

## 4

PUBLICUM

---

## Combating Discrimination: Internet Literacy to Strengthen Children's Rights in the Digital Environment

*Domenico Rosani*

University of Innsbruck, Department of Italian Law, Innsbruck, Austria. E-mail: domenico.rosani@uibk.ac.at.

---

### Abstract

The Internet has opened up innovative pathways for children to participate in social life. Besides making available an extensive body of knowledge and enhancing their communication, it has allowed children to show support for issues they care about. Giving children a voice in the public debate, digital technology may critically improve the democratic character of society and foster equality. However, the Internet is also a complex phenomenon and requires relevant knowledge and the competence to sift through information, searching and evaluating content. Such a pivotal need for 'Internet literacy' bears a remarkable potential for discrimination. Research has pointed out that only a small percentage of children reaches the most advanced step of Internet usage, with individuals with a higher socioeconomic status more likely to produce creative and politically relevant content than disadvantaged people. The article specifically focuses on the European situation, analysing the relevant legal framework to foster Internet literacy and children's rights in the digital environment. It explores some pivotal pathways to address the issue together with the different actors, whose involvement is made unavoidable by the interdisciplinary nature of the digital world. This article argues for a stronger awareness on the risk of discrimination arising from the need of Internet literacy for children. Consequently, it advocates for a coordinated educational response by public and private actors to improve children's rights in the digital environment irrespective of existing social inequalities.

### Keywords

Children's rights; digital technology; Internet literacy; participation; discrimination.

## ***Combate à discriminação: educação digital para fortalecer os direitos das crianças no ambiente digital***

### **Abstract**

A Internet abriu caminhos inovadores para as crianças participarem da vida social. Além de disponibilizar um extenso corpo de conhecimentos e aprimorar sua comunicação, permitiu que as crianças mostrassem apoio aos problemas com os quais se preocupam. Dando voz às crianças no debate público, a tecnologia digital pode melhorar criticamente o caráter democrático da sociedade e promover a igualdade. No entanto, a Internet também é um fenômeno complexo e requer conhecimento relevante e competência para filtrar informações, pesquisas e avaliação de conteúdo. Uma necessidade tão essencial de educação digital traz um potencial notável de discriminação. Pesquisas apontam que apenas uma pequena porcentagem de crianças atinge a etapa mais avançada do uso da Internet, sendo que indivíduos com um status socioeconômico mais alto são mais propensos a produzir conteúdo criativo e politicamente relevante do que as pessoas desfavorecidas. O artigo concentra-se especificamente na situação europeia, analisando a estrutura legal relevante para promover a educação digital e os direitos das crianças no ambiente digital. Explora alguns caminhos fundamentais para abordar a questão junto com os diferentes atores, cujo envolvimento é inevitável pela natureza interdisciplinar do mundo digital. Este artigo defende uma conscientização mais forte sobre o risco de discriminação decorrente da necessidade de educação digital para crianças. Consequentemente, defende uma resposta educacional coordenada de atores públicos e privados para melhorar os direitos das crianças no ambiente digital, independentemente das desigualdades sociais existentes.

### **Keywords**

Direitos das crianças; Tecnologia digital; Educação digital; Participação; Discriminação.

### **Table of Contents | Summary**

Introduction; 2. New participatory perspectives on the Internet and their impact on the rights of the child; 3. The need for Internet literacy; 4. Internet literacy and the risk of discrimination; 5. Different actors taking responsibility; 5.1 The family; 5.2 Educational actors; 5.3 The business; Conclusion; References.

## Introduction

A few years ago, it was stated that adults ‘use’ technology, while children ‘live’ within a world of technology.<sup>1</sup> In light of the growing digitalisation of life, the latter feature could nowadays hold truth also as regards people of age. Still, children widely use information and communication technologies (ICTs).<sup>2</sup> An estimated one in three Internet users worldwide is below 18 years,<sup>3</sup> while their presence on social networking sites and instant messaging services is an essential component of the social life of today’s teens. The Internet has vastly replaced ‘the street’ as the default playground for children where they can enjoy recreation and indirectly gain essential social experience, as somewhat rhetorically stated at the 2014 General Discussion of the UN Committee on the Rights of the Child (hereinafter: the UN Committee).<sup>4</sup> In recent years, the intrusiveness of technology has exacerbated and ‘always-on’ devices have become ubiquitous.<sup>5</sup> Children go online on more personal devices and toys have started to become connected to the Internet.<sup>6</sup> The importance for children to access and use digital ICTs, and the latter’s potential to indirectly promote all children’s rights, are terrific.<sup>7</sup>

However, despite its crucial relevance for all of society, awareness of the role of the children on the Internet has developed only recently. Children’s needs have long been ignored when formulating policies and legislation, or left to parents, or considered undemanding because they were supposed to be ‘digital natives’.<sup>8</sup> On the contrary, children need specific knowledge and competencies to make the best of the Internet. The mere ownership of devices without

---

\* The author gratefully acknowledges the contribution to this article from different very valuable friends and colleagues, who reviewed it linguistically and provided feedback on it.

<sup>1</sup> UN Committee on the Rights of the Child (ed), *Report of the 2014 Day of General Discussion 'Digital Media and Children's Rights'* (2014), 9.

<sup>2</sup> In the following, this article will refer to ‘digital ICTs’, ‘digital technology’ and ‘digital media’, meaning with these general terms all those devices and services working in a digital form.

<sup>3</sup> Sonia Livingstone, John Carr & Jasmina Byrne, *One in Three: Internet Governance and Children's Rights* (2016), 15 f. The authors note that most future growth in the online population will relate to the Global South, where the population outnumbers the Global North’s one.

<sup>4</sup> UN Committee on the Rights of the Child (ed), *supra* n. 1, at 4. Please note that the UN Committee is currently working on a General Comment on ‘children’s rights in relation to the digital environment’.

<sup>5</sup> Lina Jasmontaite & Paul De Hert, *The EU, children under 13 years, and parental consent: a human rights analysis of a new, age-based bright-line for the protection of children on the Internet*, 5 *International Data Privacy Law* 20-33, 20 (2015).

<sup>6</sup> On this topic cf. recently Giovanna Mascheroni & Donell Holloway (eds), *The Internet of Toys* (Springer 2019). As regards the use of connected toys in South America, especially Brasil, cf. Chiara Spadaccini de Teffé & Carlos Affonso Souza, *Connected Childhood: Digital Rights and Education* (2017th ed. 2018).

<sup>7</sup> Recommendation No. 85: UN Committee on the Rights of the Child (ed), *supra* n. 1, at 18.

<sup>8</sup> Professor Sonia Livingstone as cited in *Ibid*, at 3. As a striking European example, children were not considered in the framework of the EU Data Protection Directive 1995, nor were they mentioned in the Directive on Privacy and Electronic Communications 2002. Only the General Data Protection Regulation (GDPR) – the uniform body of rules aiming at protecting and regulating the use of personal data in the European Union – introduced specific provisions on children.

appropriate skills and a supportive social context can ultimately exacerbate inequality,<sup>9</sup> with only children from richer environments climbing the ladder of technological opportunities.

This article aims to reflect on the risk of discrimination for children arising from the need of such a 'Internet literacy' to actually benefit from technology. In doing so, it indicates some possible strategies to counteract it. The article opens engaging with the relevance of the Internet for implementing children's rights nowadays. In this connection, it analyses the relevant legal framework on children's rights, with special regard to the United Nations Convention on the Rights of the Child (para. 2). In the following, the article argues that a profound 'Internet literacy' is needed to critically approach technology (para. 3). It follows from it that socially disadvantaged children are at risk not to properly benefit from the Internet, with technological innovation perpetuating existing inequalities (para. 4). To avoid such a risk of discrimination, the different actors children are in touch with need to provide a coordinated educational answer. The article specifically reviews the role of families (para. 5.1), formal and informal education actors (para. 5.2) and the business (para. 5.3). While specifically focusing on the European situation, this contribution makes bridges to relevant pieces of research concerning other regions of the world. Several of its considerations are also valid beyond political boundaries.

## 2. New participatory perspectives on the Internet and their impact on the rights of the child

The Internet has opened up new critical pathways for children to improve their situation and take part in social life. This situation sheds new light on several rights of the child, especially on those aimed at enhancing children's participation. This contribution does not advocate for new 'digital rights',<sup>10</sup> nor does it tackle the question if Internet access should be recognised on its own as a fundamental right.<sup>11</sup> In the following, we will rather briefly examine how the Internet has provided a new implementation dimension to the scope of existing children's rights. In this framework, the

---

<sup>9</sup> Shakuntala Banaji, Sonia Livingstone, Anulekha Nandi & Mariya Stoilova, *Instrumentalising the digital: adolescents' engagement with ICTs in low- and middle-income countries*, 28 *Development in practice* 432, 432, 437 (2018).

<sup>10</sup> Amanda Third, Sonia Livingstone & Gerison Lansdown, *Recognizing children's rights in relation to digital technologies: challenges of voice and evidence, principle and practice*, in Ben Wagner, Matthias C. Kettman & Kilian Vieth (eds), *Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations* (Elgar 2019), 376–410.

<sup>11</sup> On this topic, from a European perspective, cf. Lina Jasmontaite & Paul De Hert, *Access to the Internet in the EU: a policy priority, a fundamental, a human right or a concern for eGovernment?*, in Ben Wagner, Matthias C. Kettman & Kilian Vieth (eds), *Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations* (Elgar 2019), 157–194.

focus will be on selected rights as provided for by the United Nations Convention on the Rights of the Child (UNCRC).<sup>12</sup>

First, the Internet has made an extraordinary body of knowledge available to every child, as long as they have a functioning Internet connection. This situation positively impacts on different Convention's provisions. First and foremost, it affects one of the most widely recognised rights of children<sup>13</sup>, namely the right to education (Articles 28 and 29)<sup>14</sup>. In this context, the term 'education' refers both to formal and informal settings.<sup>15</sup> In addition, the UNCRC also requires states to 'ensure that the child has access to information and material from a diversity of national and international sources' in order to provide children with a diversity of viewpoints (Article 17).<sup>16</sup>

Second, digital technologies have an instrumental value in supporting children to become aware of, claim, and enact their rights.<sup>17</sup> For instance, the Internet may support children's right to enjoy the culture, religion or language of the minority group they may belong to (Article 30). Also more broadly, technology enhances the stance of children's freedom of association and participation in social, cultural and political life,<sup>18</sup> as well as their right to privacy (Article 16) and to rest, leisure and play (Article 31).<sup>19</sup> In addition, children can inform themselves on the Internet about services and institutions they can resort to. As an example, young people living in abusive environments may more readily resort to helplines and support services or consult health information they are not provided with by their family or community.<sup>20</sup>

---

<sup>12</sup> It is worth remembering that children enjoy all the rights generally provided for 'everyone'. Other relevant international acts specifically relevant for children are, among others: the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the Convention on the Rights of Persons with Disabilities, the Revised European Social Charter, the EU Charter of Fundamental Rights. On this topic cf. Wouter Vandenhoe, *Distinctive characteristics of children's human rights law*, in Eva Brems, Ellen Desmet & Wouter Vandenhoe (eds), *Children's Rights Law in the Global Human Rights Landscape. Isolation, Inspiration, Integration?* (Routledge 2017), 21–36 at 21.

<sup>13</sup> Laura Lundy & Patricia O'Lynn, *The Education Rights of Children*, in Ursula Kilkelly & Ton Liefwaard (eds), *International Human Rights of Children* (Springer 2019), 259–276 at 260.

<sup>14</sup> Education should be directed to the development of 'the child's personality [...], respect for human rights and fundamental freedoms [...] and '[t]he preparation of the child for responsible life in a free society', among others aim: Article 29.

<sup>15</sup> United Nations Committee on the Rights of the Child, *General comment No. 1 (2001): The aims of education: CRC/GC/2001/1* (2001), para 2.

<sup>16</sup> John Tobin & Elizabeth Handsley, *Art. 17 The Mass Media and Children: Diversity of Sources, Quality of Content, and Protection against Harm*, in John Tobin (ed), *The UN Convention on the Rights of the Child: A Commentary* (1d ed.: Oxford University Press 2019) at 620.

<sup>17</sup> Sonia Livingstone & Amanda Third, *Children and young people's rights in the digital age: An emerging agenda*, 19 *New Media & Society* 657, 667 (2017).

<sup>18</sup> Frank La Rue, *Promotion and protection of the right to freedom of opinion and expression: Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression* (2014), 16.

<sup>19</sup> On these topics cf. Eva Lievens, Sonia Livingstone, Sharon McLaughlin, Brian O'Neill & Valerie Verdoodt, *Children's Rights and Digital Technologies*, in Ursula Kilkelly & Ton Liefwaard (eds), *International Human Rights of Children* (Springer 2019), 487–513 at 496, 503.

<sup>20</sup> On the right to privacy in the digital environment cf. Third et al., *supra* n. 10, at 395 f.

Third, the Internet has played a pivotal role in enhancing communication and connecting like-minded people. Research has shown that teens consider the digital environment as a momentous space to connect with people, helping them to interact with individuals from diverse backgrounds or to find different points of view.<sup>21</sup> The exposure to divergent viewpoints through the Internet may promote reflection and enable children to grasp the complexity of society.<sup>22</sup> Generally, technology has opened up new avenues to communicate with other children or grown-ups, providing a new implementation dimension especially to the freedom of expression.<sup>23</sup> From a normative viewpoint, freedom of expression is arguably a relatively new right in the framework of children's rights.<sup>24</sup> Children's presumed lack of capacity led to marginalise their sphere of autonomy and deny them opportunities to speak freely.<sup>25</sup> The UNCRC finally recognised children's 'freedom to seek, receive<sup>26</sup> and impart information and ideas of all kinds, regardless of frontiers' (Article 13) only in 1989. The freedom of expression inherently relates to other provisions of the Convention, especially the freedom of thought, conscience and religion (Article 14) and the freedom of association and peaceful assembly (Article 15). Online communities are relevant especially for marginalised groups and subcultures, due to the sense of belonging and feeling of acceptance they confer. The absence of the constraints of face-to-face communication, such as judgments based on one's appearances or personal situation, permit children to express themselves more freely.<sup>27</sup> On the Internet, one can discover a world of other people whose values

---

<sup>21</sup> Monica Anderson & Jingjing Jiang, *Teens' Social Media Habits and Experiences*, 9, 13, [http://www.pewinternet.org/wp-content/uploads/sites/9/2018/11/PI\\_2018.11.28\\_teens-social-media\\_FINAL2.pdf](http://www.pewinternet.org/wp-content/uploads/sites/9/2018/11/PI_2018.11.28_teens-social-media_FINAL2.pdf) (accessed 23 Feb. 2019).

<sup>22</sup> Eun-mee Kim & Soeun Yang, *Internet literacy and digital natives' civic engagement: Internet skill literacy or Internet information literacy?*, 19 *Journal of Youth Studies* 438, 452 (2016). Already John Stuart Mill in 'On Liberty' noted that exposure to different perspectives is crucial to enable people to verify their opinion: John Stuart Mill, *On Liberty* (2nd ed., John W. Parker and Son 1859), 33. However, experts have noted that young people seems becoming accustomed to post only contents their followers are likely to agree with, avoiding controversial topics: Sherry Turkle, *Reclaiming conversation. The power of talk in a digital age* (Penguin Books 2015), 50.

<sup>23</sup> Cf. La Rue, *supra* n. 18, at 16.

<sup>24</sup> Neither the 1924 nor the 1959 Declaration on the Rights of the Child made any reference to it: Resolutions and Recommendations adopted by the Assembly during its Fifth Session (September 1st to October 2nd, 1924) (1924), Official Journal Special Supplement No. 21; Declaration on the Rights of the Child (20 Nov. 1959). Indeed, children have long been treated as objects of protection rather than as subjects of rights; the protection component traditionally overshadowed the participatory one; cf. European Commission for Democracy Through Law (Venice Commission), *Report on the Protection of Children's Rights: International Standards and Domestic Contributions. Adopted by the Venice Commission at its 98th Plenary Session (Venice, 21-22 March 2014)* (2014), 145. On this topic cf., amongst others, Michael D. A. Freeman, *Introduction: rights, ideology and children*, in Michael D. A. Freeman & Philip E. Veerman (eds), *The Ideologies of Children's Rights* (Nijhoff Publishers 1992) at 5.

<sup>25</sup> Cf. John Tobin & Aisling Parkes, *Art. 13 The Right to Freedom of Expression*, in John Tobin (ed), *The UN Convention on the Rights of the Child: A Commentary* (1d ed.: Oxford University Press 2019) at 437.

<sup>26</sup> This freedom shall not be reduced to a right to receive information. Indeed, *seeking* information denotes an 'active inquiry': *Ibid*, at 442.

<sup>27</sup> In 2011, 50% of 11- to 16-year-olds said it was easier to be themselves on the Internet than with people face to face: Sonia Livingstone & Kjartan Ólafsson, *Risky communication online* (2011), 1.

and situations deviate from those of their family or community.<sup>28</sup> For instance, digital ICTs enable young LGBTI people to connect with peers, understanding and potentially overcoming their possible experience of marginalisation.<sup>29</sup>

Finally, unprecedented opportunities for children to participate in societal life, increasing the overall democratic character of communities, have been launched. The Internet has given children a voice in the public debate they did not use to have, allowing them to take and feel responsible for society.<sup>30</sup> A recent illustration is provided by the ‘Fridays for Future’ movement launched by the Swedish girl Greta Thunberg.<sup>31</sup> Especially affected are both children’s freedom of expression<sup>32</sup> and their right to be heard (Article 12), which asks for the views of the children to be taken into due account ‘in all matters affecting the child’. Children’s opinions must count not only when deciding about their individual future, but also when preparing relevant law or policy reforms.<sup>33</sup> Beyond the instrumental relevance for improving the quality of legislation and policy, the sincere commitment of children is pivotal in order to uphold the authority of decision-makers. Even though children do not vote in most EU Member States,<sup>34</sup> children’s views – as current citizens and future voting citizens – need to be listened to and attentively considered to enhance their engagement with the political process and public affairs.<sup>35</sup>

---

<sup>28</sup> Turkle, *supra* n. 22, at 112.

<sup>29</sup> Benjamin Hanckel & Alan Morris, *Finding community and contesting heteronormativity: queer young people’s engagement in an Australian online community*, 17 *Journal of Youth Studies* 872, passim (2014). On this topic cf. also Guido La Noto Diega, *Grinding Privacy in the Internet of Bodies. An Empirical Qualitative Research on Dating Mobile Applications for Men Who Have Sex with Men*, in Ronald Leenes, Rosamunde van Brakel, Serge Gutwirth & Paul de Hert (eds), *Data Protection and Privacy. The Internet of Bodies* (Hart 2018), 21–70; Ivana Isailovic, *Children’s rights and LGBTI persons’ rights: some thoughts on their ‘integration’*, in Eva Brems, Ellen Desmet & Wouter Vandenhole (eds), *Children’s Rights Law in the Global Human Rights Landscape. Isolation, Inspiration, Integration?* (Routledge 2017), 192–209. However, among Internet scholars also a counter-narrative is emerging, suggesting that the Internet may be used by public and private actors to limit LGBTI rights: Monika Zalnieriute, *Digital rights of LGBTI communities: a roadmap for a dual human rights framework*, in Ben Wagner, Matthias C. Kettman & Kilian Vieth (eds), *Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations* (Elgar 2019), 411–433 at 417 ff.

<sup>30</sup> Anderson & Jingjing Jiang, *supra* n. 21, at 9, 13.

<sup>31</sup> See their website [www.fridaysforfuture.org](http://www.fridaysforfuture.org).

<sup>32</sup> Freedom of expression does not concern only topics affecting children, also covering the manifestation of the child’s general political opinion, while the content of expression shall not attain any qualitative requirement to qualify as ‘information and ideas’. As the whole UNCRC, also this provision needs to be interpreted in a child-centred way, reflecting the peculiar ways in which children may express themselves or experience participation. Hence, adults should not discredit children’s (political) expression because it does not match adults’ qualitative standards: Tobin & Parkes, *supra* n. 25, at 439-440; 447-448.

<sup>33</sup> Coherently, the UN Committee requires states to consult children in developing laws, policies and in the setting up of services in order to consider children’s views and experiences; care should be taken to consult also children in vulnerable or marginalized situations: Recommendation No. 99, UN Committee on the Rights of the Child (ed), *supra* n. 1, at 21.

<sup>34</sup> European Union Agency for Fundamental Rights (FRA), *Mapping minimum age requirements concerning the rights of the child in the EU. Datasets ‘Children’s right to vote’*, <https://fra.europa.eu/en/publication/2017/mapping-minimum-age-requirements/right-to-vote> (accessed 3 May. 2019).

<sup>35</sup> La Rue, *supra* n. 18, at 16.

### 3. The need for Internet literacy

Digital ICTs invite young people to assume innovative empowering roles and allow them to contribute to social life more deeply. However, they are also complex phenomena and require a deep comprehension of the ways they operate. For instance, knowing that behind a social media's wall there is an algorithm at work, selecting the items one finds on their news feed, is of critical relevance for adequately assessing the information social media provides people with. Specific knowledge and competencies are demanded to cope with technology's ceaseless evolution, too.<sup>36</sup> A recurrent narrative believes that children, especially teenagers, possess profound Internet skills as 'digital natives'. However, the ability to technically navigate the Internet is something different than the competence to sift through information, searching, understanding and evaluating content.<sup>37</sup>

The knowledge and competence to critically approach the digital media is often referred to as 'media literacy', or 'digital media literacy'. Generally, it may be defined as all the technical, cognitive, social, civic and creative capacities which allow a person to access and have a critical understanding of, and interact with, the media.<sup>38</sup> It has been argued that it encompasses issues of cognitive authority, safety and privacy, as well as the competence to make a creative, ethical and responsible use of digital media.<sup>39</sup> Another definition calls it 'the ability to access, analyze, evaluate, and create messages in a variety of forms'.<sup>40</sup> In the following, 'Internet literacy' – as we will define it<sup>41</sup> – will be analysed following the latter components.

As regards to the first component (access), disparities in the capacity to use the Internet, both at home and in educational settings, may by default act as an insurmountable barrier to children's digital participation.<sup>42</sup> Besides obstacles caused by lacking hardware and infrastructure, the education one receives in formal and informal settings, one's geographical location and the

---

<sup>36</sup> Cf. Simone van der Hof, *I Agree, or Do I: A Rights-Based Analysis of the Law on Children's Consent in the Digital World*, 34 Wisconsin International Law Journal 409, 441 (2016).

<sup>37</sup> On this topic cf. Jasmina Byrne & Patrick Burton, *Children as Internet users: how can evidence better inform policy debate?*, 2 Journal of Cyber Policy 39, 46 (2017).

<sup>38</sup> European Commission, *Study on the Impact of the Internet and Social Media on Youth Participation and Youth work - Final Report* (2018), 13.

<sup>39</sup> Eric M. Meyers, Ingrid Erickson & Ruth V. Small, *Digital literacy and informal learning environments: an introduction*, 38 Learning, Media and Technology 355, 355, 357 (2013).

<sup>40</sup> Sonia Livingstone, *Media Literacy and the Challenge of New Information and Communication Technologies*, 7 The Communication Review 3, 5 (2004).

<sup>41</sup> We follow the terminology of Council of Europe's handbook: Janice Richardson, Milovidov, Elizabeth & Martin Schmalzried, *Internet Literacy Handbook* (Council of Europe 2017).

<sup>42</sup> Ann Macintosh, Edmund Robson, Ella Smith & Angus Whyte, *Electronic Democracy and Young People*, 21 Social Science Computer Review 43, 52 (2003).



corresponding legal framework and habits are decisive.<sup>43</sup> For instance, evidence suggests that girls often possess less expansive devices, have more household tasks, enjoy less freedom to seek information or express themselves, and are more vulnerable to gender-based violence.<sup>44</sup> In addition, children with disabilities or with migration background, but also children whose native language is not English may be severely restricted in their access to high-quality online resources.<sup>45</sup> In this regard, the UN Committee has asked states to ensure that all children have access to digital media and ICTs without discrimination, guaranteeing it also to children in a more vulnerable situation.<sup>46</sup>

The second component of literacy refers to the ability to analyse and evaluate the information one is provided with and the ways in which the Internet operates. In contrast to 'traditional' media, the digital media environment does not have professionals preselecting and processing information before it is made accessible. The growing spread of 'fake news', as well as the technical ease of producing videos and pictures making people believe something is real when it is not (so-called 'deep fakes'), are two cases in point. Already targeted advertising and profiling are worrisome in this regard.<sup>47</sup> Besides risks for equality,<sup>48</sup> unbalanced data and information will easily exacerbate children's preferences, negatively influencing their development and independence of thought.<sup>49</sup> Indeed, the algorithms operating behind the digital surface are highly

---

<sup>43</sup> As regards countries such as India and China, it was found that the Internet has been a powerful force among a mostly young and urban minority: Ralph Schroeder (ed), *Social Theory after the Internet. Media, Technology, and Globalization* (UCL Press 2018), 47, 55. Participants at the 2014 day of General Discussion of the UN Committee devoted to 'Digital Media and Children's Rights' observed that Argentinian girls in rural and urban areas, although having the same devices, use them for different purposes: UN Committee on the Rights of the Child (ed), *supra* n. 1, at 14. As regards various low- and middle-income countries cf. Banaji et al., *supra* n. 9, at 436 and *passim*.

<sup>44</sup> Cf., also for further references, Third et al., *supra* n. 10, at 383.

<sup>45</sup> Cf. Eva Lievens, *Children's rights and media: imperfect but inspirational*, in Eva Brems, Ellen Desmet & Wouter Vandenhoele (eds), *Children's Rights Law in the Global Human Rights Landscape. Isolation, Inspiration, Integration?* (Routledge 2017), 231–250 at 244; Third et al., *supra* n. 10, at 381.

<sup>46</sup> Recommendation No. 98, UN Committee on the Rights of the Child (ed), *supra* n. 1, at 21 f.

<sup>47</sup> These techniques select what type of content is to be shown to determined persons. Besides their marketing relevance, they seriously affect one's capacity to gain well-balanced information and improperly shape one's preferences. As an example, a child who once searched on the Internet for a specific political person or movement could consequently see a disproportional amount of news items regarding the corresponding political spectrum.

<sup>48</sup> For instance, equality may be at risk because of implicit discrimination inherent in the underlying data processing. The classification of individuals carried out in this framework may reinforce social differences or stereotypes, providing information according to one's social status or gender, or targeting individuals belonging to minority groups. Cf. European Union Agency for Fundamental Rights (FRA), *#BigData: Discrimination in data-supported decision making* (2018). High-Level Expert Group on Artificial Intelligence, *Ethics Guidelines for Trustworthy AI* (2019).

<sup>49</sup> On these topics cf. Simone van der Hof & Eva Lievens, *The importance of privacy by design and data protection impact assessments in strengthening protection of children's personal data under the GDPR*, 23 Communications Law 33, 39 (2018); European Union Agency for Fundamental Rights (FRA), *supra* n. 48; High-Level Expert Group on Artificial Intelligence, *supra* n. 48. On the topic of data protection risks by online tracking cf. recently Natalija Vlajic, Marmara El Masri, Gianluigi M. Riva, Marguerite Barry & Derek Doran,

complex and not apparent in their function. In this regard, research has highlighted that children often lack awareness about the long-lasting impact their online activities may have, as well as about data protection in general.<sup>50</sup> However, an understanding of the social and economic effects of digital innovation and the power dynamics at stake is critical.<sup>51</sup> Internet literacy should therefore enhance children's competency in reflection and ethical thinking,<sup>52</sup> while also raising awareness on some other preoccupying trends, such as growing anxiety on being spontaneous.<sup>53</sup>

The third component of Internet literacy relates to the creation of messages and content. The Internet offers a wide range of opportunities to learn, play and be creative, to express oneself and engage in society.<sup>54</sup> Especially the so-called 'Internet 2.0', emphasising users' participation, enables people to produce and upload their own content. Children too should take full advantage of these participatory opportunities, positively contributing to their communities and exploring their personality, instead of only passively receiving information. However, research has recurrently reported that children often lack the literacy, motivation, or support to engage in creative activities, leaving the full potential of the media far from being put to use.<sup>55</sup> The 'ladder of opportunities' is still too steep for many children.<sup>56</sup>

#### 4. Internet literacy and the risk of discrimination

Such a pivotal need for high Internet literacy in order to use and benefit from the digital environment bears a remarkable potential for discrimination. The mere access to technology without appropriate skills and a supportive social context can ultimately exacerbate inequality.<sup>57</sup> Research has pointed out that only a small percentage of children reaches the most advanced and

---

*Online Tracking of Kids and Teens by Means of Invisible Images*, in Roger A. Hallman, Shujun Li & Victor Chang (eds), *Proceedings of the 2nd International Workshop on Multimedia Privacy and Security - MPS '18* (ACM Press 2018), 96–103.

<sup>50</sup> For instance, roughly a third of the students surveyed by the project 'Young Canadians in a Wired World' were unaware of the considerable attention devoted by the business to the information they post online: Valerie Steeves, *Young Canadians in a Wired World, Phase III: Online Privacy, Online Publicity* (2014), 38.

<sup>51</sup> Cf. van der Hof & Lievens, *supra* n. 49, at 37.

<sup>52</sup> Carrie James, Katie Davis, Andrea Flores, John M. Francis, Lindsay Pettingill, Margaret Rundle & Howard Gardner, *Young People, Ethics, and the New Digital Media*, 2 Contemporary Readings in Law and Social Justice 215, 268 (2010).

<sup>53</sup> Researchers have significantly pointed out that the capacity to edit any post or picture before sharing it has taught children to present only the self they would like to be, while acceptance for one's vulnerability as well as emotional competencies would be declining. Turkle, *supra* n. 22, at 17 ff, 28, 40 ff.

<sup>54</sup> European Commission, *European Strategy for a Better Internet for Children: COM(2012) 196 FINAL* (2012), 3, 7.

<sup>55</sup> Sonia Livingstone, Daniel Kardefelt-Winther, Petar Kanchev, Patricio Cabello, Magdalena Claro, Patrick Burton & Joanne Phyfer, *Is there a ladder of children's online participation?* (2019th ed. 2019), 6; EU Kids Online, *EU Kids Online. Findings - Methods - Recommendations*, 6 (2014); Sonia Livingstone & Leslie Haddon, *EU Kids Online: Final Report* (London school of economics and political science 2009), 22.

<sup>56</sup> The expression is from EU Kids Online, *supra* n. 55.

<sup>57</sup> Banaji et al., *supra* n. 9, at 437.

creative step of Internet usage.<sup>58</sup> Training on digital skills in Member States' elementary education is far from having been mainstreamed,<sup>59</sup> while out-of-school media literacy activities – often provided by civic society actors – differ critically among European countries.<sup>60</sup> As regards non-European low- and middle-income countries, research has highlighted a focus on distributing technologies while not investing in Internet literacy initiatives.<sup>61</sup>

The disparity in Internet literacy is profoundly influenced by social, economic and political factors, with individuals with a higher socio-economic status more likely to create politically relevant content than disadvantaged people.<sup>62</sup> Similar correlations have also been found as regards risky behaviours, with children from lower-educated and single-parent households more likely to engage in risky online activities than their peers from more 'advantageous' backgrounds.<sup>63</sup> The engagement in creative activities is also unequally distributed according to social background.<sup>64</sup> Already the exposure to political exchanges is lower for people with low socioeconomic status.<sup>65</sup> It can be speculated that children growing up in wealthy environments could have more opportunities to gain relevant skills and knowledge, due to private schooling, stimulating informal educational settings or supportive domestic contexts. Well-off children may also possess higher English language skills, therefore having access to a wealth of high-quality content and online resources not available in their national language.<sup>66</sup>

The situation is particularly worrisome in light of the widespread child poverty within the European Union, which impacts on children's access to education.<sup>67</sup> Despite the fact that EU Member States are considered high- and middle-income economies, in 2016 26.4% of children were at risk of poverty or social exclusion, which translates into 25 million children.<sup>68</sup> The percentage differs critically between regions, with some European countries having almost half of all children at risk of poverty or social exclusion. Particularly vulnerable are those with an ethnic

---

<sup>58</sup> EU Kids Online, *supra* n. 55, at 14, 42.

<sup>59</sup> European Commission, *supra* n. 38, at 51.

<sup>60</sup> European Audiovisual Observatory, *Mapping of media literacy practices and actions in EU-28* (2016), 27 f.

<sup>61</sup> Banaji et al., *supra* n. 9, at 437.

<sup>62</sup> Jason Gainous, Adam David Marlowe & Kevin M. Wagner, *Traditional Cleavages or a New World: Does Online Social Networking Bridge the Political Participation Divide?*, 26 *International Journal of Politics, Culture, and Society* 145, 146 (2013); Third et al., *supra* n. 10, at 379.

<sup>63</sup> Natascha Notten, *Taking Risks on the World Wide Web: The Impact of Families and Societies on Adolescents' Risky Online Behavior*, 105–123 at 115, 119.

<sup>64</sup> Cf. for further references European Commission, *supra* n. 38, at 23.

<sup>65</sup> Gainous et al., *supra* n. 62, at 155.

<sup>66</sup> On this topic cf. *supra*.

<sup>67</sup> On disparities in education participation experienced by children living in poverty in other regions of the world cf., with further references, Lundy & O'Lynn, *supra* n. 13, at 264 f.

<sup>68</sup> So-called AROPE indicator, which points to those persons at risk of poverty and/or under severe material deprivation and/or living in very low work-intense households: European Union Agency for Fundamental Rights (FRA), *Combating child poverty. An issue of fundamental rights* (Publications Office of the European Union 2018), 15 f.

minority background.<sup>69</sup> Children with disabilities, child refugees, or children from minority groups such as Roma are, therefore, more likely to be indirectly discriminated against in their use of the digital environment.<sup>70</sup>

## 5. Different actors taking responsibility

To avoid such potential discrimination, the interdisciplinary nature of the digital world makes the involvement of all relevant stakeholders unavoidable.<sup>71</sup> In the following, we will very briefly examine the three most important ‘actors’ in direct contact with the child: the family, formal and informal educational players, and the business.

### 5.1 The family

The commitment for an adequate Internet literacy starts within the family, for younger kids learn intensely through interaction with the familiar environment. More than parents only, the whole family should feel responsible, also because children may be more comfortable to share thoughts with relatives or ask for their help, rather than their parents’. Siblings, grandparents and relatives are important reference points for the child.<sup>72</sup>

The complexity of the undertaking is apparent. On the one hand, online and offline realities are increasingly blurring; several everyday tasks are nowadays carried out via the Internet, and also toys connect to the Internet. Together with the fact that children go online on more personal devices, this situation makes families struggle in mediating their offspring’s access to the Internet.<sup>73</sup> On the other hand, parents and families should respect the need of the young to enjoy private spaces in which to share thoughts, opinions and to unfold their personality. Privacy could be violated by parents keeping their offspring’s cellphone under excessive control, perhaps even without the latter knowing about it. It seems that many parents do not generally take full account of their children’s privacy, for example excessively sharing pictures of them (‘sharenting’).<sup>74</sup> Family

---

<sup>69</sup> *Ibid*, at 19 f. Already in 2014, the UN Committee had emphasised the danger of direct and indirect discrimination towards ‘girls, children with disabilities, children living in remote areas, children living in poverty, children belonging to minorities, indigenous children, children living in street situations, children living in institutions and other children in vulnerable and marginalized situations’: Recommendation No. 98, UN Committee on the Rights of the Child (ed), *supra* n. 1, at 21.

<sup>70</sup> Lievens et al., *supra* n. 19, at 491.

<sup>71</sup> See UN Committee on the Rights of the Child (ed), *supra* n. 1, at 12.

<sup>72</sup> EU Kids Online, *supra* n. 55, at 22.

<sup>73</sup> Patrícia Dias, Rita Brito, Wannes Ribbens, Linda Daniela, Zanda Rubene, Michael Dreier, Monica Gemo, Rosanna Di Gioia & Stéphane Chaudron, *The role of parents in the engagement of young children with digital technologies: Exploring tensions between rights of access and protection, from ‘Gatekeepers’ to ‘Scaffolders’*, 6 Global Studies of Childhood 414, 416 (2016).

<sup>74</sup> Lievens et al., *supra* n. 19, at 497; On the topic of parents excessively sharing pictures and information on their offspring cf. Stacey B. Steinberg, *Sharenting: Children’s Privacy in the Age of Social Media*, 66 Emory Law

surveillance especially affects children's freedom of information.<sup>75</sup> Indeed, the digital environment is nowadays of momentous relevance for accessing information one could not want the parents to know about. Political, social or religious views may differ between children and the rest of the families,<sup>76</sup> while children could also use the Internet to access sensitive pieces of information. A gender component has been observed in this connection, with parents of girls being more likely to keep an eye on their actions.<sup>77</sup> Protecting children from online risks is undoubtedly a valuable aim. However, attention should be paid not to excessively restrict the child's right to privacy and other relevant rights.<sup>78</sup>

Also in light of the continuously changing technological environment, parenting has become very demanding. Parents may not own adequate skills and knowledge to address these topics with their children appropriately. A lack of parents' digital skills has been observed primarily in countries where the Internet spread out more recently.<sup>79</sup> Socioeconomic differences play a role too, with higher educated parents more likely to be experienced digital users and have a more positive attitude towards technology's educational potential.<sup>80</sup>

Parents and families should be supported in this demanding task. Article 5 UNCRC requires states to respect the responsibilities, rights and duties of parents 'to provide, in a manner consistent with the evolving capacities of the child, appropriate direction and guidance'. The UN Committee has recommended states to provide training, assistance and support services to parents, in order to be able 'to guide their children to a responsible and safe use of digital media and ICT, with respect for their evolving capacities'.<sup>81</sup> To this end, various public and private institutions have developed useful toolkits and handbooks over the last years.<sup>82</sup> Despite such

---

Journal (2017); Claire Bessant, *Sharenting: balancing the conflicting rights of parents and children*, 23 Communications Law 7 (2018).

<sup>75</sup> On this topic, also with regard to different countries in the world, cf. Third et al., *supra* n. 10, at 387 ff.

<sup>76</sup> UN Committee on the Rights of the Child (ed), *supra* n. 1, at 17.

<sup>77</sup> Valerie Steeves, Trevor Milford & Ashley Butts, *Summary of Research on Youth Online Privacy* (2010), 14. On this topic cf. European Institute for Gender Equality, *Gender equality and youth: opportunities and risks of digitalisation* (2018).

<sup>78</sup> Lievens et al., *supra* n. 19, at 497. Two parental styles have been especially reported in European countries, namely so-called 'enabling mediation' and 'restrictive mediation': Sonia Livingstone, Kjartan Ólafsson, Ellen J. Helsper, Francisco Lupiáñez-Villanueva, Giuseppe A. Veltri & Frans Folkvord, *Maximizing Opportunities and Minimizing Risks for Children Online: The Role of Digital Skills in Emerging Strategies of Parental Mediation*, 67 J Commun 82, passim (2017).

<sup>79</sup> A case in point is Estonia: Nathalie Sonck & Jos de Haan, *Safety by Literacy? Rethinking the Role of Digital Skills in Improving Online Safety*, in Simone van der Hof, Bibi van den Berg & Bart Schermer (eds), *Minding Minors Wandering the Web: Regulating Online Child Safety* (T. M. C. Asser Press 2014), 89–104 at 99. In other European countries, namely France, Germany, the Netherlands, Spain, Poland, Italy, Sweden, and the United Kingdom, parents were found to be skilled in using the Internet: Livingstone et al., *supra* n. 78, at 101.

<sup>80</sup> Notten, *supra* n. 63, at 108.

<sup>81</sup> Recommendations Nos. 95 and 107, UN Committee on the Rights of the Child (ed), *supra* n. 1, at 20, 23. On the topic of 'positive and proactive digital parenting' Richardson et al., *supra* n. 41, at 114.

<sup>82</sup> See, among others: Unicef, *Children in a digital world* vol. 2017 (UNICEF); by the Council of Europe, Elizabeth Milovidov, *Parenting in the digital age* (Council of Europe 2017); and Richardson et al., *supra* n. 41.

efforts, relying merely on families' efforts could perpetuate social inequalities. While parents could lack sufficient digital skills or knowledge about these issues, they may also structurally (e.g. for work-related reasons) not be provided with necessary time to address such challenges adequately.<sup>83</sup> Other actors children are in contact with, both public and private, need to feel responsible.

## 5.2 Educational actors

Schools are best placed in order to reach the majority of children, regardless of age, income or background. As children start using the Internet at very young ages, Internet literacy should also begin in early childhood.<sup>84</sup> Legal thresholds asking for parental permission for data processing<sup>85</sup> should not prevent a thorough commitment before that age. Training and support should be part of every educational curriculum to develop adolescents' digital, information, media and social literacy skills.<sup>86</sup> With training on digital skills far from having been mainstreamed in the EU Member States' education,<sup>87</sup> it is necessary to sharply intensify public effort in developing Internet literacy education. It could be argued that states enjoy certain discretion in preparing the relevant curricula. However, their laws and policies need to be informed by research.<sup>88</sup> To this end, the UN Committee has recommended undertaking research on an ongoing basis to understand how children access and use digital media properly. Such data should be adequately disaggregated, in order to facilitate the analysis of the situation of all children, particularly those in situations of vulnerability.<sup>89</sup>

---

<sup>83</sup> Karen Mc Cullagh, *The general data protection regulation a partial success for children on social network sites*, in Tobias Bräutigam & Samuli Miettinen (eds), *Data Protection, Privacy and European Regulation in the Digital Age* (Unigrafia 2016), 110–139 at 127.

<sup>84</sup> See in this regard the studies of the EU Joint Research Centre, especially Stéphane Chaudron, Rosanna Di Gioia & Monica Gemo, *Young Children (0-8) and Digital Technology. A qualitative study across Europe* (2018).

<sup>85</sup> For instance, Article 8 of the EU General Data Processing Regulation (GDPR) sets an age threshold at 16 years; Member States may lower it up to 13 years. For a constant update on the implementation of this provision cf. Ingrida Milkaite & Eva Lievens, *The changing patchwork of the child's age of consent for data processing across the EU* (January 2019), [www.betterinternetforkids.eu/web/portal/practice/awareness/detail?articleId=3017751](http://www.betterinternetforkids.eu/web/portal/practice/awareness/detail?articleId=3017751) (accessed 25 Feb. 2019).

<sup>86</sup> United Nations Committee on the Rights of the Child, General comment No. 20 (2016) on the implementation of the rights of the child during adolescence: CRC/C/GC/20 (2016), para 47.

<sup>87</sup> European Commission, *supra* n. 38, at 51.

<sup>88</sup> Tobin & Handsley, *supra* n. 16, at 617.

<sup>89</sup> Recommendations Nos. 89 and 90, UN Committee on the Rights of the Child (ed), *supra* n. 1, at 19; Third et al., *supra* n. 10, at 380.

Besides school, informal educational settings, such as youth centres, sport clubs, networks or associations, are relevant as well for Internet literacy, in a twofold way.<sup>90</sup> First of all, they allow educational actors to connect out-of-school media practices with school's literacy, filling the gaps and supporting inclusion.<sup>91</sup> The involvement of young people in informal education settings also supports the acquirement of soft skills also relevant in the digital environment.<sup>92</sup> Second, children out of school – irrespectively of the fact if illegally not attending it, or already beyond the age of compulsory schooling<sup>93</sup> – are by default not covered by Internet literacy initiatives in school.<sup>94</sup> The more states invest only in formal education, the more discriminated against become those children who lack access to it.<sup>95</sup> Various resources have been developed to support (digital) human rights education, to be used both in formal and informal educational settings.<sup>96</sup>

### 5.3 The business

In the digital environment, non-state actors exercise an extraordinary amount of power: to access the Internet, seek information and participate on social networking sites, people go through private actors who act as online-gatekeepers.<sup>97</sup> While having access to a diversity of sources has always partially depended on non-state entities, the dependence on private actors has exacerbated as a consequence of technological development. It should therefore not surprise that the interlink between business and human rights has been the object of important resolutions in

---

<sup>90</sup> On this topic cf. Christine Greenhow & Cathy Lewin, *Social media and education: reconceptualizing the boundaries of formal and informal learning*, 41 *Learning, Media and Technology* 6 (2016); Meyers et al., *supra* n. 39.

<sup>91</sup> Benjamin Gleason & Sam von Gillern, *Digital Citizenship with Social Media*, 21 *Journal of Educational Technology & Society* 200, 201 (2018); European Commission, *supra* n. 38, at 41.

<sup>92</sup> On this topic, cf. the good practices and case studies published in the two attachments of European Commission, *supra* n. 38.

<sup>93</sup> In the most EU Member States, the age at which compulsory schooling ends is below the age of majority and therefore still during childhood: European Union Agency for Fundamental Rights (FRA), *Mapping minimum age requirements concerning the rights of the child in the EU. Datasets 'Compulsory schooling'*, <https://fra.europa.eu/en/publication/2017/mapping-minimum-age-requirements/compulsory-schooling> (accessed 3 May. 2019).

<sup>94</sup> This risk is emphasized by UN Committee on the Rights of the Child (ed), *supra* n. 1, at 18.

<sup>95</sup> Third et al., *supra* n. 10, at 399.

<sup>96</sup> For instance, Gloria González Fuster & Dariusz Kloza (eds), *The European Handbook for Teaching Privacy and Data Protection at Schools* (EAP/Arcades 2016); Patricia Brander, Ellie Keen, Vera Juhász, Annette Schneider & Rui Gomes (eds), *Compass. Manual for human rights education with young people* (Council of Europe 2012); Nancy Flowers (ed), *Compassito. Manual on human rights education for children* (Council of Europe 2009).

<sup>97</sup> On these topics cf. Vandenhole, *supra* n. 12, at 29. Lievens, *supra* n. 45, at 240. Rikke Frank Jørgensen, *When private actors govern human rights*, in Ben Wagner, Matthias C. Kettelman & Kilian Vieth (eds), *Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations* (Elgar 2019), 346–363. Edoardo Celeste, *Digital constitutionalism: a new systematic theorisation*, 33 *International Review of Law, Computers & Technology* 76, 2, 4 (2019); Emily B. Laidlaw, *The internet as a democratising force*, in Emily B. Laidlaw (ed), *Regulating Speech in Cyberspace* (Cambridge University Press 2015), 1–35 at 2.

recent years both by the Council of Europe<sup>98</sup> and the United Nations.<sup>99</sup> All these acts emphasise that businesses shall meet their responsibility to respect (children's) human rights and commit to supporting them. As stressed by the UN Committee, states should require businesses to undertake child-rights due diligence to identify, prevent and mitigate any negative impact on children's rights. The development of voluntary, self-regulatory, professional and ethical guidelines and standards of conduct should be encouraged as well.<sup>100</sup> All these acts should particularly address the risk of discrimination and the need for transparent information, as well as support the provision of Internet literacy to children. One illustration how these voluntary tools could find their way into a legislative text is provided by the EU General Data Protection Regulation.<sup>101</sup> Many of its child empowering measures are of the self-regulatory type and therefore require the genuine involvement of economic actors.<sup>102</sup>

## 6. Conclusion

Having access to the Internet is nowadays of crucial importance for implementing several participatory rights of the child. The Internet opens up innovative ways to interact with like-minded people, strengthening the sense of belonging, especially among minority groups, and allows children to participate in the public debate effectively. The fact that this body of knowledge and

---

<sup>98</sup> Recommendation CM/Rec(2016)3 of the Committee of Ministers to Member States on human rights and business.

<sup>99</sup> Save the Children, United Nations Global Compact & Unicef, *The Children's Rights and Business Principles* (2012).

<sup>100</sup> Recommendation No. 97, UN Committee on the Rights of the Child (ed), *supra* n. 1, at 21.

<sup>101</sup> For instance, the GDPR requires clear explanations on how personal data is collected and used (Articles 7 and 12). At the same time, national supervisory authorities are required to generally promote public awareness and understanding of the risks, rules, safeguards and rights in relation to data processing (Article 57). Activities addressed specifically to children 'shall receive specific attention'. Such authorities play an essential role in fostering the different actors in taking responsibility in regard to children's digital rights, also supporting the delivery of the mentioned formal and informal educational programmes. On this topic cf. Domenico Rosani, *'We're All in This Together'. Actors cooperating in enhancing children's rights in the digital environment after the GDPR*, in Ronald Leenes, Dara Hallinan, Serge Gutwirth & Paul De Hert (eds), *Data Protection and Privacy: Data Protection and Democracy* (Hart 2020).

<sup>102</sup> Especially codes of conducts – voluntary tools which set out specific data protection rules for categories of data controllers and processors – could be an effective accountability tool, turning out to be flexible methods of setting standards addressing children's vulnerabilities in specific sectors. Their drafting and monitoring (Article 41 requires an independent body to monitor compliance with it) constitute the possibility for children's rights scholars, practitioners and civil society to closely cooperate with the industry. Children themselves should also be involved. Cf. Johannes Cornelis Buitelaar, *Child's best interest and informational self-determination: what the GDPR can learn from children's rights*, 8 *International Data Privacy Law*, 293, 300 (2018); Milda Macenaite & Eleni Kosta, *Consent for processing children's personal data in the EU: following in US footsteps?*, 26 *Information & Communications Technology Law* 146, 189 (2017); Milda Macenaite, *From universal towards child-specific protection of the right to privacy online: Dilemmas in the EU General Data Protection Regulation*, 19 *New Media & Society* 765, 776 (2017).



opportunities is fundamentally available to all people, as long as there is a functioning Internet connection, has an inherently positive impact on equality.

However, the possibility to take full advantage of the Internet dramatically depends on children's competence. The digital environment requires the user to critically evaluate the information and services it provides, while being capable of producing creative content is of pivotal relevance for fully benefiting of the participatory potential offered by digital ICTs.

In this vein, 'Internet literacy' should provide practical skills to children to access the Internet, while encouraging them to interrogate the methods of digital technologies. It should make children competent to sift through information, understanding and evaluating data, and to create new content. A critical understanding of the overall social, ethical and economic effects of digital innovation is needed.

Without proper literacy, children are at risk of not being able to climb the ladder of digital opportunities and their use of the Internet reinforcing social differences and stereotypes. Research has shown that engagement in creative activities is unequally distributed according to social background, with individuals with a higher socioeconomic status being more likely to create politically relevant content than disadvantaged people. Children in vulnerable situation are at risk of not having proper access to digital resources. The Internet could, therefore, turn out to negatively affect equality, radicalising social structures without fostering children's participation in society as it could.

In conclusion, this situation calls for different public and private actors to take responsibility. Relying merely on families' efforts in providing their offspring with Internet literacy could easily exacerbate existing social inequalities. Both formal and informal education settings play a pivotal role, while private actors such as the business should also take responsibility. The recent EU General Data Protection Regulation has provided for some important tools in this regard. In all the corresponding public and private decision-making processes, however, the voice of experts and the views of children need to be structurally involved and attentively considered in order to fully implement the rights of the child.

## References

ANDERSON, Monica; JIANG, Jingjing. **Teens' Social Media Habits and Experiences**, [http://www.pewinternet.org/wp-content/uploads/sites/9/2018/11/PI\\_2018.11.28\\_teens-social-media\\_FINAL2.pdf](http://www.pewinternet.org/wp-content/uploads/sites/9/2018/11/PI_2018.11.28_teens-social-media_FINAL2.pdf) (accessed 23 Feb. 2019).

BANAJI, Shakuntala et al. Instrumentalising the digital: adolescents' engagement with ICTs in low- and middle-income countries, **28 Development in practice** 432 (2018).

BESSANT, Claire. Sharenting: balancing the conflicting rights of parents and children, 23 **Communications Law** 7 (2018).

BRANDER, Patricia et al. (Eds), **Compass. Manual for human rights education with young people** (Council of Europe 2012).

BUITELAAR, Johannes Cornelis. Child's best interest and informational self-determination: what the GDPR can learn from children's rights, 8 **International Data Privacy Law**, 293 (2018).

BYRNE, Jasmina; BURTON, Patrick. Children as Internet users: how can evidence better inform policy debate?, 2 **Journal of Cyber Policy** 39 (2017).

CHAUDRON, Stéphane; DI GOIA, Rosanna; GEMO, Monica. Young Children (0-8) and Digital Technology. **A qualitative study across Europe** (2018).

CULLAGH, Karen Mc. The general data protection regulation a partial success for children on social network sites, in Tobias Bräutigam & Samuli Miettinen (eds), **Data Protection, Privacy and European Regulation in the Digital Age** (Unigrafia 2016), 110–139.

DIAS, Patrícia et al. The role of parents in the engagement of young children with digital technologies: Exploring tensions between rights of access and protection, from 'Gatekeepers' to 'Scaffolders', 6 **Global Studies of Childhood** 414 (2016).

DIEGA, Guido La Noto. Grinding Privacy in the Internet of Bodies. An Empirical Qualitative Research on Dating Mobile Applications for Men Who Have Sex with Men, in Ronald Leenes, Rosamunde van Brakel, Serge Gutwirth & Paul de Hert (eds), **Data Protection and Privacy. The Internet of Bodies** (Hart 2018), 21–70.

EU KIDS ONLINE, EU Kids Online. **Findings - Methods - Recommendations** (2014).

EUROPEAN AUDIOVISUAL OBSERVATORY, **Mapping of media literacy practices and actions in EU-28** (2016).

EUROPEAN COMMISSION FOR DEMOCRACY THROUGH LAW (Venice Commission), **Report on the Protection of Children's Rights: International Standards and Domestic Contributions**. Adopted by the Venice Commission at its 98<sup>th</sup> Plenary Session (Venice, 21-22 March 2014) (2014).

EUROPEAN COMMISSION, **European Strategy for a Better Internet for Children: COM(2012) 196 final** (2012).

\_\_\_\_\_. **Study on the Impact of the Internet and Social Media on Youth Participation and Youth work - Final Report** (2018).

EUROPEAN INSTITUTE FOR GENDER EQUALITY, **Gender equality and youth: opportunities and risks of digitalisation** (2018).

EUROPEAN UNION AGENCY FOR FUNDAMENTAL RIGHTS (FRA), **#BigData: Discrimination in data-supported decision making** (2018).

\_\_\_\_\_. **Combating child poverty. An issue of fundamental rights** (Publications Office of the European Union 2018).

\_\_\_\_\_. **Mapping minimum age requirements concerning the rights of the child in the EU. Datasets 'Children's right to vote'**, <https://fra.europa.eu/en/publication/2017/mapping-minimum-age-requirements/right-to-vote> (accessed 3 May. 2019).

\_\_\_\_\_. **Mapping minimum age requirements concerning the rights of the child in the EU. Datasets 'Compulsory schooling'**, <https://fra.europa.eu/en/publication/2017/mapping-minimum-age-requirements/compulsory-schooling> (accessed 3 May. 2019).

FLOWERS, Nancy (Ed). **Compasito. Manual on human rights education for children** (Council of Europe 2009).

FREEMAN, Michael D. A. Introduction: rights, ideology and children, in Michael D. A. Freeman & Philip E. Veerman (eds), **The Ideologies of Children's Rights** (Nijhoff Publishers 1992).

FUSTER, Gloria González; KLOZA, Dariusz (Eds), **The European Handbook for Teaching Privacy and Data Protection at Schools** (EAP/Arcades 2016).

GAINOUS, Jason; MARLOWE, Adam David; WAGNER, Kevin M. Traditional Cleavages or a New World: Does Online Social Networking Bridge the Political Participation Divide?, 26 **International Journal of Politics, Culture, and Society** 145 (2013).

GLEASON, Benjamin; GILLERN, Sam von. Digital Citizenship with Social Media, 21 **Journal of Educational Technology & Society** 200 (2018).

GREENHOW, Christine; LEWIN, Cathy. Social media and education: reconceptualizing the boundaries of formal and informal learning, 41 **Learning, Media and Technology** 6 (2016).

HANCKEL, Benjamin; MORRIS, Alan. Finding community and contesting heteronormativity: queer young people's engagement in an Australian online community, 17 **Journal of Youth Studies** 872 (2014).

HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE, **Ethics Guidelines for Trustworthy AI** (2019).

ISAILOVIC, Ivana. Children's rights and LGBTI persons' rights: some thoughts on their 'integration', in Eva Brems, Ellen Desmet & Wouter Vandenhoele (eds), **Children's Rights Law in the Global Human Rights Landscape. Isolation, Inspiration, Integration?** (Routledge 2017), 192–209.

JAMES, Carrie; et at. Young People, Ethics, and the New Digital Media, 2 **Contemporary Readings in Law and Social Justice** 215 (2010).

JASMONTAITE, Lina; HERT, Paul De. The EU, children under 13 years, and parental consent: a human rights analysis of a new, age-based bright-line for the protection of children on the Internet, 5 **International Data Privacy Law** 20-33 (2015).

\_\_\_\_\_; HERT, Paul. Access to the Internet in the EU: a policy priority, a fundamental, a human right or a concern for eGovernment?, in Ben Wagner, Matthias C. Kettelman & Kilian Vieth (eds),

**Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations** (Elgar 2019), 157–194.

JØRGENSEN, Rikke Frank. When private actors govern human rights, in Ben Wagner, Matthias C. Kettelman & Kilian Vieth (eds), **Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations** (Elgar 2019), 346–363.

KIM, Eun-mee; YANG, Soeun. Internet literacy and digital natives' civic engagement: Internet skill literacy or Internet information literacy?, 19 **Journal of Youth Studies** 438 (2016).

LIEVENS, Eva et al. Children's Rights and Digital Technologies, in Ursula Kilkelly & Ton Liefaard (eds), **International Human Rights of Children** (Springer 2019), 487–513.

\_\_\_\_\_. Children's rights and media: imperfect but inspirational, in Eva Brems, Ellen Desmet & Wouter Vandenhole (eds), **Children's Rights Law in the Global Human Rights Landscape. Isolation, Inspiration, Integration?** (Routledge 2017), 231–250.

LIVINGSTONE, Sonia et al. **Is there a ladder of children's online participation?** (2019<sup>th</sup> ed. 2019).

\_\_\_\_\_ et al. Maximizing Opportunities and Minimizing Risks for Children Online: The Role of Digital Skills in Emerging Strategies of Parental Mediation, 67 **J Commun** 82 (2017).

\_\_\_\_\_; CARR, John; BYRNE, Jasmina. **One in Three: Internet Governance and Children's Rights** (2016).

\_\_\_\_\_; HADDON, Leslie. **EU Kids Online: Final Report** (London school of economics and political science 2009).

\_\_\_\_\_; ÓLAFSSON, Kjartan. **Risky communication online** (2011).

\_\_\_\_\_; THIRD, Amanda. Children and young people's rights in the digital age: An emerging agenda, 19 **New Media & Society** 657 (2017).

\_\_\_\_\_. Media Literacy and the Challenge of New Information and Communication Technologies, 7 **The Communication Review** 3 (2004).

LUNDY, Laura; O'LYNN, Patricia. The Education Rights of Children, in Ursula Kilkelly & Ton Liefaard (eds), **International Human Rights of Children** (Springer 2019), 259–276.

MACENAITE, Milda; KOSTA, Eleni. Consent for processing children's personal data in the EU: following in US footsteps?, 26 **Information & Communications Technology Law** 146 (2017).

MACENAITE, Milda. From universal towards child-specific protection of the right to privacy online: Dilemmas in the EU General Data Protection Regulation, 19 **New Media & Society** 765 (2017).

MACINTOSH, Ann; ROBSON, Edmund; SMITH, Ella; WHYTE, Angus. Electronic Democracy and Young People, 21 **Social Science Computer Review** 43 (2003).

MASCHERONI, Giovanna; Holloway, Donell (Eds), **The Internet of Toys** (Springer 2019).

MEYERS, Eric M.; ERICKSON, Ingrid; SMALL, Ruth V. Digital literacy and informal learning environments: an introduction, 38 **Learning, Media and Technology** 355 (2013).

MILKAITE, Ingrida; LIEVENS, Eva. **The changing patchwork of the child's age of consent for data processing across the EU** (January 2019), [www.betterinternetforkids.eu/web/portal/practice/awareness/detail?articleId=3017751](http://www.betterinternetforkids.eu/web/portal/practice/awareness/detail?articleId=3017751) (accessed 25 Feb. 2019).

MILL, John Stuart. **On Liberty** (2<sup>nd</sup> ed., John W. Parker and Son 1859).

MILOVIDOV, Elizabeth. **Parenting in the digital age** (Council of Europe 2017).

NOTTEN, Natascha. Taking Risks on the World Wide Web: The Impact of Families and Societies on Adolescents' **Risky Online Behavior**, 105–123.

RECOMMENDATION CM/REC 3 of the **Committee of Ministers to Member States on human rights and business**, 2016.

RESOLUTIONS AND RECOMMENDATIONS adopted by the Assembly during its Fifth Session (September 1<sup>st</sup> to October 2<sup>nd</sup>, 1924) (1924), **Official Journal Special Supplement** No. 21.

RICHARDSON, Janice; MILOVIDOV, Elizabeth; SCHMALZRIED, Martin. **Internet Literacy Handbook** (Council of Europe 2017).

ROSANI, Domenico. 'We're All in This Together'. Actors cooperating in enhancing children's rights in the digital environment after the GDPR, in Ronald Leenes, Dara Hallinan, Serge Gutwirth & Paul De Hert (eds), **Data Protection and Privacy: Data Protection and Democracy** (Hart 2020).

RUE, Frank La. **Promotion and protection of the right to freedom of opinion and expression: Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression** (2014).

SAVE THE CHILDREN, United Nations Global Compact & Unicef, **The Children's Rights and Business Principles** (2012).

SCHROEDER, Ralph (Ed). **Social Theory after the Internet. Media, Technology, and Globalization** (UCL Press 2018).

SONCK, Nathalie; HAAN, Jos de. Safety by Literacy? Rethinking the Role of Digital Skills in Improving Online Safety, in Simone van der Hof, Bibi van den Berg & Bart Schermer (eds), **Minding Minors Wandering the Web: Regulating Online Child Safety** (T. M. C. Asser Press 2014), 89–104.

STEEVES, Valerie. Trevor Milford & Ashley Butts, **Summary of Research on Youth Online Privacy** (2010).

\_\_\_\_\_. **Young Canadians in a Wired World**, Phase III: Online Privacy, Online Publicity (2014).

STEINBERG, Stacey B. Sharenting: Children's Privacy in the Age of Social Media, 66 **Emory Law Journal** (2017).

TEFFÉ, Chiara Spadaccini de; SOUZA, Carlos Affonso. **Connected Childhood: Digital Rights and Education** (2017<sup>th</sup> ed. 2018).

THIRD, Amanda; LIVINGSTONE, Sonia; LANSDOWN, Gerison. Recognizing children's rights in relation to digital technologies: challenges of voice and evidence, principle and practice, in Ben Wagner, Matthias C. Kettelman & Kilian Vieth (eds), **Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations** (Elgar 2019), 376–410.

TOBIN, John; HANDSLEY, Elizabeth. Art. 17 The Mass Media and Children: Diversity of Sources, Quality of Content, and Protection against Harm, in John Tobin (ed), **The UN Convention on the Rights of the Child: A Commentary** (1d ed.: Oxford University Press 2019).

\_\_\_\_\_; PARKES, Aisling. Art. 13 The Right to Freedom of Expression, in John Tobin (ed), **The UN Convention on the Rights of the Child: A Commentary** (1d ed.: Oxford University Press 2019).

TURKLE, Sherry. **Reclaiming conversation. The power of talk in a digital age** (Penguin Books 2015).

UN COMMITTEE ON THE RIGHTS OF THE CHILD (ed), **Report of the 2014 Day of General Discussion 'Digital Media and Children's Rights'** (2014).

UNICEF, **Children in a digital world** vol. 2017 (UNICEF).

UNITED NATIONS COMMITTEE ON THE RIGHTS OF THE CHILD, General comment No. 1 (2001): **The aims of education**: CRC/GC/2001/1 (2001).

VAN DER HOF, Simone; Lievens, Eva. The importance of privacy by design and data protection impact assessments in strengthening protection of children's personal data under the GDPR, 23 **Communications Law** 33 (2018).

\_\_\_\_\_. I Agree, or Do I: A Rights-Based Analysis of the Law on Children's Consent in the Digital World, 34 **Wisconsin International Law Journal** 409 (2016).

VANDENHOLE, Wouter. Distinctive characteristics of children's human rights law, in Eva Brems, Ellen Desmet & Wouter Vandenhole (eds), **Children's Rights Law in the Global Human Rights Landscape. Isolation, Inspiration, Integration?** (Routledge 2017), 21–36.

VLAJIC, Natalija et al. Online Tracking of Kids and Teens by Means of Invisible Images, in Roger A. Hallman, Shujun Li & Victor Chang (eds), **Proceedings of the 2<sup>nd</sup> International Workshop on Multimedia Privacy and Security - MPS '18** (ACM Press 2018), 96–103.

ZALNIERIUTE, Monika. Digital rights of LGBTI communities: a roadmap for a dual human rights framework, in Ben Wagner, Matthias C. Kettelman & Kilian Vieth (eds), **Research Handbook on Human Rights and Digital Technology. Global Politics, Law and International Relations** (Elgar 2019), 411–433.

---

*Domenico Rosani*

Research and teaching associate at the Department of Italian Law of the University of Innsbruck. He previously worked for the EU Fundamental Rights Agency as a trainee in the Sector for the Rights of the Child.

---

**Enviado em: 06 de agosto de 2019**

**Aprovado em: 30 de novembro de 2019**