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How families handled emergency remote schooling during the Covid-19 lockdown in spring 2020

*Summary of key findings
from families with children in
11 European countries*

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Abstract

How did families handle remote schooling during the time of Covid-19 lockdown during spring 2020? Perceptions on remote schooling activities were gathered from parents and their children at the end of primary education and in secondary education (10-18 years old) from 9 EU countries (Austria, France, Germany, Ireland, Italy, Portugal, Romania, Slovenia and Spain) in addition to Switzerland and Norway.

The findings show that almost all children who participated in the survey were able to conduct some school-related activities using digital technologies, and many reported that their schools had provided them with both digital communication and learning platforms. The findings also point out to large variations in terms of how children were able to interact with their teachers in learning activities and how often children were in contact with their teachers through online means. In addition to learning activities provided by the school, parents also engaged in complementary learning activities with their children, for example by using free of charge online learning material and exercises, such as video recordings and online quizzes.

Both children and parents were worried about the pandemic's negative impact on education, generally parents more so than children. Families voiced the need for better guidelines on how to support children with distance education activities and how to support the child psychologically during the confinement. Parents also expressed their need for more counselling and psychological support.

These early results from the survey can guide future activities of schools and education systems in their move to digital education that can deliver more even, and better, pedagogical and social outcomes. They can also guide planning of practices that suite local context and needs. More in-depth analysis of this data will be made available throughout 2020-2021.

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The project "Kids' Digital lives in COVID-19 Times" (KiDiCoTi) is conducted in collaboration with 26 research centers in 15 European countries, the research office of UNICEF, and it is coordinated by the Joint Research Centre. This report was made possible with many individuals contributing to it at different stages of the process. Indebted to their dedication and thankful for their knowledge, the authors highest gratitude for the finalisation of this report goes to the following team members: Christine Trültzsch-Wijnen, Salzburg University of Education Stefan Zweig (Austria); (Austria); Sascha Trültzsch-Wijnen, University of Salzburg (Austria); Pierre Fastrez, Université Catholique de Louvain (Belgium); Marlène Loicq, Université Paris Est Créteil (UPEC), Isabelle Féroc Dumez, Université de Poitiers (France); Claudia Lampert, Leibniz-Institut für Medienforschung | Hans-Bredow-Institut (Germany); Tijana Milosevic, Derek Laffan and Prof. James O'Higgins Norman, Dublin City University, The National Anti-Bullying Research and Resource Centre (Ireland); Giovanna Mascheroni, Università Cattolica del Sacro Cuore di Milano (Italy); Elisabeth Staksrud, Department of Media and Communication and Kristinn Hegna, Department of Education, University of Oslo (Norway); Mari-Ann Letnes, Fredrik Mørk Røkenes, Nicole Veelo from the Department of Teacher Education at Norwegian University of Science and Technology NTNU (Norway); Siw Fjørtoft from Sintef (Norway); Patrícia Dias, CECC/CRC-W, Universidade Católica Portuguesa; Bojana Lobe, University Ljubljana, Faculty of Social Sciences (Slovenia); Mitsuko Matsumoto, Facultad de Educación, Universidad Internacional de la Rioja (Spain); Lilian Suter, ZHAW Zürcher Hochschule für Angewandte Wissenschaften (Switzerland); and Daniel Kardefelt Winther, UNICEF.

1. Executive summary of early key findings

This research gives the first look into families' digital lives and remote schooling activities across 11 European countries during the Covid-19 lockdown in spring 2020. It focused on children at the end of primary education and in secondary education (10-18 years old) and their parents in 9 EU countries (Austria, France, Germany, Ireland, Italy, Portugal, Romania, Slovenia and Spain) in addition to Switzerland and Norway.

The findings show that on average, children across all participating countries reported spending about half of their online time on digital learning activities. Moreover, almost all children who participated in the survey were able to conduct some school-related activities using digital technologies, and many reported that their schools had provided them with digital communication and digital learning platforms. The findings, however, also point out to large variations in terms of how children were able to interact with their teachers in learning activities and how often children were in contact with their teachers through online means. Whereas 75% or more of the children in Italy, Norway, Portugal and Romania said to have daily online interactions with their teachers during the Covid-19 lockdown in spring 2020, this number was between 50-75% in France, Ireland, Spain and Switzerland, and between 34-41% in Germany, Austria and Slovenia. Worryingly, some children reported very infrequent contacts with teachers with no access to online activities, the amount varies from 11% in Ireland to less than 1% in Italy.

Overall, the lockdown during Covid-19 has shown that the readiness of schools and families to support remote instruction through digital technologies was uneven. How learners perceived online learning activities and teacher contacts can be, to a certain extent, indicative of teaching arrangements put in place by national and regional school authorities. As such, it cannot be used as a proxy for the quality of learning that took place during the classroom closure, mainly because there are various factors that influence learning, which during the Covid-19 lockdown varied substantially starting from accessibility and availability of parental support and devices at homes to the instructional practices and teacher competences. It is also rather normal that practices vary from a school or a country to another within certain parameters. However, it is also the job of the education system and society to guarantee equitable access to education to all. In the upcoming reports, there will be more focus on such questions.

Secondly, the findings shed light on the level of worries that both children and parents have due to the pandemic and classroom closure. In general, parents were worried about the pandemic's negative impact on their child's education (e.g. falling behind with schoolwork, failing in exams). Children were concerned about not being able to keep up with their schoolwork while classes changed due to the pandemic and about getting poor grades because of the online learning activities. Additionally, across all participating countries, many children reported an increased workload because of the remote schooling activities. Even 40% or more children in Slovenia, Portugal, Austria and Spain estimated to have more workload than before the pandemic. With regards to children's worries outlined above, school policies and practices can play a role. For example, in some school systems in Europe, the assessment methods were changed due to the classroom closure (e.g. e.g.: Council Conclusions on countering the COVID-19 crisis in education and training¹; European Schoolnet²).

Thirdly, the report gives an idea of children's skills (e.g. digital skills) and their beliefs in their abilities to cope with online learning activities. Previous research shows that this can be strongly related to their successful learning and also to their well-being. The survey confirms that remote and digital schooling opens opportunities for children to gain new skills with digital technologies, but it also shows that the family background can influence the way in which the children felt about their capacities and beliefs towards online learning activities. In almost all participating countries, children coming from families with below-average household income felt less strongly about their own capacities to cope with online learning activities than other children.

Last, families voice the need for more support from schools if such a situation was to happen in the future again. Over 80% of responding parents in Romania, Portugal, Ireland, Spain, Italy and Slovenia would have wanted the school to provide possibilities for their children to do online educational activities with their classmates. Likewise, ideas for extracurricular activities to be done at home would be welcomed by over 80% of parents especially in countries such as Romania, Portugal and Spain. There is

¹ <https://data.consilium.europa.eu/doc/document/ST-8610-2020-INIT/en/pdf>

² <https://covid19-edu.eun.org>

also a need for better guidelines that schools or education authorities could provide to families. More than two-thirds of the responding parents in all participating countries would need guidelines on how to support children with distance education activities and homework. Around ¾ of the responding parents in Romania, Portugal, Ireland and Spain would also need guidelines on how to support the child psychologically during the confinement. Additionally, a high number of parents called for different types of counselling/psychological support for their child or even the whole family, especially in Spain, Romania, Portugal, Ireland and Italy.

These results can guide future activities of schools and education systems in their move to digital education that can deliver more even, and better, pedagogical and social outcomes. The on-going European-wide research will further be able to share good practices implemented during the first lockdown so that education authorities and schools can learn from each other and better implement practices that suite their local needs and context within available resources.

This report is the first descriptive output of the research project that focuses on children's digital activities during the pandemic and the spring lockdown (Kids' Digital lives in COVID-19 Times). The data was collected through an online panel survey in summer 2020. The project is led by the Joint Research Centre of the European Commission in collaboration with different researchers from each participating country. Thematic reports of the survey findings will be available towards the end of 2020 and spring 2021, including a more in-depth report on remote schooling activities in addition to an international comparative report focusing on child's well-being, online security and safety. Additionally, country reports will be made available in participating countries, for already existing reports, see DCU (2020) for Ireland, Dias et al. (forthcoming) for Portugal, Trültzsch-Wijnen et al. (forthcoming) for Austria and Velicu, A. (2020) for Romania.

2. Methodology and description of data

The Joint Research Centre of the European Commission undertook a study on the experiences of children and families during the Covid-19 lockdown across Europe³ in collaboration with different researchers from each participating country (see the Acknowledgement section for more details). The goal of this research was to understand how children and parents engaged with digital technologies while staying at home and how these experiences may have impacted children's online safety and overall family well-being.

	AT	FR	DE	IE	IT	NO	PT	RO	SI	ES	CH	Total
Parent (n)	510	544	513	501	1028	525	509	518	506	554	484	6192
Gender												
Female	45%	57%	47%	51%	49%	51%	48%	47%	68%	44%	47%	
Male	54%	43%	52%	48%	51%	49%	52%	53%	32%	56%	51%	
Child (n)	433	475	413	441	946	482	501	467	459	471	378	5466
Gender												
Female	46%	43%	47%	47%	40%	51%	39%	41%	46%	35%	47%	
Male	54%	57%	53%	53%	60%	49%	61%	59%	54%	65%	53%	
Age												
10-12 years	38%	30%	26%	29%	34%	26%	35%	36%	23%	35%	37%	
13-15 years	32%	41%	46%	41%	41%	39%	37%	34%	43%	41%	36%	
16-18 years	30%	28%	29%	30%	25%	30%*	28%	30%	34%	24%	27%	
Parent's self-reported income level												
below average	22%	23%	16%	26%	22%	23%	25%	21%	20%	12%	27%	
average	45%	47%	45%	41%	58%	39%	54%	47%	63%	51%	39%	
above average	33%	30%	39%	33%	20%	37%	21%	32%	17%	37%	34%	

Table 1. Sample description: the gender of the participating parent, living arrangement, gender of their child, age and parental self-reported socio-economic status (SES). (*in Norway sample, 4 cases with young people of 19 year old according to their declared year of birth).

The data was collected through an online survey in summer 2020 from parents and their child (10-18 years old) in 9 EU countries (Austria, France, Germany, Ireland, Italy, Portugal, Romania, Slovenia and Spain) in addition to Switzerland and Norway (Table 1, see Annex for more details). The sample in all countries reached 500 families (for Italy, larger sample was planned).

A parent and a child from the same family answered their own dedicated questionnaires in their own language (see annex for more information about sampling). They both were asked about the following areas: digital technology use-related habits; digital skills and their improvement, use of digital technology for school purposes; parental worries regarding technology use; exposure to online risks such as cyberbullying and harmful content online; and positive aspects of digital media use for the family and child's well-being.

The use of digital technology for school purposes was explored through a remote schooling module which included seven questions for the child and six for the parent. The children's module on school activities started with a filter question asking if classes at participant's school had been cancelled due to the coronavirus outbreak. Only those who answered "yes" were directed to the modules and those who answered "no" skipped the module. This difference is visible in the sample size for children when compared to that of parents (Table 1).

The questions ranged from the use of digital tools and resources for remote schooling to questions aimed at understanding children's and parents' perceptions and attitudes regarding remote schooling during this period, and on how difficult, or challenging, it was for them. Children were also asked about their participation in online classes and ways of connecting with their teachers. Additional questions focused on motivation and possible anxieties regarding online schooling activities.

Parents, on the other hand, were asked about the support they gave for educational activities (e.g. availability of devices, time, digital skills, knowledge about school subjects and being able to motivate

³ "Kids' Digital lives in COVID-19 Times" (KiDiCoTi): <https://ec.europa.eu/jrc/en/science-update/kidicoti-kids-digital-lives-covid-19-times>

children's learning). Parents were also asked about their perceptions regarding child's engagement with school activities and gaining new skills (e.g. autonomy, self-determination or becoming more skilled in using digital technologies). In addition, parents expressed their feelings on remote schooling impacting their child's education and what they would need in order to support their children better if such situation happened again.

3. Setting the scene: digital skills of adults living in households with children

The pandemic in spring 2020 prompted many education institution to suspend in-person teaching activities. Since then, emergency remote schooling was quickly implemented across regions, countries and school systems. Remote schooling combines distance education (students not physically present at school) with the use of various media ranging from digital tools for learning and collaboration to traditional paper-based textbooks and printable worksheets. Even educational television was re-invented for the purpose of remote schooling during the pandemic. However, UNESCO and other international organisations keep underlining that moving learning from classrooms and lecture halls to homes at scale, and in a hurry, presents enormous challenges, both human, social and technical⁴.

The role of digital technologies in implementing remote schooling had wide-ranging differences across school systems, regions and countries. Equally uneven was households' readiness to provide digital devices and access to the internet. Also, parents' capacity to take advantage and to support the move to digital varied widely within the countries and across the EU. The pre-Covid Eurostat data show that in the EU, 63% of adults who live in households with children between 0 and 16 years old have basic and above basic level of digital skills (green bars in Figure 1).

Eurostat: Digital skills of adults living in households with children (0-16y)

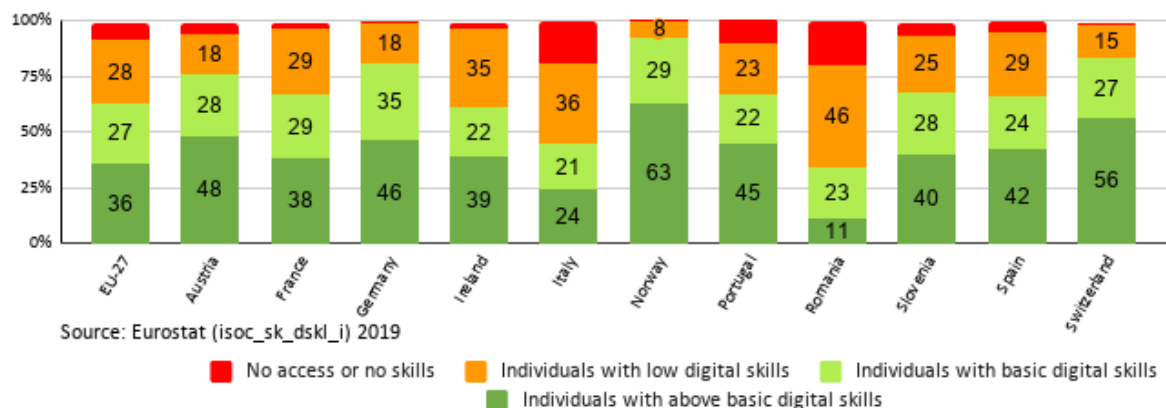


Figure 1. The level of digital skills of adults living in households with children in 2019, data for countries included in the study. Data source: Eurostat (isoc_sk_dskl_i) 2019.

Basic and above basic level of digital skills indicate that a person could use digital tools, for example, to communicate directly with schools or teachers, and to help look for various information sources on the internet. Such levels also enable basic content creation activities (e.g. word processing software) and handling of basic software issues (e.g. installing software, transferring files). Considering the activities required to support child's remote schooling, this level of digital skills could be regarded sufficient, at least to provide some basic support for digital remote schooling activities. However, regarding the use of internet for educational activities, only 24% of adults in households with children have done at least one of the following activities in 2019: used online learning material (17%); done an online course (10%), or communicated online with instructors or students (10%).

There are big differences in the level of digital skills within the EU. From the countries that participated in this study, in Austria, Norway, Germany and Switzerland over 75% of adults living in households with children have basic and above basic level of digital skills. However, this is the case only for about a 1/3 of

⁴ <https://en.unesco.org/covid19/educationresponse/consequences>

adults living with children in Romania. Moreover, at EU-level, 36% of adults living in households with children have low overall digital skills (orange bars) or alternatively, they might have no skills or they have not even accessed the internet in 3 months prior to the survey (Figure 1, red bars).

4. A selection of key results from the survey

In this report, the focus is on children's and their parents' digital activities and how they dealt with remote schooling during the spring lockdown in 2020. A number of key results from the KiDiCoTi-survey module on "Remote Schooling" are explored below. A more detailed in-depth analysis with more complete data tables will be published in the final report by the end of 2020.

4.1. Modes of emergency remote schooling

75% or more of the children in Italy, Norway, Portugal, Romania⁵ said to have daily online interactions with their teachers during the Covid-19 lockdown in spring 2020 (Figure 2). This amount was between 50-75% in France, Ireland, Spain and Switzerland, and between 34-41% in Austria, Germany and Slovenia. On the other hand, more than half of the respondents reported such online activities on weekly bases in Austria, Germany and Slovenia. Worryingly, a small percentage of children who participated in the survey reported infrequent contacts with their teachers (less than weekly) and not having participated in any online learning activities. This number varies from 11% in Ireland to less than 1% in Italy.

Figure 2 shows more detailed breakdowns of interactions and their frequency. The interactions include online learning activities with teachers, such as online classes or video conferences, and on the other hand, the frequency of online connections with teachers. The categories of daily, weekly and infrequently (=less than weekly) add up to 100% of respondents to this survey question. The frequency of online learning activities or teacher contacts describes the teaching arrangements put in place by national, local and regional school authorities, and how learners perceived them. As such, it is not indicative of the quality of learning that might have taken place during the classroom closure.

Frequency of online learning activities (e.g. online class, video conference) and teacher contacts during the lockdown in spring 2020

Computed variable for "Have you done online activities (such as an online class or video conference) with your teachers" and "How often did you connect online with your teachers during the time your classes changed due to the coronavirus?"

	AT	FR	DE	IE	IT	NO	PT	RO	SI	ES	CH
DAILY INTERACTIONS	41%	64%	34%	54%	84%	78%	75%	75%	43%	59%	57%
Daily teacher contact & daily online activities	1%	29%	19%	29%	64%	55%	52%	57%	18%	41%	28%
Daily teacher contact & weekly online activities or less	1%	1%	6%	12%	12%	15%	13%	9%	13%	12%	13%
Daily teacher contact & no online activities	5%	13%	6%	6%	5%	2%	2%	4%	5%	3%	9%
Weekly teacher contact or less & daily online activities	4%	4%	4%	6%	3%	7%	8%	6%	7%	4%	6%
WEEKLY INTERACTIONS ONLY	53%	30%	55%	35%	15%	19%	2%	2%	53%	38%	41%
Weekly teacher contact or less & weekly online activities	36%	2%	32%	25%	13%	14%	2%	2%	37%	31%	24%
Weekly teacher contact & no online activities	13%	4%	19%	6%	2%	3%	1%	2%	8%	3%	12%
Weekly teacher contact or less & Infrequent online activities	4%	4%	4%	5%	1%	2%	2%	1%	9%	3%	4%
NO ONLINE ACTIVITIES & INFREQUENT TEACHER CONTACT	6%	6%	10%	11%	1%	2%	1%	2%	4%	3%	3%

Replies by the child n=5499 (At=438, Fr=476, De=413, Ie=441, It=952, No=488, Pt=502, Ro=473, Si=461, Es=471, Ch=384)
Source: The KiDiCoTi-project coordinated by the Joint Research Centre - Created with Datawrapper

Figure 2. Frequencies of online interactions that children reported having during the Covid-19 lockdown in spring 2020.

⁵ In general, countries are listed in an alphabetical order

4.2. Learners' workload and daily hours spent online for school purposes

Learners in participating countries report to have spent more than half of their average daily online time using digital tools on activities for schooling purposes (Figure 3).

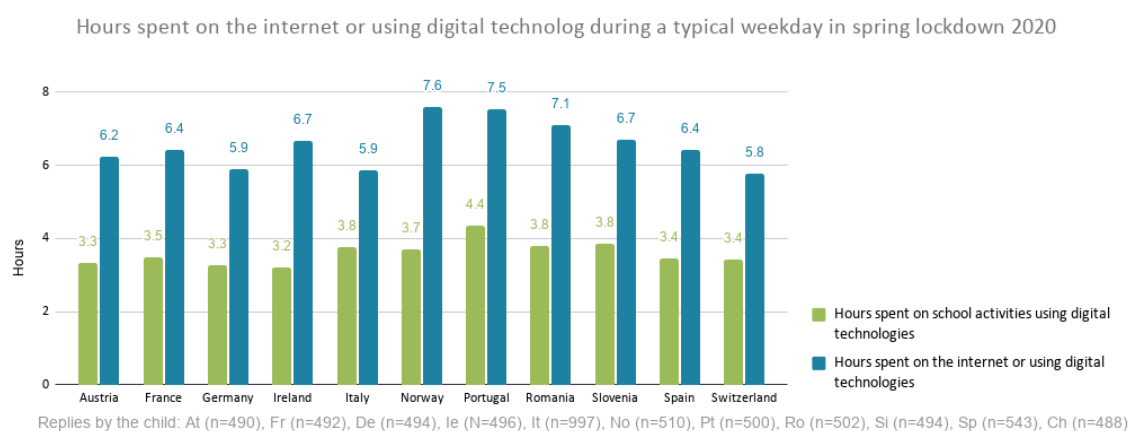
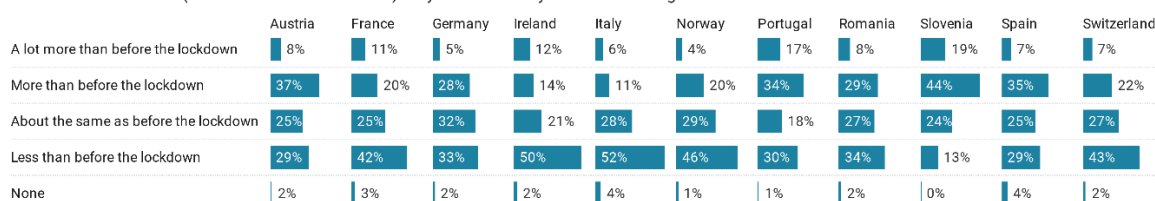


Figure 3. The number of hours children reported spending on the internet or using digital technology versus the numbers of online hours spent for school purposes (spring 2020).

The amount of school work, the combination of school hours and homework, was experienced differently both within the country and across them (Figure 4). In Slovenia (63%) and Portugal (51%), more than half of the respondents said to experience a heavier workload than before the lockdown. Moreover, between 30-45% of children in Austria, France, Germany, Romania and Spain reported similar increased workload. By contrast, in Ireland, Italy and Norway, about half of the children reported having less workload. Considering all participating countries, 18-32% of children did not perceive a difference in their workload in comparison to what they had before the lockdown. Similarly, in each country, a small number of children said not to have any schoolwork due to the Covid-19 outbreak.

Students' workload during emergency remote schooling in spring 2020

"How much schoolwork (school hours and homework) did you have when your classes changed due to the coronavirus outbreak?"



Replies by the child (n=5500)

Source: The KiDiCoTI-project coordinated by the Joint Research Centre • Created with Datawrapper

Figure 4. Students' perceptions of their workload during the emergency remote schooling (spring 2020).

4.3. Digital tools and activities

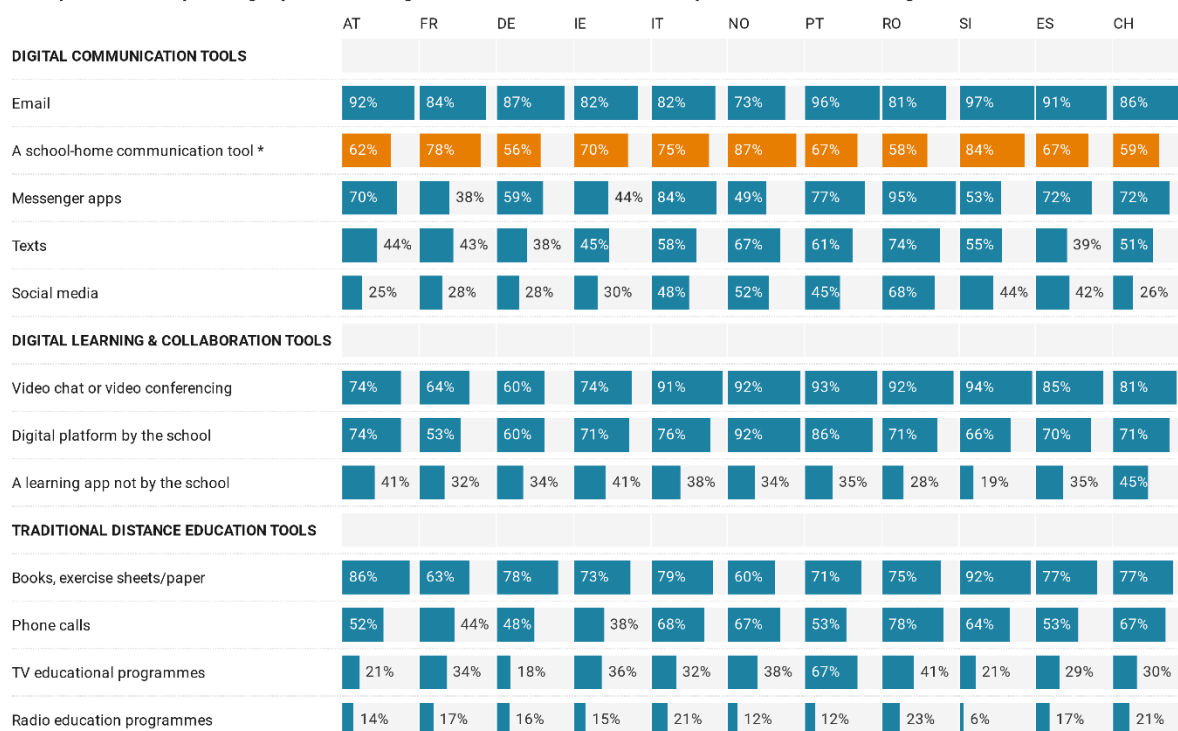
Learners and parents used a variety of digital tools during the Covid-19 lockdown in spring 2020 (Figure 5). The majority of learners reported having used video conferencing tools (e.g. Zoom, Microsoft Teams, Hangouts, Skype), the numbers vary from 60% in Germany to 94% in Slovenia. Similarly, many learners also reported having a digital learning platform provided by their school (ranging from 53% in France to 92% in Norway).

For communication purposes, parents in the majority of participating countries reported having used a digital application provided by the school to ensure school-home communication (ranging from 56% in Germany to 87% in Norway). Among children, the use of email was highest reported (from 73% in Norway to 97% in Slovenia) in addition to messenger apps (e.g. Whatsapp), texts and social media (e.g. Facebook,

Instagram, TikTok). Also, phone calls were reported by more than half of the respondents in Austria, Italy, Norway, Portugal, Romania, Slovenia, Spain and Switzerland.

Tools used for emergency remote schooling during the Covid-19 lockdown in spring 2020

"Have you been/ Were you using any of the following for school activities while classes at your school are/ were changed due to the corona virus?"



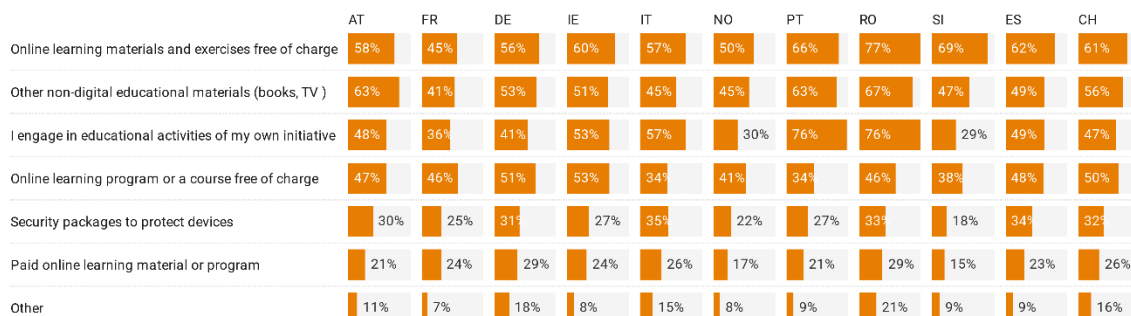
*Reply by parents (n=4294). All other replies by the child (n=5500), missing values not reported.
Source: The KiDiCoTI-project coordinated by the Joint Research Centre • Created with Datawrapper

Figure 5. Tools used for digital communication, and for teaching, learning and collaboration during the lockdown (multiple choice question). Replies by children except for the orange bars which are by the parents.

During the lockdown, the more traditional learning supports were equally used; around three-quarters of the respondent learners reported using textbooks and exercise sheets in most countries, although the number was lower in France, Norway and Portugal. Educational TV programmes were most popular in Portugal where 67% of the respondents used them, the amount being between 18%-41% in other countries.

Parental engagement in educational activities with their child during the lockdown in spring 2020

"Apart from what the school has provided, did you use any of the following for your child's education during the lockdown? Select all that apply"



Source: KiDiCoTI-project coordinated by the Joint Research Centre • Created with Datawrapper

Figure 6. Parental use of various digital and non-digital tools to complement educational activities organised by the school (multiple choice question).

Apart from the educational activities provided by the school, the parents who participated in the study were also asked about their engagement in complementary educational activities with their child during

the lockdown (Figure 6). More than half of the responding parents reported using free of charge online learning material and exercises, such as video recordings and online quizzes, in all countries but in France (45%). Similarly, free of charge online learning programmes or courses, such as a series of online classes on a topic taught at school or a MOOC (Massive Open Online Course), were popular. Their use ranged from 34% of parents in Italy and Portugal to around 50% in Germany, Ireland and Switzerland. Other non-digital learning materials, such as books and TV were also popular, however in France, Italy, Norway, Slovenia and Spain, this was reported by less than 50% of the parents. Notably, parents also reported the use of paid digital content, the percentage varies from 17% to 29%. In general, parents of young children (10-12 years) engaged more in complementary educational activities or provided their child with more complementary educational material than those parents with older children (Figure 7).

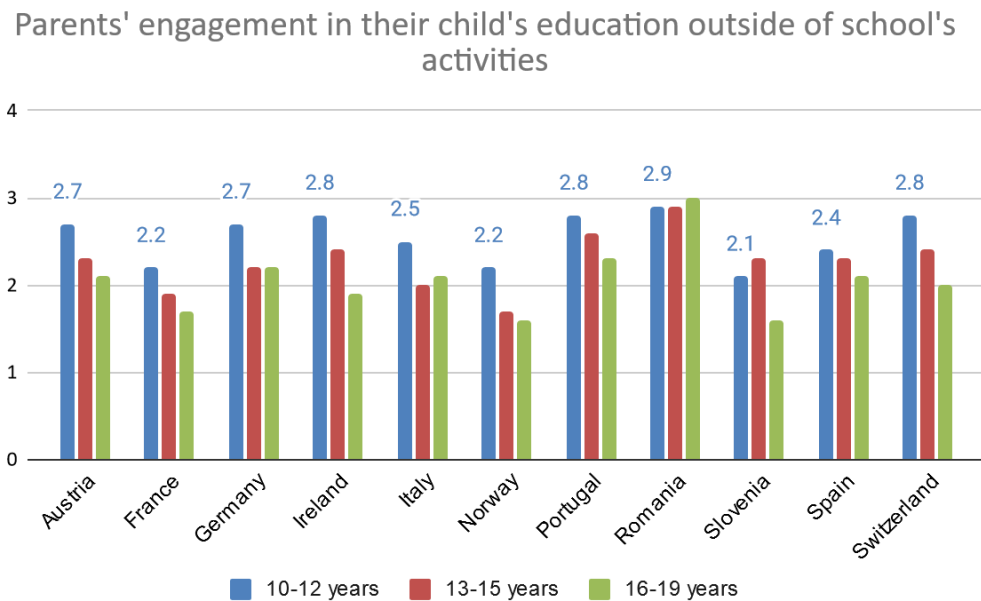


Figure 7. The average number of reported educational activities/material that parents reported is broken-down by the age of the child (Activities: online learning materials; paid online learning materials; online learning programmes; other non-digital educational materials; educational activities of own initiative).

4.4. Children and parents worrying about classroom closure due to Covid-19

The impact of the classroom closure and the move to remote schooling were a source of worry for both parents and children (Figure 8). In general, parents seemed to be more worried about its negative impact on their child's education (e.g. falling behind with schoolwork, failing in exams) than the children themselves. This was true for all participating countries but Romania and Slovenia, where the level of worry was even, and in Norway where the parents seemed less worried than their children. It is quite notable how the level of concerns vary across participating countries: both parents and children in Austria, Norway, Slovenia and Switzerland seem to be less concerned (average answers below 3), whereas in Ireland, Romania and Spain, both respondents seem much more worried (average answers above 3).

Impact of school closure: child's worry about not keeping up with schoolwork vs. parent's worry of the negative impact on education

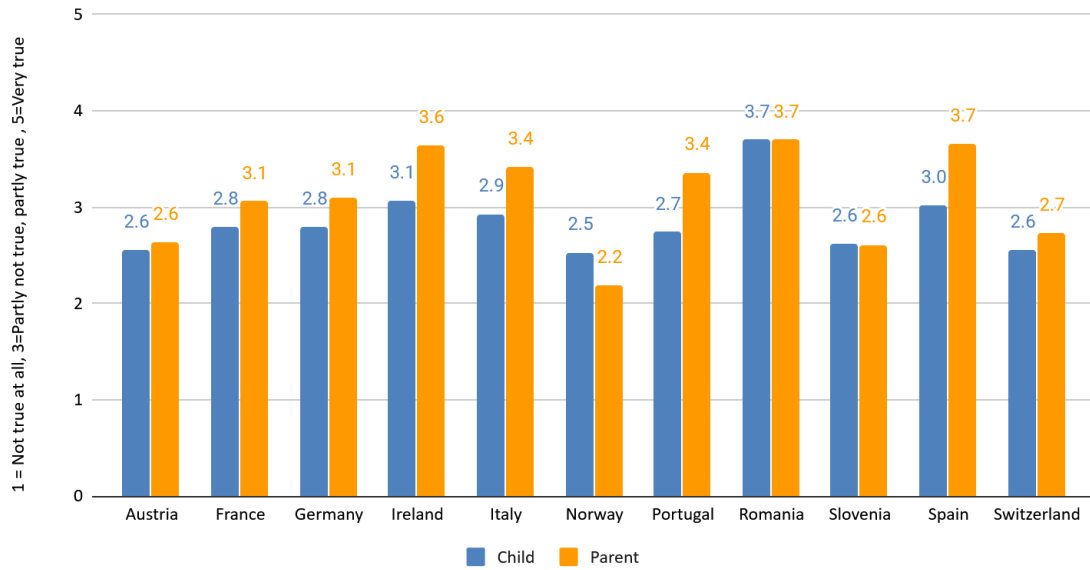


Figure 8. Parents' and children's worry about the impact of Covid-19 on education: the orange bars show the mean replies for parents, whereas the blue bars show the replies by children to the question "Were you worried about not being able to keep up with your schoolwork while your classes changed due to the corona virus?" (answer categories 1=not true at all, 3= partially not worried, partially worried, 5=very true)

The survey also focused on learners' worries and what they may feel when using digital technology for school. Across participating countries, 24%-43% of respondent learners expressed concerns about getting poor grades because of online activities due to the Covid-19 outbreaks (Figure 9). Only in a small number of countries (50% in Austria, 52% in Slovenia), around half of the respondents disagreed with the statement "I worry that I will get poor grades because of online activities". Moreover, between 20 and 32% in all countries responded the statement being "partly not true, partly true".

Thinking about the online activities (e.g. online classes or video conferences) with teachers and other classmates: "I worry that I will get poor grades because of online activities"

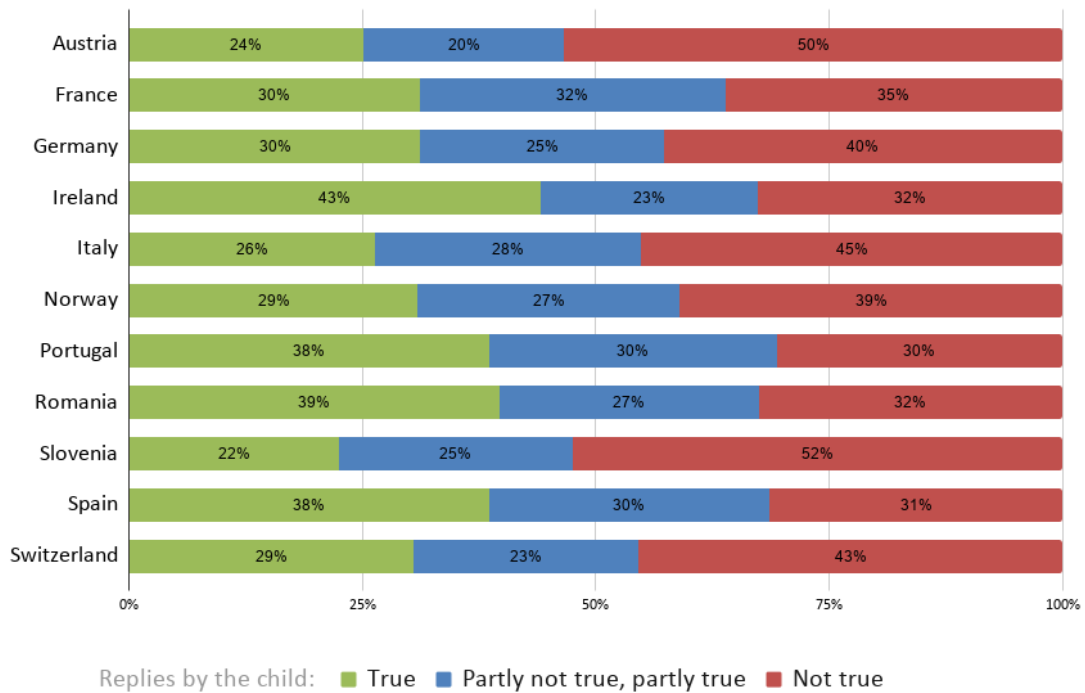


Figure 9. Children were asked to describe what they may feel when using digital technology for school on a scale from 1 to 5 (1=not true at all; 5=very true). The graph displays country averages in 3 categories: not true=1,2; partly not true, partly true=3; true=4,5.

4.5. Children's capacities to cope with online learning activities

The majority of parents in all participating countries estimated that during the spring lockdown 2020, their child had gained new digital competence in using digital technologies for online school activities (Figure 10, first row). Attributes such as gaining autonomy in using digital technologies, being able to conduct various online schooling activities and being able to help others in digital activities are all encompassed in the progression of one's level of digital competence (JRC, 2017).

Parents' perceptions of their child's online and distance learning skills during the spring lockdown in 2020

	AT	FR	DE	IE	IT	NO	PT	RO	SI	ES	CH
DIGITAL COMPETENCE FOR ONLINE SCHOOL ACTIVITIES	50%	59%	56%	60%	71%	65%	56%	72%	69%	71%	51%
1. My child has gained more autonomy, such as using digital technology for their school activities	51%	60%	58%	60%	71%	61%	54%	71%	69%	72%	52%
2. Overall, my child has become better at using all digital technology for their school activities	49%	58%	54%	60%	71%	66%	57%	72%	69%	70%	51%
3. My child has become better helping others with digital technology for their school activities	49%	58%	54%	60%	71%	66%	57%	72%	69%	70%	51%
OTHER SKILLS FOR REMOTE AND DISTANCE LEARNING											
4. My child has more self-determination and self-regulation with their school activities	54%	53%	60%	47%	61%	58%	39%	62%	38%	61%	54%
5. My child has become better at organising their school activities	44%	51%	53%	47%	61%	49%	39%	59%	46%	59%	44%
6. My child engaged more with school activities	35%	48%	45%	41%	57%	44%	36%	52%	50%	57%	37%

Answers by the parent (1.n=6085; 2.n=6074; 3.n=5890; 4.n=6072; 5.n=6079; 6.n=6084)
Source: The KiDiCoTi-project coordinated by the Joint Research Centre - Created with Datawrapper

Figure 10. Parents answered statements about online and distance learning during the lockdown on a scale from 1 to 5 (1=not true at all; 5=very true). The graph displays country averages for answer category 4=true and 5=very true.

Figure 10 also shows that parents estimated that their child gained other skills that are useful for remote and distance learning, such as more self-determination with school activities (ranging from 62% in Romania to 38% in Slovenia), becoming better at organizing them (ranging from 61% in Italy to 39% in Portugal) and being more engaged in them (ranging from 57% in Italy and Spain to 35% in Austria).

The participating children also showed positive attitudes towards online learning activities and their own capacities to cope with them. Across all participating countries, around two-thirds of the responding children said that they felt they learned quickly how to participate in online activities (Figure 11), with over 75% of students in Norway and Romania feeling this way. Learners' beliefs in their own abilities to cope with the classroom closure and online learning activities can have an association with their overall well-being, but it can also be strongly related to their successful learning (PISA 2012 results, p.95).

Thinking about the online activities (e.g. online classes or video conferences) with teachers and other classmates: "I learn quickly how to participate in online activities"

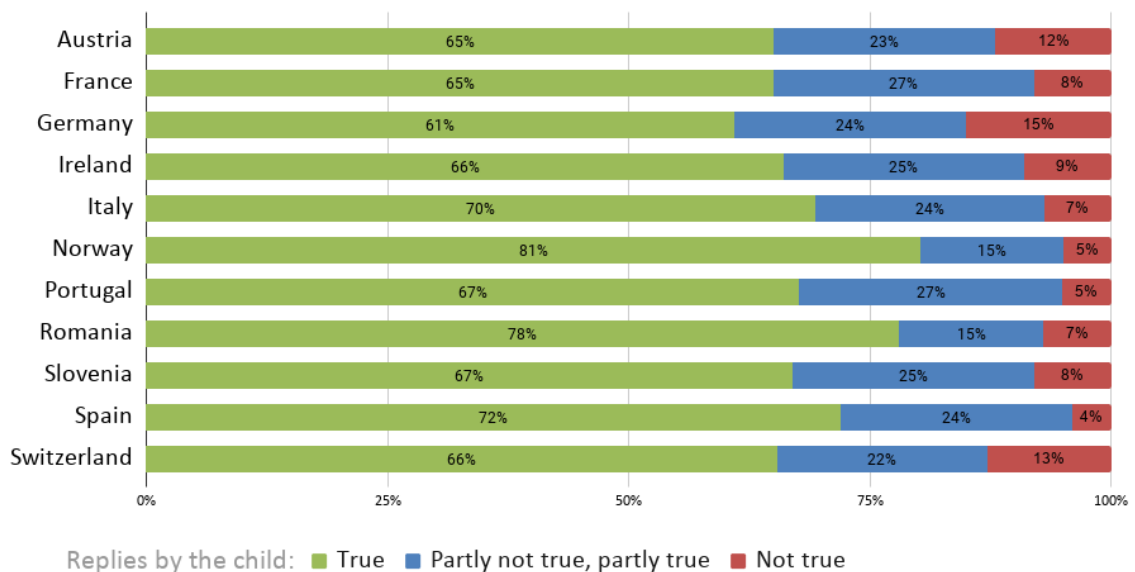


Figure 11. Children indicated their agreement with statements about their beliefs and abilities on a scale from 1 to 5 (1=not true at all; 5=very true). The graph displays country averages for answers in 3 categories: not true=1,2; partly not true, partly true=3; true=4,5.

Nevertheless, the family background could influence the way in which the children felt about their abilities and beliefs towards online learning activities. An index of child's positive attitude towards online schooling was adapted from PISA 2012 (OECD, 2014). Figure 12 shows the mean of answers by country which are further broken down according to families' self-estimated household income. A pattern emerges where children from families with below average household income seem to feel less strongly about their own capacities to cope with online learning activities than the other children. This could be observable in the majority of participating countries, but in Ireland, Portugal and Romania.

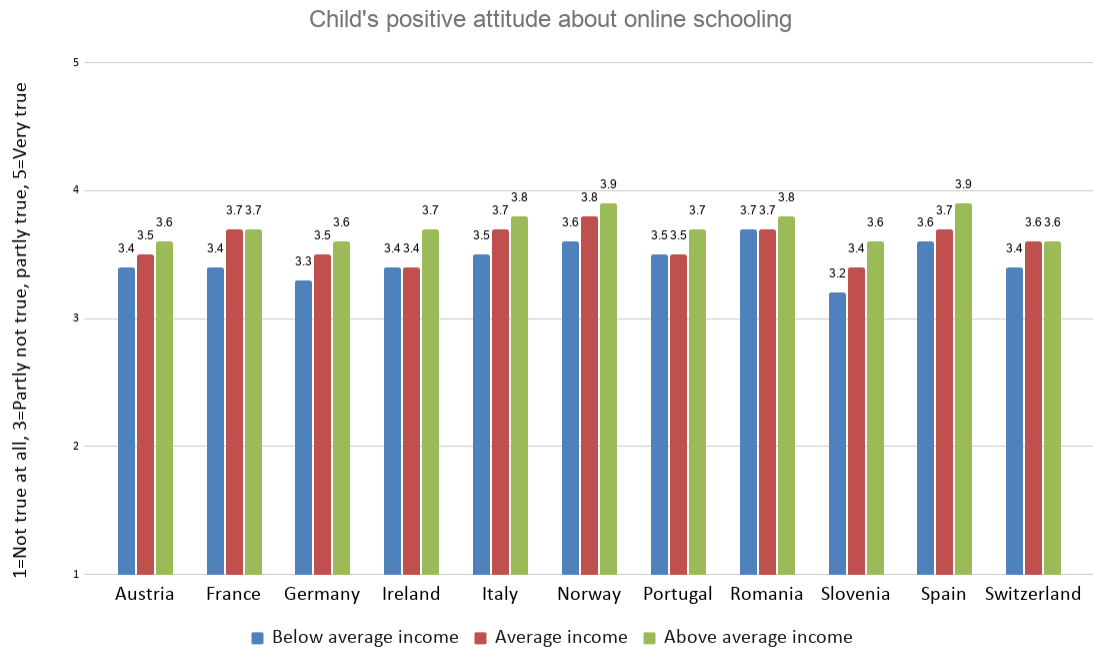


Figure 12. Child's positive attitudes about online schooling. The index is composed of child's agreement with 4 statements (I am motivated to participate in online activities; I learn quickly how to participate in online activities; I can follow even the most difficult teaching during online activities; I have always believed that I am good with online activities). Children answered on a scale from 1 to 5 (1=not true at all; 5=very true). The graph displays the mean by country broken down by parent's self-estimated household income.

4.6. Families need to be better supported for remote schooling

Families reported needing different types of support from schools. The high majority of the responding parents in Romania (90%), Portugal (89%), Ireland (86%), Spain (85%), Italy and Slovenia (84%) wished that the school provided possibilities for their children to do online educational activities with their classmates (Figure 13). Likewise, ideas for extracurricular activities to be done at home would be welcomed by parents especially in countries such as Romania (89%), Portugal (83%) and Spain (80%).

"What could the school provide in order for you to support your child better"

	AT	FR	DE	IE	IT	NO	PT	RO	SI	ES	CH
Activities for my child to interact and do educational activities with classmates online	73%	72%	63%	86%	84%	73%	89%	90%	84%	85%	73%
Guidelines on how to support my child with distance education activities and homework	66%	74%	64%	84%	82%	66%	87%	81%	83%	89%	66%
Ideas for extra curricular activities that could be done at home	61%	66%	54%	78%	78%	66%	83%	89%	66%	80%	58%
Guidelines on how to psychologically support my child during confinement	52%	60%	45%	74%	68%	52%	78%	79%	71%	73%	50%
Counselling/psychological support for my child	41%	55%	42%	63%	62%	43%	63%	66%	58%	69%	42%
Counselling/psychological support for the whole family	40%	43%	39%	51%	56%	31%	56%	56%	53%	62%	43%
Other	9%	10%	17%	14%	12%	12%	12%	16%	22%	19%	13%

Replies by the parent (n=5735)

Source: The KiDiCoTI-project coordinated by the Joint Research Centre • Created with Datawrapper

Figure 13. A multiple-choice question answered by parents about the support that they would expect schools to provide in a similar situation in the future.

Moreover, there was a high demand for guidelines by parents on how to support children with distance education activities and homework (varying from 64% in Germany to 89% in Spain). Guidelines would also be needed on how to support the child psychologically during the confinement by around ¾ of the

responding parents in Romania (79%), Portugal (79%), Ireland (74%) and Spain (73%). A very high number of parents would also like schools to provide counselling/psychological support for their child, e.g. in Spain (69%), Romania (66%), Portugal and Ireland (63%), and in Italy (62%). Such support for the whole family would be welcomed by more than half the responding parents in Spain, Romania, Portugal, Italy and Ireland.

5. Ramifications of the key findings

In the EU, the Digital Education Action Plan⁶ (2021-2027) has two strategic priorities: to foster a high-performing digital education ecosystem, and to enhance digital skills and competences for the digital age. As the preliminary key results of this study show, learners and their parents were able to take advantage of a variety of tools during the spring 2020 lockdown for remote schooling (e.g. Figure 5-6).

For remote schooling to guarantee more even, and better, pedagogical and social outcomes, two separate issues arise. Firstly, more work is needed to strengthen and streamline the availability and use of digital learning tools and activities for *effective* educational outcomes in the future. More screen-time and online activities do not necessarily equate with better learning. The use of conventional learning aids (e.g. paper-based textbooks, educational TV and inspirational educational off-screen activities) could form a key part of the education ecosystem in the future. On the one hand, this can help achieving a balance between screen time and off-screen activities, but also from an equity perspective, delivering instruction in ways that do not involve technologies is crucial. Secondly, teacher pedagogical practices and instructional strategies play a key role, too. Strengthening teacher pedagogical digital competence is important, for example through focusing on distance learning practices that allow better peer-learning and collaboration among learners. Tools such as the European Digital Competence Framework for Educators (DigCompEdu) can help⁷.

For students to make the most out of new technologies for learning, previous studies have shown that developing positive attitudes towards learning can help (e.g. Figure 9 and 11). Such attitudes towards learning can also be crucial in supporting learners to overcome some of the potential challenges, for example, those posed by online learning (OECD, 2020). Parents, together with teachers, play a fundamental role in supporting students to develop these attitudes. The results of this study show that designing targeted activities and support material (e.g. guidelines), which aim to reduce the burden on parents and teachers, would be needed to maximise the potential of remote schooling when regular in-person instruction cannot take place.

School systems and education authorities, together with school heads and educators, are stepping-up and enhancing the planning and design of education for any eventual lockdown or for a scheme that alternates in-person education with distance learning activities (e.g. hybrid learning). Sharing good practices that work at regional, local and national level is needed so that educators and school authorities can start adapting their instructional strategies to support learning and assessment effectively. Together with the Member States, the EU plays an important role in gathering and aggregating such insights and expertise. For example, more insights will be gained from an upcoming study called "*What did we learn from schooling practices during the Covid-19 lockdown? Insights from five EU countries*" (JRC, *forthcoming*) which, through interviews with educators and parents, gathered practices of what worked well, and areas for improvement, during the spring lockdown in 2020.

6. Further work

Within the KiDiCoti project, more thematic reports of the findings will be available towards the end of 2020 and spring 2021. The release in 2020 include an international thematic report on Online safety and privacy of 10-18 years olds in 11 countries (based on the same survey). Moreover, a cross-national analysis based on interviews on the digital online safety, education and well-being of children aged 6-12 years is

⁶ https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

⁷ <https://ec.europa.eu/jrc/en/digcompedu>

envisaged, in addition to more in-depth publications on remote schooling activities. The final KiDiCoTi report bringing all parts together is foreseen for spring 2021.

Additionally, country reports, either thematic or compilation, are planned by the participating countries. For already existing reports, see DCU (2020) for Ireland, Dias et al. (forthcoming) for Portugal, Trültzsch-Wijnen et al. (forthcoming) for Austria and Velicu, A. (2020) for Romania.

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8. Annex

Sampling and data collection procedure. The data collection procedure was completed by research company VALICON and is based on their panel sample. The target population for completing the survey was children between 10 and 18 years of age and their parents. Based on the VALICON's existing data (census of the age of household members), a pre-selection of individuals with children aged between 10 and 18 was made. If the parent respondent had more than one child in the target age group who was willing to participate in the second half of the survey, parents were advised to choose the child who would have the next birthday. The survey was conducted online, an English main version was translated to the respective language for the use in different countries. Before the collection of data informed consent was obtained from both the parent and the child

The final database consists of the answers of those respondents where both the parent part and the child part were completed. The data set in all countries reached the threshold of a minimum of 500 families. The lower number of children included in the dataset stems from the filter question ("Have the classes at your school been cancelled due to the coronavirus outbreak?" those answering "no" skipped the module on remote learning) or it is due to a lack of consent from the child (Table 1).The database was not weighted.

Table 2 shows basic information of data collection per country, including the period in which data was collected, the average duration of the survey in each country and the number of parents and children pairs that respondent per each country. In general, all country samples, except the sample of Slovenian parents, show a good gender balance. The gender imbalance is slightly larger among the children, and in all countries except Norway, the sons are in majority. Moreover, demographic results show distinct sample

differences in the distribution on degree of urbanity, housing arrangements, educational level and partly in self-reported level of income. For instance, while the majority of the sample of families from Spain and Romania live in large cities and in apartments, only 19 % of the Swiss families live in a large city, and only 16 % of the Irish families live in apartments. These differences may be relevant for the interpretation of the country differences reported.

Table 2. Basic information about data collection per country.

Country	Start	End	Mean	Median	Sample
AT	15.7.2020	30.7.2020	00:29:51	00:27:11	510
FR	22.7.2020	23.7.2020	00:29:07	00:22:16	544
DE	22.7.2020	24.7.2020	00:24:20	00:19:31	513
IE	17.7.2020	08.08.2020	00:33:26	00:29:23	504
IT	15.7.2020	22.7.2020	00:27:05	00:22:03	1028
NO	24.7.2020	9.8.2020	00:42:34	00:38:07	525
PT	20.7.2020	27.7.2020	00:33:24	00:29:44	510
RO	14.7.2020	29.7.2020	00:32:16	00:28:08	518
SI	23.6.2020	3.7.2020	00:36:11	00:32:35	506
SP	21.7.2020	23.7.2020	00:27:28	00:22:16	554
CH	21.7.2020	11.8.2020	00:32:54	00:27:12	502

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