# TWO CLICKS FORWARD AND ONE CLICK BACK

Report on children
with disabilities
in the digital environment

Building a Europe
for and with children

COUNCIL OF EUROPE

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Council of Europe

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# Executive Summary

Despite a considerable body of evidence on how, why and with what impact, children are engaging in the digital environment, there remains a dearth of information about the experiences of children with disabilities. In order to rectify that gap, the Council of Europe commissioned a study involving children in 6 countries (Belgium, Germany, Republic of Moldova, Portugal, Turkey, United Kingdom) to explore their views on how their rights were realised in relation to: access to the digital environment; impact on education, health, play and recreation; safety and protection; opportunities for increasing involvement in decision-making. The research employed a child-rights based, participatory approach, supported by four advisory groups of children with, respectively, intellectual, physical, hearing and visual impairments. The data was gathered through focus group discussions in each country, involving 79 children in the partner countries and 18 in the advisory groups (97 in total).

The findings indicate that although, in many ways, their digital and online lives are very similar to those of children without disabilities, there are a number of distinct and important differences with implications for policy makers and service providers at all levels.

**Diversity (right to inclusion):** The challenges and barriers faced by children with disabilities vary significantly according to the type and nature of the impairment. It does them a disservice to lump them together as an undifferentiated group. The requirements of children who use sign language or are blind, for example, are very different from those who lip-read or who have limited vision.

**Digital dividends (right to education, play, association):** The digital environment can be an enabler that brings significant 'added value' to children with disabilities in terms of the realisation of their rights. It opens up a range of possibilities for some children with disabilities and, when it works well, is considered to operate as an 'equaliser'. Technological developments have enabled many children with disabilities to find information, communicate, socialise, learn and play in ways that are not possible to the same extent in their non-digital lives.

**Disadvantage (right to non-discrimination):** Children with disabilities are disproportionately disadvantaged in terms of their ability to access and use the benefits of digital technology. Multiple barriers impede their access. Technological barriers deny many children with disabilities access to and use of many devices, websites and applications which are readily available to other children. Financial barriers can serve to limit access to adaptations and equipment which many children with disabilities need both at home and at school. The dominance of English online acts as a further barrier for children with disabilities from non-English speaking countries, who are already having to overcome the technical challenges of programmes and equipment inadequately adapted for their impairments.

**Discontinuity and disruption (right to equal access):** While it is commonly asserted that children are able to move seamlessly between the digital and non-digital environments, this is not the experience of many children with disabilities, who more frequently face discontinuity and disruption in their digital access. Such disruption might be between home and school, where phones are banned, computers lack the necessary accessibility features, or teachers lack the necessary expertise and knowledge to support them in use of appropriate technology. It can also arise in relation to healthcare or wider social settings where the lack of available or appropriate technology disrupts their access to services.

**Disclosing disability (right to privacy):** The participating children were unanimous in saying that they did not disclose their disability online. The reasons were varied, but included a fear that so doing would lead to discrimination or rejection, as well as the view that it was a personal issue and no-one else's business. Some children highlighted that use of adaptive technology had the effect of drawing attention to them, identifying them as having a disability and marking them out as different from their peers. For these children, the technology is a somewhat unwelcome signifier of their disability.

**Dealing with danger (right to protection from violence and exploitation):** The majority of children with disabilities across the study had been alerted to potential online risks. Many considered that they were no more vulnerable online, and faced and experienced the same risks as their peers without a disability. Children with intellectual impairments were an exception, being more likely to be more protected by parents and less likely to be online due to the perception of potential dangers. Children also highlighted that not being online did not mean that they were sufficiently protected from risks related to the digital environment, with visually impaired children, for example, describing being unaware of their photos being uploaded by others without their permission.

**Decision-making (right to respect for evolving capacity, to be listened to and taken seriously):** The findings suggest that children with disabilities may experience a triple barrier in the enjoyment of their rights: first, the fact that they are children poses a barrier to being heard and taken seriously; secondly, their disability often leads to negative assumptions about their capacities and competence in online decision-making; and finally, parents and other adults are often more protective of children with disabilities than other children. However, overall, the children indicated greater acceptance of parental controls than is found in other research with children, where children expressed frustration with parents' over-protectiveness and lack of understanding of children's online realities.

**These findings indicate that children with disabilities can both benefit and be disadvantaged disproportionately in the digital environment compared to children who do not have disabilities.** This underscores the need for far greater attention to be paid by governments, the digital industry, schools and healthcare services to the rights of children with disabilities. They also point to the importance of engagement with children with a diversity of disabilities to ensure that their direct experience is reflected in targeted laws and policies, as well as accessible services and digital design.

# 1. Introduction

Children and young people throughout Europe are growing up in a digital world. It is estimated that 1 in 3 Internet users worldwide are under 18 years old.[1] The Council of Europe has acknowledged the importance of action in this regard by adopting a recommendation elaborating on a comprehensive range of actions that States should adopt in order to promote and protect children's rights in the digital environment.[2] While there is a growing body of research examining children's experiences in the digital environment,[3] one group to whom relatively little attention has been paid is children with disabilities, a situation that 'dislocates children and adolescents with disabilities from important discussions of digital youth'.[4] As a result of the prevailing lack of information, the Council of Europe decided to commission a research study to investigate, with children with disabilities themselves, their experiences of using the digital environment, exploring the opportunities it affords, the barriers to access and challenges that they face.[5] The primary focus of the research was on children's experience of their rights to provision, protection and participation in the digital environment.

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1. Livingstone, S., Carr, J. and Byrne, J. (2015). *One in Three: Internet Governance and Children's Rights*. Paper Series No 22. Waterloo, Ontario: Centre for International Governance Innovation and The Royal Institute of International Affairs.
2. Recommendation CM/Rec(2018)7 of the Committee of Ministers to member States on Guidelines to respect, protect and fulfil the rights of the child in the digital environment. In the framework of the Ad hoc Committee for the Rights of the Child (CAHENF), where the present report was prepared, the Council of Europe is preparing a child-friendly version of the Guidelines and a handbook on children's rights and the digital environment (before the end of 2019). The Lanzarote Committee (on protecting children from online sexual abuse and exploitation) has also identified the online environment as a priority issue and is undertaking a mapping exercise. https://www.coe.int/en/web/children/-/call-for-consultants-baseline-mapping-end-online-child-sexual-exploitation-and-abuse-europe
3. See Livingstone et al supra n.1
4. See Alper, M. (2014). *Digital youth with disabilities*. MIT Press (p.9). She suggests that research has paid 'little attention to the day to day experiences of youth with disabilities when using new media and technology' (p. 3). Alper, M., and Goggin, G. (2017). Digital technology and rights in the lives of children with disabilities. *New Media & Society*, 19(5), 726-740.
5. This paper uses the definition of 'disability' as set out in the United Nations Convention on the Rights of Persons with Disabilities (CRPD): "Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others". The term "impairment" will be used to refer to different impairment groups; here, intellectual impairment, hearing impairment, visual impairment, and physical impairment, while "disability" will be used to denote the interaction of impairment with external barriers.

# 2. Research methods

The Council of Europe commissioned the Centre for Children's Rights (CCR) at Queen's University Belfast (Professor Laura Lundy, Dr Bronagh Byrne and Dr Michelle Templeton) and Gerison Lansdown, an expert in international children's rights, to conduct the study, which gathered qualitative data from children and young people with disabilities from six countries in Europe – Belgium, Germany, Republic of Moldova, Portugal, Turkey and the United Kingdom (Northern Ireland) – using a child rights-based, participatory approach.[6] This involved working with four groups of children with disabilities as advisors on the project. The groups were:

- ► Group 1: Children with intellectual impairments (n=5 - 3M; 2F);
- ► Group 2: Children with hearing impairments (n=4 -1M; 3F);
- ► Group 3: Children with visual impairments (n=3 - 2M; 1F);
- ► Group 4: Children with physical impairments (n=6 -1M; 5F).

The researchers, in collaboration with the child advisors, developed focus group questions to capture children with disabilities' experience of their human rights in the digital environment in diverse European contexts (see appendix 1). The research partners were:

- ► **Belgium** – Ghent University: Geert Van Hove, Silke Daelman and The Children's Rights Knowledge Centre (KeKi vzw): Sara Lembrechts and Kathy Vlieghe;
- ► **Germany** – University of Rhein-Main: Rita Richter Nunes and Heidrun Schulze. The focus groups were conducted by Sviatlana Artsiukhova, Walter Christian Grötsch, Andree Michel and Rita Richter Nunes;
- ► **Republic of Moldova** – Child Rights Information Centre: Viorica Cojocaru, Elia Cernolevschi and Smiljana Frick;
- ► **Portugal** – University of Minho: Ana Paula Loução Martins, Natália Fernandes and António José Osório;
- ► **Turkey** – University of Bilgi: Zeynep Kilic and Gozde Durmu.

In total, 97 children with a very diverse range of disabilities took part in the study either as advisors or as research participants. Please see Appendix 2, the Participant Matrix, for information on the research participants.

The research partners reported the data on a shared template which set out the core themes according to the interview schedule. Data was then analysed thematically using a framework based on the following four core sets of rights:

- ► Access to the digital environment
- ► Impact on rights to education, health and play and recreation
- ► Safety and protection
- ► Opportunities for decision-making and growing autonomy, including privacy and information.

When the research team had completed their initial analysis and interpretation of the data, a draft was forwarded to all partners to check the accuracy of interpretation and use of the individual quotations. The partners provided feedback and additional comments and suggestions, and clarified any outstanding issues.

From the initial analysis, seven core and/or cross-cutting themes were identified and it is these "Seven Ds" that are used to present the findings here:

- ► Diversity;
- ► Digital dividends;
- ► Disadvantage;
- ► Discontinuity and disruption;
- ► Disclosing a disability;
- ► Dealing with dangers;
- ► and Decision-making.

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6. Lundy, L., & McEvoy, L. (2012). Children's rights and research processes: Assisting children to (in) formed views. *Childhood*, 19(1), 129-144; Lundy, L., & McEvoy, L. (2012). What Constitutes a 'Rights-Based' Approach? *Law and childhood studies: Current legal issues*, 14, 75.

# 3. Main findings

Children with disabilities gave accounts of their digital lives that are similar in many respects to those of children who do not have disabilities. For many, their use and enjoyment of digital media (for information, education, play and socialising) echo those of other children their age.

> 'At home I am using three parallel screens. Playing games, listening to music, etc. at the same time. It's always important to stay focused (big smile).' *(physical impairment, Belgium)*

> 'People only see the bad in YouTube but look...these history videos, I know many things about history because I go to search on YouTube for videos about the earthquake of 1755…the Second World War, the First World War.' *(visual impairment, Portugal)*

> 'I learned a lot from Pinterest. I get a lot of great ideas: from being creative to baking cakes. I get an enormous amount of inspiration through this tool'. *(physical impairment, Belgium)*

> 'I have my own little clips and sketches and vlogs on YouTube that people can follow (send them a message if I produce a new item). I get a lot of support from my little community by liking what I produce. If they do that, it gives me a really good feeling.' *(boy, intellectual impairment, Belgium)*

> 'On Google, I can find everything I want for my soul. It keeps me informed of what happens in the world.' *(physical impairment, Republic of Moldova)*

Likewise, their frustrations (with siblings and parental and school restrictions) and concerns (about hacking, data privacy, advertising and offensive content) mirror those of other children.

> 'My brother… knows my code; he just grabs my cell phone, goes to WhatsApp and reads the chat history. That's so annoying.' *(physical impairment, Germany)*

> 'I recently saw that Facebook released personal data, that data should be protected. Facebook should protect that data better because it can put a lot of people in danger.' *(hearing impairment, Portugal)*

> 'We must be very careful because different strange photos may appear and disappear.' *(physical impairment, Republic of Moldova)*

> 'In Snapchat, I didn't know that there was this map where anyone can see where you are. Like I really don't want people to know where I am. It's kind of creepy.' *(visual impairment, UK)*

> 'I have two brothers and one sister. One of my brothers is addicted to Fortnite, so if we want to play, it always ends up in a discussion and complex negotiations.' *(physical impairment, Germany)*

> 'I already met a lot of hackers. They try to hack your account or your webcam. Sometimes it is related to cyberbullying.' *(physical impairment, Belgium)*

> 'I think that I was downloading a movie to the computer, off a website, and afterwards there opened an announcement of Micros...Microsoft…about a thing of spyware. I didn't know what that was. On the following day I turned on the PC…Jesus! I couldn't open any folder! It was all blocked! I don't know, I don't know, I opened the computer, nothing was navigable.' *(visual impairment, Portugal)*

That said, there were also some notable differences for children with disabilities in the digital environment that were apparent across the data. Their experiences indicate the following opportunities and challenges for delivering the rights of children with disabilities in the digital environment, presented under the seven core themes.

## 3.2 DIVERSITY

**Children with disabilities are not a homogenous group and it was clear that their use of digital media and experiences vary significantly across and within different types of disabilities.** Some children with disabilities (for example those with mobility issues) reported experiences that are identical in all material respects to children who do not have disabilities. Children with profound physical impairments were engaging with the digital world only indirectly with the support of others. Children with visual and hearing impairments reported that they have benefited considerably from accessibility features, but they, too, are not a homogenous group: interaction with and experiences of the digital environment for a child who uses sign language or is blind is very different from a child who lip reads or who has impaired vision. Likewise, children with intellectual disabilities have a diverse range of interests, aptitudes and opportunities. Examples of some of these very different experiences in children's own words are listed below:

> 'The hard part is having to jump fast [in games] because I cannot react with my thumbs so fast.' *(physical impairment, Germany)*

> 'One of our schoolmates walks around with a kind of toy; it looks like a mobile phone, but it does not function. We are not allowed to laugh at her...We try to involve her in our group at the playground and now and then we act as we are making phone calls with her.' *(intellectual impairment, Belgium)*

> '[Photographs to enlarge school worksheets] take lots of storage and I then have to delete a hundred thousand million pictures and it's really annoying.' *(visual impairment, UK)*

> 'Most of the games have subtitles but some don't…there are games that you have to know where the sound is coming from to be able to play the game well.' *(hearing impairment, Portugal)*

> 'It is difficult to use [apps and websites] on a phone – it's better on a big computer.' *(physical impairment, Republic of Moldova).*

It was apparent throughout the study that laws, policies and services on the digital environment, that conflate children of different ages, living in different contexts and with different disabilities under the single heading 'children with disabilities', have the potential to do them a disservice, underplaying the significant diversity in their lived realities of the digital world.

## 3.3 DIGITAL DIVIDENDS

**The digital environment can be an enabler that brings significant 'added value' to children with disabilities in terms of the realisation of their rights.** It opens up a range of possibilities for some children with disabilities and, when it works well, was considered by the advisory groups to operate as an 'equaliser'. While some of the challenges faced do not have digital solutions, technological developments have enabled many children with disabilities to find information, communicate, socialise, learn and play in ways that were not previously possible or are still not possible to the same extent in their non-digital lives. Children gave many examples of the ways in which digital technology enables them to do things that were not possible or easy in their non-digital lives. For example, children in the advisory group on hearing impairments explained how video-calling had transformed their ability to communicate in their own language with family and friends. Other examples were as follows:

> 'On the laptop I have a voice programme. I also use this for work and school thing. I can speak over the headset and that writes for me. That's really cool.' *(physical impairment, Germany)*

> 'The good thing about YouTube is that they show you how to do things step by step in an easy to follow time.' *(intellectual impairment, Belgium)*

> 'I think for physical disabilities Viber and Skype is useful because it allows me to communicate with friends at a distance.' *(physical impairment, Republic of Moldova)*

> 'Regarding the internet, these things, a few years ago it was worse, we can say so…now there are many more things…There are books, music CDs…' *(visual impairment, Portugal).*

While many children might enjoy the benefits of a voice search engine such as *Siri* or *Alexa*, the quality and value of these tools is of particular benefit to children who have visual impairments, intellectual impairments and some physical impairments. For example, the children from Turkey with intellectual impairments found voice-searches much easier than typing searches. Likewise, many children can benefit from search engines and spell checks,[7] but children with intellectual impairments reported that these were especially helpful for them.

> 'My Mother told me that it's very good to develop my writing skills because a lot of people have writing difficulties. So I use it and every time there is any kind of little mistakes, Facebook corrects it' *(intellectual impairment, Portugal)*

> 'I use Google Maps, because this programme is so helpful to find my way. I like the fact that it talks so I don't have trouble reading the screen' *(intellectual impairment, Belgium).*

A core theme across the research was how children were using technology or web-based resources, especially YouTube, for learning outside a formal school environment.

> 'During my life I have learned the most from video games, by being on the laptop…You keep trying and you learn from mistakes and new adventures…' *(intellectual impairment, Belgium).*

The examples given of learning and spending leisure time online were, of course, hugely diverse but included: playing the flute, cooking and planting beetroot! Lots of these are the same interests that many children without disabilities pursue with the help of the online world. However, the digital environment can be particularly important for some children with disabilities, given that they may have more restricted opportunities to pursue hobbies and interests in classes outside school. Moreover, in some cases, technology has made it possible for children to pursue activities like music and art that would not be possible or as easy for them if they only had access to non-digital resources. For example, one child with a physical impairment described how much he enjoyed playing instruments online, using a specially designed package. Likewise, a child with an intellectual impairment described the ways in which it was possible to be creative with photos:

> 'We use an App to be creative with pictures; working with stickers to make pictures more interesting for example or changing the layout of a picture.' *(intellectual impairment, Belgium).*

Many children valued the ability to communicate regularly with friends when they were not in school, an added benefit for those who attended schools for children with disabilities and did not live close to their classmates. Some children acknowledged the value of online groups for sharing information about programmes or games that were useful to children with their particular disability. One boy with a visual impairment from Portugal gave a long list of groups for the visually impaired that he was involved with and observed that these had improved a lot in recent years:

> 'There are many groups. I am integrated in different discussion groups of Google and two of IOL…The information is very useful, regarding the informatics, the news, the games, being informed regarding everything.' *(visual impairment, Portugal).*

Children with physical impairments can spend long times in hospital for surgery and several commented that, if they were in hospital, social media enabled them to keep in touch with classmates and also provided important opportunities for entertainment:

> 'I got an X-box from my dad and a tablet from my mum when I was recovering from a terrible surgery… I had to stay in bed for more than 4 weeks.' *(physical impairment, Belgium).*

## 3.4 DIGITAL DISADVANTAGE

Children do not have a specific right of access to the digital environment. However, they do have a right to enjoyment of their rights on an equal basis with other children (Art.7(1) UN Convention on the Rights of Persons with Disabilities, UNCRPD) and the right not be discriminated against in the enjoyment of their other rights (Art.14, European Convention on Human Rights, ECHR; Art 2, UN Convention on the Rights of the Child, UNCRC) including their rights to education, play, access to health care, and to protection. Children also have a right to freedom of expression and to seek, receive and impart information (Art. 10, ECHR; Art. 17, UNCRC). Access to technology often has a key role to play in enabling the realisation of these rights. However, across the study, it was apparent that **children with disabilities, irrespective of the nature of the impairment, are disproportionately disadvantaged in terms of their ability to access and enjoy the benefits of digital technology.**

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7. It is worth noting that some children with visual impairments found predictive text and spell checks frustrating, as they could change meaning automatically without them being able to check accuracy.

### 3.4.1 Technological barriers

The children reported that they often cannot access or use many devices, websites and applications readily available to other children. The barriers include, for example: a lack of subtitles on videos for deaf children; the inability to magnify text/images or lack of spoken explanations for children with visual impairments; the absence or limits of adaptations for children with physical impairments; and additional levels of security like the 'CAPTCHA', a type of challenge-response test used in computing to determine whether or not the user is human, that creates barriers and makes it 'hard to get on' for children with intellectual disabilities. Further examples of the barriers faced include the following:

> 'I would like all the information both online and offline to be more accessible by duplicating it in audio format.' *(visual impairment, Republic of Moldova)*

> 'It takes longer, if you have a developmental coordination disorder, to type everything.' *(physical impairment, Germany)*

> 'I just think on some apps like Snapchat, you know, when you're reading people's stories you can't make their writing bigger to see it so like they haven't got it bigger on their phone so then I can't read it.' *(visual impairment, UK).*

An issue arising repeatedly related to problems encountered in the design and accessibility of websites, applications and games, and the failure of these programmes to accommodate children with disabilities' needs:

> 'There are games where you have to know where the sound is coming from to play the game well.' *(hearing impairment, Portugal)*

> 'In some games that require a high level of responsiveness, I have problems because of the spasticity which is also in my hands.' *(physical impairment, Germany)*

> 'Billiards, any kind of games, those games, all kinds of games, there is nothing, nothing is accessible.' *(visual impairment, Portugal).*

### 3.4.2 Financial barriers

Existing research suggests that the cost of raising a child with disabilities is significantly higher than raising a child without disabilities and that people with disabilities in general face extra costs which amount, on average, to approximately an extra quarter above normal expenditure.[8] Article 20 of the CRPD states that people with disabilities should have access to quality mobility aids, devices, assistive technologies and forms of live assistance and intermediaries, and that these should be made available at affordable cost. However, it was apparent that children do not enjoy the same access to technology across or within the countries studied. While most children said that they had smart phones and tablets, and were using a range of apps and technological aids at school or at home, in contrast, some children were attending schools that did not have access to the internet or access to computers, while others attended a school which had some, albeit limited, facilities:

> 'There is not any computer in the classroom.' *(intellectual impairment, Turkey)*

> 'I dream of having a computer. My parents' computer is now being repaired, but I hope that my wish will be fulfilled.' *(intellectual impairment, Republic of Moldova).*

One young person in Portugal highlighted the importance of voice synthesisers for blind young people and the benefit of these now being pre-installed in computers and devices:

> 'It is very easy, it is a narrator controlling "Windows ENTER"…in other words "Freedom Scientifica" which is the company, is going to lose much profit, because Microsoft, now the Apple computers as well, have a synthesiser [already] installed…The iPhones already have access.' *(boy, visual impairment, Portugal).*

Yet, despite the clear possibilities that they offer, both the latest iPhones and Apple computers were devices that some of the young people did not have, because they were prohibitively expensive. Children in the advisory group on visual impairment stressed that everyone is an individual and may need bespoke equipment. They also suggested that software programs like 'ZoomText', which schools have to pay for, should be free for all those on the sight loss register. They argued that schools need more funding to pay for resources that can make education accessible. Others raised specific issues about the expense of adaptations and the need to pay for extra storage on mobile phones to cope with extra apps or photographs.

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8. Morgon Banks, L., Kuper, H., and Polack, S. (2017). Poverty and disability in low and middle-income countries: A systematic review, *PLoS One*, 12(12); Brawn, E. (2014). *Priced out: ending the financial penalty of disability by 2020*, London: Scope; Mitra, S., Palmer, M., Hoolda, K., Mont, D., and Groce, N. (2017). Extra costs of living with disability: A review and agenda for research, *Disability and Health Journal*, 10(4), 475-484.

Children also appeared to be aware of the challenging costs of digital technologies for families generally, noting that, if they had an unlimited budget, they would *'give a computer to everyone'*. It is particularly interesting to note that children with disabilities appeared to be aware of the exacerbated financial disadvantage that could arise when disability came into play:

'There are also many unemployed people who have no money. Then the disabled are just super poor, especially if they are in an environment where they, for example, have no voice computers.' *(intellectual impairment, Germany).*

### 3.4.3 Linguistic barriers

Diversity was also often connected to the language spoken; children who speak English have many more opportunities to engage online than children who do not. Some of the Portuguese children expressed frustration that the videos or games that they wanted to enjoy were in English only:

'I have another game as well which is Herofly – it's a kind of aviation game, there is a plane…it offers learning and studying the world, on the one hand it's a game, on the other, let's say a bit educational…But there was not a version in Portuguese.' *(visual impairment Portugal).*

While some turned to resources from Brazil to widen their access, it was their view that children, disabled or not, have more access to the online world when they are anglophones, or have the ability to speak or read in English. While this challenge is not limited to children with disabilities, for them, it can serve as an additional barrier, compounding any potential technical challenges they experience.

It is also notable that some children who speak English as a first language expressed frustration that voice-recognition programmes did not recognise their diverse regional accents and that they had to speak with a 'classic' English accent to be understood:

'You've to do an English accent, yeah, but I'm not very good at it.' *(visual impairment, UK).*

The advisory group of children with intellectual impairments conducted an experiment on one member's phone. He loaded Siri and asked the question, 'How was the planet formed?' *Siri* recognised this as, 'How did the clown perform?' The experiment was repeated again in a more standard English/British accent, which *Siri* interpreted accurately.

### 3.5 DISCONTINUITY AND DISRUPTION

Research suggests that digital media do not constitute a separate reality for many children who do not have disabilities and that most children move seamlessly across their digital and non-digital lives. However, across the study, it was clear that this was not the case for most children with disabilities, who often encounter discontinuity and disruption in their digital access.

'My programmes are often blocked. It really makes me nervous…Then you have to re-start and now and then stuff gets lost.' *(intellectual impairment Belgium)*

'YouTube has some videos that have subtitles. But, for example, in Facebook, most of the videos don't have subtitles so they aren't adapted to us.' *(hearing impairment, Portugal).*

In education, discontinuity can occur when children are moving within school (where personal phones are often banned and classroom computers do not always have the accessibility features they need, or they do not always work consistently); and moving from school to home (depending on whether there is permission for specialist equipment to stay with the child).

'The PCs in the library don't have the programme installed…I have two options: I bring mine from home and put in in the library or I bring my mobile phone. Or, well, I stay there and watch the ships.' (Portugese saying meaning 'missing the opportunity') *(visual impairment, Portugal)*

'Sometimes they allow, but sometimes they don't. Because it is forbidden at school. So, I put [my phone] in my bag'. *(Intellectual impairment, Turkey).*

'There is a JAWS program installed but is not licensed and it does not work well.' *(visual impairment, Republic of Moldova).*

Some of the disruption and discontinuity was attributed to the adults in their lives, particularly teachers, not understanding how to support them to use digital technology.

'And the experts at school are not always the experts you know, sometimes nobody knows how to solve certain problems with these programmes…' *(physical impairment, Belgium)*

'I'm really bad at telling people if they need to make it bigger because I just get so embarrassed I just can't do it. I do tell them but then, if they don't get it the second time, I'm like arrghh for god's sake. I just can't be bothered like I've told people so many times'. *(visual impairment, UK)*

'There are no teachers that can help us with digital technology.' *(intellectual disability, Republic of Moldova).*

There can also be discontinuity arising from the lack of appropriate technology available in other social settings (e.g. shops, restaurants) where the availability of technology varies).

'It's important to have equipment in the school cafeteria like the one in McDonald's. Because when I go, it is hard to tell the employees what I want...But I don't want the school employees to be unemployed!' *(hearing impairment, Portugal)*

'I know you can get menus up on your phone but an app would be quicker that has pictures and you can zoom in on your phone. It would be so much easier. When my friends are getting things like a milkshake, I just get the exact same thing because I can't see.' *(visual impairment, UK).*

Additional challenges arise for children with both hearing and visual impairments in negotiating the move, in a health clinic or surgery, from the waiting room to the doctor, where announcements may not be accessible to all. Again, what is needed varies depending on the nature of the disability:

'It's not the first time that I stay in hospital all day long because I can't hear them calling them me.' *(hearing impairment, Portugal)*

'You know the light board they have that rolls by with your name. Well it's like red lights on a browny background and is sooo hard to see. If I was there by myself I wouldn't be able to see it myself and I'd be sitting there and miss my appointment…' *(visual impairment, UK).*

## 3.6 DISCLOSING A DISABILITY

The opportunities that the internet provides for defining and redefining identity is an area well-researched in the mainstream population, but significantly less is known about children with disabilities' experiences of identity formation and representation in the digital world.[9] Children also have a right to privacy, and in particular the right not to disclose their disability (Art. 8 ECHR; Art 16 UNCRC). **When asked if they disclosed the fact that they had a disability online, they were almost unanimous in saying that they did not.** This finding aligns with previous research from Norway that found that young people with disabilities actively concealed their impairments.[10] A variety of reasons were given. For some children, it just did not arise. For others, it was considered to be no one's business. Others worried that they would be rejected or bullied or put in danger if they disclosed their disability.

'Why do I have to tell them about my problem?' *(Republic of Moldova)*

'They do not need to know. If I know and my family, that's enough. Why do they need to know that? I do not know how they handle my data?' *(physical impairment, Germany)*

'It's complicated. Sometimes I tell them. When I am talking with girls, I only tell them if it is necessary (joking).' *(boy, hearing impairment, Portugal)*

'No. It's not fair to tell. They can reject me.' *(physical impairment, Republic of Moldova)*

'Sometimes I tell people I am deaf and they discriminate against me, so I don't tell everyone.' *(hearing impairment, Portugal).*

While digital technology can be enabling for children with disabilities, using it, even when it is helpful for communication etc., is not necessarily an exclusively positive experience. Some children spoke about how assistive technologies (such as screen readers) or even the use of standard devices (such as iPads) at non-standard times (e.g. in classrooms) had the effect of drawing attention to the children, identifying them as having a disability and marking them out as different from their peers. For these children, the technology is a signifier of their disability and one that they avoid if they can. One girl whose visual impairment is connected

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9. For discussion of this in the context of adults with disabilities, see Bowker, N., and Tuffin, K. (2002). Disability discourses for online identities, *Disability and Society*, 17(3), 327-344.
10. Söderström, S. (2009). Offline social ties and online use of computers: A study of disabled youth and their use of ICT advances, *New media & society*, 11(5), 709-727 at 722. See also Kaushansky, D., Coe, J., Dodson, C., McNeeley, M., Kumar, S., and Iverson, E. (2017). Living a secret: Disclosure among adolescents and young adults with chronic illnesses, *Chronic Illness*, 13(1), 49-61, – in a sample of 25 young people, over 70% of respondents reported using social media, yet no one reported disclosing or discussing their condition on any of these platforms.

to her condition (albinism) suggested that it would be better if everyone used iPads in school, since the use of the technology compounded the difference she felt in her appearance:

'In school I stand out enough with the iPad but with this hair…' *(visual impairment, UK).*

## 3.7 DEALING WITH DANGER

Children are entitled to protection from abuse and sexual exploitation (Lanzarote Convention; Art. 19 UNCRC). Of additional relevance to children's digital lives is Article 17(e) of the UNCRC, which requires States parties to *'encourage the development of appropriate guidelines for the protection of the child from information and material injurious to his or her well-being'.* The significant opportunities which the digital world presents for children, generally, are also accompanied by particular risks and potential threats to their rights, through exposure to inappropriate material or images, solicitation from strangers, cyberbullying, harassment and sexual abuse. This is exacerbated by the fact that the internet is 'age-blind' and it can be difficult to provide and ensure the appropriate protections for children.[11]

For example, the advisory group of children with intellectual disabilities told us that typing a search term like 'boyfriends' could lead to inappropriate search results.

Research suggests that children with disabilities, and children with intellectual impairments in particular, are more likely to be subject to 'overprotection' than children without disabilities.[12] In a digital context, Bannon, et al.[13] found that, while young people with disabilities showed high levels of awareness of online risks, and could be exposed to distressing sexual content and behaviour, they did not always know how to put protection strategies in place.

Many of the children in the study reported experiences of being approached by strangers or being sent inappropriate content:

'There were uncomfortable questions I was asked.' *(intellectual impairment, Republic of Moldova)*

'I started talking to a person in Alentjo (a region of Portugal) and after that stuff started to happen…personal stuff. And my mother never let me do that again.' *(intellectual impairment, Portugal).*

On the other hand, it is notable that **the majority of children with disabilities across the study considered that they were no more vulnerable online than their peers without a disability**. In essence, they felt that they faced and experienced the same risks as others and that some children might feel more comfortable or be more familiar with the risks posed by digital technologies irrespective of disability.

'It is the same…the same to an adult woman, the same to other adults, children, youths…they can't free themselves from the dangers of the internet.' *(visual impairment, Portugal)*

I think it is complete nonsense, because there are also people without disabilities, who probably do not feel so comfortable using the Internet and there are also people with disabilities who feel comfortable on the Internet.' *(physical impairment, Germany)*

'We're just like the other kids.' *(visual impairment, Republic of Moldova).*

Children with intellectual impairments were an exception to this: they were more likely to be subject to additional protection from parents and were less likely to be online due to the perception that this was too dangerous for them.

'I am a "daddy's girl"; my father always warns me if he hears a story about child abuse and the internet on the news.' *(intellectual impairment, Belgium)*

'I would [use Messenger or WhatsApp] but my mother found out about it and took it away from me. Like she did with Instagram.' *(intellectual impairment, Portugal)*

'My mother installed a special code, so I am protected. I can't visit websites where they ask for money to play.' *(intellectual impairment, Belgium).*

11. Livingstone, S., Lansdown, G., and Third, A. (2017). The Case for a UNCRC General Comment on Children's Rights and Digital Media, LSE Consulting/Children's Commissioner.
12. See for example, Franklin, A., Raws, P., and Smeaton, E. (2015). *Unprotected, overprotected: meeting the needs of young people with learning disabilities who experience, or are at risk of, sexual exploitation*, Barnardo's Scotland and Scottish Consortium for Learning Disability; Priestley, M. (2001). *Disability and the life course*, Cambridge: Cambridge University Press.
13. Bannon, S., McGlynn, T., McKenzie, K., & Quayle, E. (2015). The positive role of Internet use for young people with additional support needs: Identity and connectedness. *Computers in Human Behavior*, 53, 504-514.

Not being online did not, however, protect children from all potential risks associated with the digital environment. Some children with intellectual impairments were aware that peers were talking about them online, for example, because their school friends would tell them what was being said. For other children, the dangers of the digital environment were more nuanced. Children with visual impairments spoke of their concern at not being aware of when photographs of them had been uploaded, where this was done without their knowledge or permission.

The findings suggest that most children with disabilities had been repeatedly warned of the dangers of the digital environment, usually by their parents. In fact, children in the advisory group for children with hearing impairments suggested that they were the safest group in the world since they had been warned so strongly and so often of the dangers of the online world. In a similar vein, some children argued that the ongoing efforts to protect them made them more wary than other children.

> 'I would say that I have no surveillance. But I generally believe that disabled children are more cautious than non-disabled children on the internet as well as in real life, I suspect.' *(physical impairment, Germany)*.

Few children appeared to question their parents' decision not to allow them to use certain websites or apps, with one child with a visual impairment from Portugal saying *'[i]t is only for protecting me.'* However, there were mixed responses across the study when the children were asked if parents were more protective towards them because of disability. Some children felt that there was no distinction in treatment between them and siblings who did not have a disability. Others considered that they were more likely to be protected. One child made a strong case for more equal treatment.

> 'That's a case for the parents themselves. If they do that, then one can't do anything, because of the parents…I would not be like that, if I was a mother and I had a disabled and a non-disabled child, I would protect both. I would somehow protect both of them equally.' *(physical impairment, Germany)*.

## 3.8 DECISION-MAKING

Children have the right to freedom of expression, to hold opinions and to be heard and have their views taken seriously (Art. 10 ECHR; Art. 12 CRC; Art. 7(3) CRPD). This applies equally to the digital environment. Children with disabilities, like other children, are dependent to a significant degree on adult permission to access the digital environment. Many of the restrictions that they face are the same as other children their age and are an indication of adults trying to act in their best interests, often as a way protecting them from harm. However, the findings suggest that **some children with disabilities, particularly those with intellectual impairments, are more likely to be subjected to adult restrictions and to enjoy less autonomy than other children.** The findings suggest that some children with disabilities may experience a triple barrier in the enjoyment of their rights: first, the fact that they are children poses a barrier to being heard and taken seriously; secondly, the fact that they have a disability is often accompanied by negative assumptions about their capacities and competence in decision-making in the online environment; and finally, parents and other adults are often more protective of children with disabilities than other children.

> 'They won't let me do almost anything. I want to do something I want and they tell me I can't'. When the researcher asked if they explained why, he said: 'No. Most of the times, no. Sometimes they do.' *(intellectual impairment, Portugal)*

> 'Teachers almost never ask our opinion, we have a perspective too you know, and perhaps it would be helpful if somebody really listened to us.' *(physical impairment, Belgium)*.

It was striking that few of the children criticised the decisions made for them and, in fact, many appeared to understand and accept that parents were acting in their best interests. This indicates a more positive acceptance of parental controls than is found in other research with children, where a certain degree of frustration with parents' over-protectiveness, or failure to understand children's online realities, emerges from children in a number of countries:[14]

> 'I accept it as far as possible. It's alright but I do not think it's great when she is watching in my video history of what I was watching. I accept it, it's only for my best, my mom would not hurt me.' *(intellectual impairment, Germany)*.

However, some children described strategies that they use to avoid parental restrictions:

> 'I am not allowed to use my phone for the whole weekend. Nonetheless, I take it secretly with me to my room. Nobody knows…*(big smile)*' *(intellectual impairment, Belgium)*.

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14. Third, A. et al. (2017). *The State of the World's Children 2017 Companion Report, Young and Online: Children's perspectives on life in the digital age,* UNICEF.

Children often reported a failure to consult them on technology that they needed and would work best for them and that, at times, the devices and assistive technology that they were given, for example, in school, did not work well for them. When asked what they would do with the budget if they were the Children's Minister, one boy said he would buy equipment, *'but accessible and necessary ones, not unnecessary ones'* (visual impairment, Portugal). Moreover, some children in the advisory groups thought that their schools were trying hard to accommodate them, but were anxious about or resistant to trying new things. For example, children in the advisory group on visual impairments suggested that the school should let them take tests/exams on their iPads, rather a paper version that may not be available in their preferred font and font size. They thought that schools were 'set in their ways' and closed off to their ideas on how to make things better.

Few of the children interviewed in this study had been involved in designing technology, apps or websites, although one group of children at a school in Germany reported that older children were working on designing an app to help with healthcare needs. However, many of the children had creative ideas about would work best for them. They all saw benefit in opportunities for talking to businesses about how to incorporate existing computer technology software, for example, eye-gaze technology or computer scanning of symbols, into phones.

Across the study, children also had many ideas to contribute to developments in the digital environment, and the laws and policies that apply there, which would support them. Some examples of the many suggestions they gave are as follows:

> 'I saw this news in the internet, on YouTube, that there is a kind of glasses that – imagine you were walking in the street and it reads you the names of the streets, reads you the names of clothes' colours, – imagine you had your uncle passing in front of you and you could, and then the glasses would stay fixed there in the picture of what they've read and you could tell your glasses the name which you want the glasses to repeat when they saw this person but the name which they repeat with is your own voice.' *(visual impairment, Portugal)*

> 'I would suggest that there would be a detector to stop people who are harmful to children *(physical impairment, Republic of Moldova)*

> 'If someone talks very quietly. A microphone with a small integrated speaker that transmits in normal volume. That one understands what he or she means.' *(physical impairment, Germany)*

> 'I'd like to easily access emergency services from the screen, which would be designed for children with limits to their movement.' *(Physical impairment, Republic of Moldova)*

> 'Establish a law: all the websites in the internet have to be adjusted for visually impaired people. Whoever doesn't do this has to pay a penalty of 500 thousand Euros which could be for learning.' *(visual impairment, Portugal).*

# 4. Conclusions and recommendations

Children with disabilities enjoy a range of human rights protections, many of which are relevant to digital environment.[15] The Council of Europe has identified a broad range of recommendations for member States that are necessary in order to respect, protect and fulfil the rights of the child in the digital environment.[16] The following recommendations build on this work and the findings from the children with disabilities taking part in this study to elaborate the specific measures needed to ensure that the rights of these children to access and engage in the digital environment are realised on the same basis as those of all other children.

## 4.1 GOVERNMENT ACTION

Much of the responsibility for the creation of safe and inclusive digital environments rests with governments and parliaments. The following actions emerge as necessary to achieve that goal:

► Laws and policies on the inclusion of children with disabilities must be reviewed to ensure that they adequately address the digital environment;

► Advice, guidance and resources should be provided to individual schools to ensure that they are using the widest possible range of assistive and other technology available;

► When developing measures to protect children and young people from online abuse and harassment, cyberbullying, grooming and other potential online harms, active consideration must always be given to the particular risks faced by children with disabilities, with particular regard to issues of concern for children with intellectual impairments;

► Information about online safety and protection provided by governments must be made available in accessible formats, including easy-to-read versions for children with intellectual impairments. This should include details of how to report concerns or who to contact via accessible mediums;

► Information about online safety and protection for children with disabilities, tailored to the needs of children with different types of impairment, must be available to parents/guardians, teachers/educators and other professionals working with children;

► Governments must involve children with disabilities in the design and delivery of policies and services that impact on their access to and enjoyment of the digital environment;

► Legislation should be introduced requiring or encouraging all public and private bodies to review their policies, services, products and resource allocation, to ensure that children with disabilities are not discriminated against in their access to and use of the digital environment.

## 4.2 THE DIGITAL INDUSTRY

Consistent with the digital industry's responsibilities to protect human rights, measures should be undertaken to ensure that the digital environment is as fully inclusive as possible.[17] In order to achieve that goal, a commitment to systematic consultation with the disability community, including children with disabilities, is necessary to address the following:

► Identify the design adaptations necessary to ensure that digital equipment is as accessible as possible, taking into account all different impairments, and reporting on how they have made those adaptations to support access by children with disabilities;

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15. These include: the Council of Europe's European Convention on Human Rights and Fundamental Freedoms (1950), the European Social Charter (revised) (1996) and Lanzarote Convention (2007; and the United Nations Convention on the Rights of the Child (1989) and Convention on the Rights of Persons with Disabilities (2006).

16. Recommendation CM/Rec(2018)7 of the Committee of Ministers to member States on Guidelines to respect, protect and fulfil the rights of the child in the digital environment.

17. Office of the High Commissioner for Human Rights (2012) *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework,* United Nations

▶ Adapt the design and development of online reporting mechanisms, age verification tools and information filters, to ensure they are accessible and appropriate from the outset;

▶ Ensure that opportunities available in respect of online communication, gaming, networking and entertainment, are as inclusive as possible for all children, regardless of disability. This will necessitate action with regard to, for example, design, speed, visuals, colour contrasts, language;

▶ Identify potential privacy-related concerns when children with disabilities are using technology, and working to ensure that children's right to privacy, including their right not to disclose that they have a disability, may be better protected in the digital environment.

## 4.3 ACADEMIC INSTITUTIONS AND SCHOOLS

Both the training of teachers and those within school environments need to be cognisant of the potential of the digital environment for learning, safety, play, access to information and social engagement. Accordingly, the following actions are required:

▶ Pre-service teacher training courses should provide opportunities for teachers to be familiarised with all relevant assistive technology for the classroom, taking into account the needs of children with different disabilities;

▶ Schools should adopt inclusive policies designed to promote a culture of recognition that every child is entitled to participate fully in the life of the school, including, where necessary, through provision of the necessary assistive technology and equipment;

▶ All staff, including non-teaching staff, should be fully aware of and committed to the implementation of inclusion policies;

▶ All schools should undertake an analysis of children's needs, and, where possible, provide the assistive technology, facilities and digital equipment required to ensure the fullest possible participation of every child;

▶ Children with disabilities should be consulted on how best to ensure their fullest possible access to all aspects of school life, including through the use of assistive technologies and the digital environment;

▶ Assistive technology should be embedded on all computers and devices in schools, not just those used by children with disabilities;

▶ Education and support services for parents and families, including siblings, should address ways in which children with disabilities can be supported to be as autonomous as possible in the digital environment while ensuring that they understand risks and are safe;

▶ Children with disabilities should receive information and support, tailored to their circumstances, about how to protect their identity and privacy in the digital environment.

## 4.4 HEALTH SERVICES

Health services emerged from the study as an area where there was significant opportunity for utilising the digital environment in order to strengthen opportunities for access to health care:

▶ Hospital administrators, professionals, clinics and surgeries should consult with children with disabilities to explore ways of employing digital technology to remove barriers and enhance access to services for children with different disabilities;

▶ Online health websites should be available in formats accessible to children with all disabilities;

▶ Children with disabilities should be provided with comprehensive guidance on the availability of accessible online health information, including on sexual and reproductive health.

# Appendix 1: Participant Matrix

| Country | Groups | No. | M | F | Age |
|---|---|---|---|---|---|
| **UK Advisers** | 1 – Intellect | 5 | 3 | 2 | 13-15 |
| | 2 – Hearing | 4 | 1 | 3 | 13-17 |
| | 3 – Visual | 3 | 2 | 1 | 14-15 |
| | 4 – Physical | 6 | 1 | 5 | 15-16 |
| **Total** | **5** | **18** | **7** | **11** | **13-16** |

| Country | Groups | No. | M | F | Age |
|---|---|---|---|---|---|
| **Belgium** | 1 – Intellect | 8 | 6 | 2 | 15-18 |
| | 2 – Physical | 7 | 5 | 2 | 14-17 |

| Country | Groups | No. | M | F | Age |
|---|---|---|---|---|---|
| **Germany** | 1 – Mixed | 4 | 4 | 0 | 12-15 |
| | 2 – Intellect | 5 | 3 | 2 | 13-14 |

| Country | Groups | No. | M | F | Age |
|---|---|---|---|---|---|
| **Portugal** | 1 – Hearing | 8 | 7 | 1 | 17-18 |
| | 2 – Intellect | 7 | 2 | 5 | 12-19 |
| | 3 – Physical | 1 | 1 | 0 | xxxxx |
| | 4 – Visual | 5 | 5 | 0 | 11-14 |

| Country | Groups | No. | M | F | Age |
|---|---|---|---|---|---|
| **Republic of Moldova** | 1 – Mixed | 8 | 4 | 4 | 13-17 |
| | 2 – Mixed | 10 | 6 | 4 | 13-17 |
| | 3 – Visual | 6 | 1 | 5 | 13-15 |
| **Turkey** | 1 – Intellect | 5 | 4 | 1 | xxxxx |
| | 2 – Intellect | 5 | 2 | 3 | 13-17 |

| Country | Groups | No. | M | F | Age |
|---|---|---|---|---|---|
| **Overal Total** | **17** | **97** | **57** | **40** | **11-19** |

# Appendix 2: Focus Group Schedule

## 1. ACCESSING THE DIGITAL WORLD (INFORMATION/ EXPRESSION/NON-DISCRIMINATION)

► What devices do you use? (e.g. computer/smart phone/tablet) (and are certain devices better for certain activities and why)?

► You could use the 'laptop activity' here to get them thinking about computers.

► Which websites and apps do you use mostly?

► You could use the 'Guess the App' game here to get the conversation going.

► Are any of these especially good for children who have intellectual disabilities/hearing/visual impairments or physical disabilities? If so, what are they and why do you find them so useful?

► Are there any websites/apps etc. that you are not able to use in the same way as other children? If so, which ones and what are the difficulties?

► Are there any that you are not permitted to use (e.g. by your parents/carers). If so, why?

► Are you able to get all the specialist equipment or software you need to go online? Is there anything you would like to use that you cannot get (too expensive, for example)?

## Specific prompts:

**Intellectual disabilities**: Are they online at all? Most of the Children's Research Advisory Group (CRAG) were not online and said that was because their parents were protecting them from bullying and 'rude' things.

**Hearing impairments**: Do they check which apps have good subtitles and use them consistently? Are there some that are voice-activated (e.g. *Siri* and *Alexa*) that they cannot use? For children who sign, ask if there is anything they use that lets them access signing? For signing children, check whether they find that reading is difficult/tiring.

**Visual impairments**: Which apps have good accessibility features? Are there any that they would like to use but cannot? What about those that rely on voice recognition – are these helpful (e.g. *Alexa*, *Siri*)? Are they able to access specific software (e.g. Zoomtext, Dolphin screen reader, JAWS, supernova magnifier) and/or hardware (larger monitors, keyboards with larger letters)?

**Physical disabilities**: Do they rely on an adult/teacher/parent to set up computer equipment and search websites for them? Do they mind having an adult always nearby when they are on the computer? For the more severely disabled…Have they access to advanced eye-tracking and head-switching technologies?

## 2. IDENTITY (AND PRIVACY)

► Do you protect your name/identity online? How?

► Are you in any online groups or use websites that are for other children who are deaf/blind/have physical disabilities?

► When you are online, do you let people know that you have a disability? If not, why not?

**3. PROVISION**

## Education

- ► Are there devices/programmes/websites that help you to learn?

- ► Is there any digital technology that you cannot use in school because they are not accessible?

- ► Are your teachers and classroom assistants able to support you to use digital technology? If so, what would help them to help you?

(OPTIONAL) Are you allowed to use your smartphone in school?

(OPTIONAL) (If children attend a residential school, are there any issues there that affect their ability to use digital technology or smart phones).

## Specific prompts:

**Intellectual disabilities**: Do they have a support assistant? Are they trained and capable with digital technology?

**Hearing impairments**: Do they use the same hearing aid technology in school? Can they bring anything helpful home with them? (NB the CRAG said that teachers don't use aids consistently/don't use it well; break it; and that they aren't allowed to bring the extra aids home in case they break or lose them). Do your teachers and support staff understand how to use any hearing aid technology? Do they use it consistently?

**Visual impairments**: Are you allowed to use an iPad in school? Do you have access to a computer with a larger monitor/specialist hardware/software in school? Are teachers aware of available software that can help you access curriculum material? Do they use it consistently?

**Physical disabilities**: Are there some websites/apps you know about that may be useful to help with your learning that your teachers may not use? The CRAG used YouTube videos for education while some claimed their schools restricted the use of this app.

## Play and leisure

- ► Do you play computer games on- or offline? Are these easy for you to use? What are the difficulties and what would make them better?

- ► (If using apps to communicate with friends and family), are these easy for you to use? What would you change about any of these apps?

## Specific prompts:

**Intellectual disability**: Lots of the children in the CRAG played computer games but were not allowed to do these online (e.g. in games where you could talk to strangers or even friends). Even though they were not allowed online, some knew that people were talking about them online, as their friends had told them.

**Hearing impairments**: The CRAG were clear that social media was a great enabler/equaliser for them when communicating with their friends. If they sign, do they worry about their own privacy or other people's privacy if they are using Facetime or other apps where they can be seen talking? If they play online games with friends, do they struggle to communicate (one of the CRAG says he has to text friends and then it is too late in the game).

**Visual impairments**: the CRAG layed games on Xbox and could connect to the internet to talk with friends. However, the controllers, which had black buttons on a black background – became easier as they got more familiar. Are there advantages in talking with friends in this way compared to apps? CRAG did not engage with apps to communicate to a large extent as functions/buttons etc. are not always accessible – could make mistakes in clicking wrong icons/emoticons. They maintain a small group of 'friends' on these platforms, and are self-conscious about posting photographs and communicating on media platforms. If using accessibility features such as enlargement/magnifier do they worry about privacy?

**Physical disabilities**: For those with severe difficulties and/or who are non-verbal, who cannot use a mobile phone/computer: Would you like to be able to access this technology if a device was available that you could use (e.g. eye-tracking, head switch technology)?

## Healthcare needs

NB – This will only apply where the children use digital technology to communicate.

- ► Do you use digital technology to communicate with doctors or nurses or other people who look after your health?
- ► Do the people who look after your health have the technology they need to communicate with you? Do they know how to use it?

## Specific prompts:

If digital technology would help and they aren't using it, do they have to rely on other people (e.g., parents) to talk to the people who look after their health? Can they communicate privately if they want to?

**Hearing impairments**: Are there any issues with their audiologists? How do you know when it is your turn for appointment at the audiologist or at the doctor's/hospital? Can you contact them via email/text messaging/app? If you use sign, can you access a remote sign language interpreter online?

## 4. SAFETY

- ► Has anything happened to you that made you feel worried or unsafe online? If so, what did you do about it? If not, who would you talk to if you felt unsafe online?
- ► Do you think children with disabilities (e.g. who are deaf/blind/have a physical disability, etc.) are more or less safe than other children online?
- ► Do you think that parents are more protective of children with disabilities (e.g. who are deaf/blind/have a physical disability) when they are online (than children without a disability)?
- ► What could be done to make you feel safer online?
- ► (OPTIONAL) – If you feel unsafe in the real world, is there a good way that you can communicate easily with emergency services (police/fire/ambulance?) Note – this may only apply to children who cannot use a mobile phone and/or make a voice call.

## Specific prompts:

**Intellectual disabilities**: The sense here is that they were not allowed online as it was considered too dangerous. Is this the case for the young people in your group?

**Hearing impairments**: The CRAG considered that they were not less safe than others. They considered the greatest challenge to their safety was the lack of a good way of communicating with emergency services (fire/police/ambulance) in an emergency

**Visual impairments**: CRAG felt they were not less safe than others. They felt that the greatest issue was ensuring all young people with visual impairments had access to information about how to block other people online or report negative/abusive comments.

## 5. IMPROVEMENTS TO SERVICES

If you were Minister for Children and had an unlimited budget to improve the rights of children with disabilities (i.e. like you) in their digital lives, what two things would you do?

**www.coe.int/children**

**www.coe.int**

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organisation. It comprises 47 member states, including all members

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