*', Maria said, enthusiastically, at the end of the interview.

Findings

Below, we present the findings related to the five research questions. These findings primarily were descriptive. We also present each meta-theme and associated themes with an indication of the frequency of occurrence among the participants (Hill et al., 2005): (a) *Most* – 12 participants or more; (b) *Many* – 9 to 11 participants; (c) *Some* – five to eight participants; and (d) *A few* – four or fewer participants.

To get a clear picture of the relationship between the five main research questions, we presented them in a grid in which we visualised the relationship between the different themes (see Figure 1).

	During lockdown	Disruption to lockdown conditions
Kid's engagement with digital technology	1. How did children ages 6-12 engage with digital technologies during this specific time?	2. How did the lockdown disrupt or change children and families' behaviour and activities related to digital technologies?
Attitudes towards digital technology and online activities	3. What were children and parents' attitudes towards digital technology use and online activities during the lockdown? How did parents perceive the associated risks and opportunities?	4. How did the lockdown disrupt or change the children and families' attitudes towards digital technology and online activities? How did parents' perceptions of the associated risks and opportunities evolve due to the lockdown conditions?

5. What future impacts are possible from the lockdown?

Figure 1. Research questions in a grid

Children's engagement with technologies during the lockdown

RQ 1: How did children ages 6 to 12 engage with digital technologies during the lockdown?

The first research question focussed on how children and other youths use digital technology, including both what they say they are interested in and what activities they engaged in during the lockdown. We start by identifying the situations and activities in which children used digital technology during the lockdown, then take a closer look at the activities' content and how children organised it.

Time spent with digital technology – Children's use of digital technology took place in connection with remote schooling, organised leisure activities and during the children's free time.

Gaming – Many of the children engaged in gaming during the lockdown on consoles such as PlayStation and Nintendo Switch, as well as on their parents' phones, their own phones or tablets. The children played games both individually and together with their families (siblings and parents) and friends. Examples of games mentioned by several informants include Minecraft, Fortnite and Roblox.

The child as a consumer – Some of the children listened to audio books or read books on Kindle. Another activity was watching series and films on streaming services such as Netflix, Viaplay and YouTube. Several families said they spent time watching movies together. This was viewed as a fun family activity.

The child as a producer – The families reported diversity when it comes to children's engagement in producing digital content and creative tasks. Some children used digital technology to make movies together with family members, friends or on their own. One of the children used film to improve his ballet technique. Some shared their movies with grandparents. One of the children uploaded her own films to the TikTok platform, but only shared them with followers. Another child created stories that her father wrote down and shared with grandparents. In another family, the mother introduced the child to software that she used to create presentations and brochures at work. The child learnt about these tools and used them with his mother. Many children told us about creative assignments received during remote schooling. Making videos, presentations and books in apps such as Book Creator characterised digital production in connection with school assignments. Some families said they were surprised by how schools managed to engage children in creative tasks.

Organised leisure activities – Some families reported that they continued their leisure activities online during the lockdown. The children maintained contact with coaches and received guidance and support to continue even though in-person training and organised physical activity were prohibited. Others said they stopped all such leisure activities.

Digital technology as a tool for communication – Several of the families used digital technology to facilitate communication and maintain contact with friends and family.

Seamless transitions – The children talked about seamless transitions between devices, various digital solutions and non-digital activities. They even described using several digital devices simultaneously, a process called multitasking. For example, many of the children played games

online while holding conversations with friends on FaceTime. Furthermore, many families used digital devices to keep in touch with family and friends (chatting within games or on social media, e.g., FaceTime, WhatsApp, Snapchat, Messenger). Other communications included making plans in online games, such as agreeing to meet at a football field.

Digital technology and remote schooling – There were considerable differences in how schools used technology during the lockdown's remote schooling period. Some of the schools already had one-to-one[1] coverage of digital technology, so the children already had this technology at home. Many of the schools that did not have one-to-one coverage before closure offered to lend digital devices so that the students could continue with their schoolwork. These included Chromebooks, iPads and PCs. A few families purchased new devices so that students could keep up with assignments and curricula. Most of the schools used a learning platform during the lockdown, but some parents pointed out that the schools did not fully exploit digital opportunities, especially with regard to group work.

Negative online experiences – Few children or parents described having unpleasant experiences or coming across harmful content online. In most cases, the families did not experience anything negative during the crisis, but one family experienced bullying and exclusion in the online rooms that a school created on a learning platform. This family also encountered links to pornographic content being shared in an online room. This made them aware of how vulnerable children are in connection with digital education. Other families know children who were bullied online during the lockdown. One family was concerned about how their children were affected by news reports during the lockdown and decided to turn off the TV until the children had gone to bed.

Changes in children's behaviour and activities related to digital technologies

RQ 2: How did the lockdown disrupt or change the children and families' behaviour and activities related to digital technologies?

The second research question dealt with changes in behaviour and activities related to digital technologies. In this section, we first present changes in time spent with technology, followed by the development of digital skills and how the lockdown changed family dynamics, as well as how the families balanced leisure, remote schooling and home office time. We also present changes in children's everyday school life.

Increased time spent with digital technology – Most families noted that time spent on digital media and online activities increased significantly during the lockdown, but those who had little screen time before the lockdown experienced a smaller increase. Most children devoted more time to the digital activities that they already enjoyed, and some gained experience with new games, as well as software used to create presentations and digital content for school.

---

[1] The term **one-to-one** is applied to programmes that provide all students in a school, district, or state with their own laptop, netbook, tablet computer, or other mobile-computing device. *One-to-one* refers to one computer for every student.

Increased digital competence – Many parents stated that their children's digital competence increased during the crisis, especially with regard to the use of keyboards for typing, being able to work on several digital processes simultaneously, learning new software and being more independent with different platforms.

More time together – Some families established new routines during the lockdown. The parents said they tried to spend quality time together with their families, including outdoor activities (walks and cycling), board games and housework (baking). Some parents felt they had to take more of an initiative to help organise their children's activities.

Balancing remote schooling, home office and leisure – Most families stated that it was the transition to remote schooling and balancing this with a home office that led to an increase in time spent on digital media and online activities. Another important and related explanation was that school, social life and entertainment became mostly digital as a result of social distancing policies. Balancing these components became a struggle.

Leisure activities changed to organised online activities during the lockdown – Many families described how all organised activities usually done after school became partly or completely digital. Although some tasks were fun, the children eventually missed going out to train their team sports with others and wanted to get back to normal with these activities. Parents stated that digital training requires more follow-up from parents.

Changes in children's activities and behaviour related to their schooling
Attendance – There was a lot of variation among the families regarding whether the teachers required daily attendance from their students. Some had regular meeting times every day, others up to twice a day, while a few had flexible meetings with their teachers and could ask whether there was something regarding their schoolwork that they didn't understand. Some children had very little contact with their teachers. Thus, some went from being at school every day and talking to teachers and classmates, to not meeting with teachers and classmates at all during the week. This was a very big change.

Frequency in school assignments – There were also large variations in how often school assignments were distributed or communicated to the students. In some cases, school assignments were communicated every day, or several times during the day, while in other cases, students received their assignments in a weekly plan sent out on Sunday or Monday (via the learning platform or the parents' e-mail) without further follow-up or contact. Several parents commented on the assignments their children received from school. Some were viewed as too cozy, too much like homework or too simple. The tasks that parents appreciated were creative, lasted for a couple of days and contained topics for the children to explore. Both the children and their parents appreciated having daily contact with teachers.

Communication strategies – There was also a lot of variation in parents and children's experiences with collaboration between the school and home. Some children had daily synchronous contact with their teachers online via digital platforms such as Teams, Zoom etc., while others did not have contact with their schools at all during the first weeks of the lockdown. One student only talked to his teacher once during the entire lockdown, on his birthday.

Some teachers uploaded pre-recorded videos, while others communicated mostly via a learning platform without having direct contact through video meetings. In some schools, parents also had direct contact with teachers via video meetings or phone calls. These parents were generally very pleased and praised the schools and teachers for following up with their children and developing solid educational content. Others told of bad experiences with remote schooling, mainly due to teachers' lack of digital competence. The assignments' quality also varied, in which some tasks were adapted to digital technologies, while others were not challenging or engaging. Some parents reported no distinction between homework and schoolwork. The parents' explanations and comments about teachers' practices and follow-up often were related to whether the school and teachers had experience using tablets and PCs as teaching tools prior to the lockdown. Some schools had one-to-one coverage with digital devices, while others did not have this before the lockdown.

Parental remote schooling practice and follow-up – The parents described different approaches to how they organised the school day in collaboration with their children. Some maintained regular schedules and followed school routines, including recess. These parents said their children needed help regulating and arranging their schedules as the distinction between school and leisure time became fluid, and they wanted to maintain a definite distinction. Some children were more independent and worked without much help from their parents, while other parents spent several hours a day helping and structuring the school day. Organising school and work has been challenging for many families because remote schooling had to be implemented in tandem with parents' home office schedules.

Attitudes towards digital technology use and online activities

RQ3: What were children and parents' attitudes towards digital technology use and online activities during the lockdown? How did parents perceive the associated risks and opportunities?

First, we present findings related to the children and parents' attitudes and perceptions about time spent on digital media and online activities, then we present findings on attitudes and perceptions with regard to access and use of digital media and online activities.

Concerns about time – Some families noticed that time spent on digital media took time away from other things, especially physical activity and outdoor time, but also family life and time with friends. Some parents pointed out that they would like to have better control over the amount of time their children spend on digital devices. Only three of the families let the children decide for themselves how much time they spent on different digital activities. Parents expressed a desire to limit the time their children spent with screens and digital technologies apart from school activities, as their schoolwork became fully digital. They wanted their children to spend more time doing other activities. Meeting friends outside and being physically active were preferred. Some parents also were concerned that their children could become addicted to using digital media and that this could lead to antisocial tendencies.

Access – The families in our sample presented different opinions that influenced how, when and to what extent their children were allowed to access digital media. There were differences in the extent to which parents viewed digital media as a tool or resource for learning and

development, or simply as a 'babysitting' tool to be used while they make dinner for the family, do laundry or when out shopping.

Some found the use of digital media for learning purposes to be appropriate, but also made it clear that digital media and technology cannot replace learning via writing by hand or reading physical books. Some parents viewed digital media as 'not important' and that time spent on these media is 'too easy', wasted or not productive. However, other parents noted that digital media could nurture family life, allowing families to rent movies online and view them together.

Technology as social compensation – Many of the parents highlighted the importance of letting their children use digital media as compensation for a lack of social contact, and that there was not much else to do. Two of the families also stated that they allowed their children to access games with higher age limits (see above) and let them spend more time gaming to ensure that they had contact with friends during the lockdown. Parents also allowed their children to access FaceTime and Skype more often to contact friends and grandparents (including those abroad). Many children missed their friends and grandparents a lot. They especially missed being with other children at school, playing outside together and participating in organised activities.

Technical mediation – Some parents said they used technical mediation to keep track of their children's use of digital media and to reduce risk. This included ensuring that the devices automatically switched off after a certain amount of time, or at a certain time of day.

Concerns about digitalisation of schools – Some parents expressed concerns about the digitalisation of schools, especially when it came to their youngest children using tablets. They stated that tablets can make tasks 'too simple'. They also expressed concerns that the tablets are not properly secured, e.g., by firewalls. Parents also stated that they would like the schools to discuss online interactions with the children (with regard to norms, security etc.), especially in connection with the transition to digital remote schooling.

Supervision of children's online activity – Some parents allowed their children to use the Internet with supervision, while many others left their children alone online without supervision. Some children used the web only when parents were present, with an agreement about what they may search for, or with preapproved apps. The vast majority had access to the Internet more openly when using a PC or iPad, but the parents described a variety of ways in which they monitored their children's activities. Some parents had search filters and limited their children's searches, e.g., to the children's content provided by the public service broadcaster. Some limited the amount of time or activities in which their children could engage in online activities – such as using social media and playing only with friends and family, or sometimes checking their children's searches and other online activities. Other parents had rules in place about specific applications and channels (e.g., YouTube), games (e.g., Fortnite) and social media (e.g., Snapchat).

Risk – Parents' perception of risk was, among other things, connected to whether strangers had the opportunity to contact their children, privacy/security, and possible exposure to harmful content (including pornography and news media). Although many parents did not report having negative online experiences, they were concerned that their children may post personal information or inappropriate images online, or that others may exploit photos of their children. One family also stated that they were concerned about whether the children would learn what

they needed during digital remote school, and that it was important for them to focus on good study techniques and work routines.

Changes in attitudes towards digital technology and online activities

RQ 4: How did the lockdown disrupt or change the children and families' attitudes towards digital technology and online activities? How did parents' perceptions of the associated risks and opportunities evolve due to lockdown conditions?

First, we present findings related to the children and parents' changes in attitudes and perceptions about time spent on digital media and online activities, then we present findings about changes in attitudes and perceptions about access and use of digital media and online activities.

Intensification of digitalisation – Some parents said that this intense period of digitalisation has led them to be more aware of the importance of logging off, going outside and doing other things. Other parents started their own projects with children to show them how to create brochures and presentations with apps that they used for work purposes. Several parents also described an increased acceptance of time spent on gaming and digital activities when they were related to social contact.

Social calibration – One factor that influenced how parents gave children access to digital media and online activities related to a social calibration of parental mediation strategies. For example, one family's parents did not want to give their children (who were 9 years old) access to the game Fortnite (which has an age minimum of 12 years). However, the parents realised that other 9-year olds in their children's class or social networks had access to this game and that it was through this game that the children had social contact with each other. For example, it was where they made plans to meet physically. Therefore, these parents adjusted their own mediation strategies to allow their children to access this game.

Normalisation of online activities as part of the 'everyday' – For many of the families, remote schooling was a factor in a shift towards online activities becoming a larger part of their everyday lives. One mother stated that she was quite disappointed that the transition to remote schooling meant that digital media use was normalised in the morning. She didn't like the fact that her children used these media in the morning and found it very difficult to get them to do other things after the lockdown ended. Parents also reported concerns about the time their children spent online and on gaming, and that this activity has increased. They also were concerned about whether they would be able to reduce and 'normalise' their children's digital activity after the lockdown.

Supervision of children's online activity – Parents did not report major changes in how they regulated online activity, despite the fact that most described an increase in time spent on online activities.

Age restrictions – Parents described challenges in adhering to age restrictions and other impacts on their children's activities. Most parents respected age limits, while others allowed their children to play games that conflicted with age restrictions to facilitate social contacts.

Implications

RQ5: What future impacts are possible from the lockdown?

Pedagogical use of learning platforms – Some parents gave the expression that learning platforms were not used to their fullest potential. Examples of possible improvements include using features such as providing feedback on assignments, using the calendar to get an overview of current assignments or online video meetings. The lack of social interactions could be compensated for by making more use of online collaboration. This could include group tasks, such as discussions, teamwork on documents or games. However, such competence takes time to develop. Parents also expressed the importance of teachers' presence on these platforms.

Surprising findings

Online activities increased significantly – Most families found that time spent on digital media and online activities increased significantly during the lockdown, but those who already had little screen time before the lockdown experienced smaller increases in time spent. Most children devoted more time to the digital activities they already enjoyed, and some gained experience with new games and software, learning how to create presentations and digital content in school.

Pressured to give children access – Parents felt it was important to let their children use digital media as compensation for a lack of social contact, and because there was not much else to do. This applies to the fact that time spent on digital media increased in connection with children's communication with friends from school becoming digital. For example, parents felt pressured to give children access to Fortnite because the children 'had to' be present to maintain social contact. The families were willing to bend the rules significantly so that their kids could have social contact online (e.g., increasing access to digital media and/or games). In this way, one can say that parents' mediation strategies were socially calibrated. However, some parents feared that the lockdown period facilitated 'normalisation' of bad online 'habits'.

Increased digital competence – Many parents stated that their children's digital competence increased during the crisis, especially with regard to the use of the keyboard for writing and accomplishing more digital activities simultaneously.

Seamless transitions – The children talked about a 'seamless' transition between devices, various digital solutions and non-digital activities.

Quiet time – Many participants said the lockdown made things quieter, and even the children said it was nice to be able to spend so much time together with their families and have more time for each other, despite major upheavals in society at large.

Conclusion

The lockdown was a new – and in many ways challenging – period for the 15 families we interviewed. Concurrent with the physical limitations, the families experienced several transitions between public and private contexts, particularly between school/work and home life. The lockdown period contributed to experiences of deprived liberty in physical, social and private spaces. Nevertheless, both the parents and their children told us that they enjoyed having more time to spend together. However, the children missed their friends, their extended families and their schools, and they organised leisure activities during the lockdown.

Digital technologies were used in several situations during the lockdown. Time spent with technology increased considerably, both regarding the children's schoolwork and in connection with leisure time. The technologies were used in gaming, the production and consumption of digital content, and in communication with friends and family members. Parents allowed their children to use digital devices more often, even when some felt that the situation put their children at risk of becoming addicted to using digital media and possibly lead to antisocial tendencies.

The families used digital technologies to remain in touch with friends and family. The children used games as a tool to keep in contact with friends, and both played games (e.g., Fortnite) and multitasked, e.g., talking together via FaceTime while playing games. Even though they spent more time with digital technologies, the children had very few negative online experiences or contact with strangers. However, some children experienced inappropriate behaviour from classmates on learning platforms where their schools created virtual meeting rooms.

Remote schooling was challenging for some, but a positive experience for others. The families' experiences were marked by a variety of different strategies that the schools implemented during the lockdown. Experiences with how the teachers required daily attendance from their students varied. There were also wide variations in how often school assignments were distributed or communicated, as well as variations in schools' communication strategies. This led to significant differences in parents and children's experiences with school and home collaboration.

Retrospectively, both children and parents experienced this challenging time ambivalently. While missing friends, school and social activities, the time spent together with family was appreciated. The families reported a quieter time with fewer activities after school.

References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. http://doi.org/10.1080/2159676X.2019.1628806

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine de Gruyter.

Hill, C. E., Knox, S., Thompson, B. J., Williams, E. N., Hess, S. A., & Ladany, N. (2005). Consensual qualitative research: An update. *Journal of Counselling Psychology, 52*, 196–205. http://doi.org/10.1037/0022-0167.52.2.196

Ingierd, H. (2010). Humaniora, samfunnsfag, juss og teologi (Sist oppdatert: 10. mai 2010). Hentet fra http://www.etikkom.no/FBIB/Introduksjon/Innforing-i-forskningsetikk/Humaniora-samfunnsfag-juss-og-teologi/.

Kalleberg, R. (2006). *Forskningsetiske retningslinjer for samfunnsvitenskap, humaniora, juss og teologi*. Oslo: Forskningsetiske komiteer.

Levitt, H., Motulsky, S., Morrow, S., & Pontorotto, J. G. (2017). Recommendations for designing and reviewing qualitative research in psychology: Promoting methodological integrity. *Qualitative Psychology, 4*(1), 2–22. http://doi.org/10.1037/qup0000082

Stiles, W. B. (2003). Qualitative Research: Evaluating the Process and the Product. In: S. Llewelyn & P. Kennedy (eds.), *Handbook of Clinical Health Psychology* (pp. 477–499). Sussex: Wiley.