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## **An Ethical Discussion About the Responsibility for Protection of Minors in the Digital Environment: A State-of-the-art review**

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### **ABSTRACT**

Many ethical questions have been raised regarding the use of social media and the internet, mainly related to the protection of young people in the digital environment. In order to critically address the research question “*who is responsible for ethically protecting minors in the digital environment?*”, this paper will review the main literature available to understand the role of parents, the government, and companies in protecting young people within the digital environment. We employed a holistic process that covers a state-of-the-art review and desk research. The article is divided into four sessions; (1) Government Policies from the European Union (EU) Perspective; (2) Parental Control; (3) An Overview of Companies and the Private and Self-Regulation Sectors; and (4) the Ethical Dilemma. Throughout, we reviewed specific topics regarding the potentially harmful content for young people within the digital environment, questioned how ethical concerns shape content and interactions online and discussed how internet parenting styles impact risks and opportunities for young people in the digital world. Finally, we analysed the research question contrasting it with the main findings in this review and offered recommendations.

**Keywords:** Social Media; Young People; Digital Environment; Protection; Europe.

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### **INTRODUCTION**

Internet use has raised many ethical concerns and questions, mainly concerning minors' online safety and protection within the digital environment. Some of the issues that may affect this group include data protection, regulations, policies, addiction, exposure to harmful content,

unhealthy eating habits, mental health issues, increased alcohol consumption, sexual and violent content spread online, and many other issues. Harmful content in this study is considered several types of material that may offend other persons' values and feelings, content related to offences on expressing political opinions, religious beliefs or views on racial matters, violent or sexually exploitative content, cyberbullying, any type of coercion or sexual extortion etc. (Commission of the European Communities, 1996; International Save the Children Alliance, 2008; The alliance to better protect minors online, 2017). It is essential to note that the European Commission highlights that what is considered harmful depends on cultural differences, and the fundamental rights, especially the right of freedom of expression, have to be fully respected.

Numerous studies addressing many of these issues have been conducted by O'Neill (2013); Coates *et al.* (2019); Lou and HK (2019); Qutteina *et al.* (2019); Van *et al.* (2019); Hendriks *et al.* (2020); and Smahel *et al.* (2020).

Are companies such as Facebook, Tik Tok, Instagram and YouTube liable for protecting minors in the digital environment? Or are governments? Or Parents? This is the research question this review sets out to address "*who is responsible for ethically protecting minors in the digital environment?*".

### **RESEARCH QUESTION AND OBJECTIVES**

In order to address the question "*Who is responsible for ethically protecting minors in the digital environment?*" firstly, we propose a review of the main literature available to understand the role of parents, the government, and companies in protecting minors from harmful content they may be exposed to in the digital environment. Also, it is essential to examine programmes available that aim to protect young people in the digital environment. Finally, we review specific topics that serve to sustain the critical discussion in this paper, such as harmful content, ethics, internet parenting style and risks and opportunities for minors in the digital environment.

### **METHODOLOGY**

This review adopts a qualitative approach involving a state-of-the-art review employing the academic database catalogue available online that was conducted according to the twelve steps recommended by Kable, Pich and Maslin-Prothero (2012). Additionally, specific keywords derived from the research question were utilised to select papers and reports, such as 'protection of young people', 'ethics', 'minors' and 'digital environment', in addition to subgroups, such as harmful content, vulnerable young people on the internet, and policies to protect young people in the digital environment.

An additional element of this qualitative study involved an evaluation and analysis of reports and an analysis of the implementation of programmes created by the European Union. Desk research was employed in order to review reports, acts, policies, legislation, measures, documents, reviews, summaries, regulations and statutes from a European perspective such as the European Audiovisual Observatory, EU Kids Online, the Council of Europe, the European Commission, and the ICT Coalition. This stage aimed to collect secondary data for this study as well as to give details about the chronological development of the topic studied and evaluate regulations and acts linked to the protection of minors in the digital environment.

In both stages, we considered the six elements of Bloom's Taxonomy (knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation) to effectively develop critical thinking towards the main themes explored in this paper as well as achieve a critical analysis based on the objectives and research question (Bloom *et al.*, 1956).

Finally, Articles and reports were chosen according to the following criteria: 1. Must be peer-reviewed; 2. The number of citations; 3. Relationship of the keywords and abstract with the topic covered in this paper; 4. The reliability and validation of research methods; 5. The reliability of the publisher.

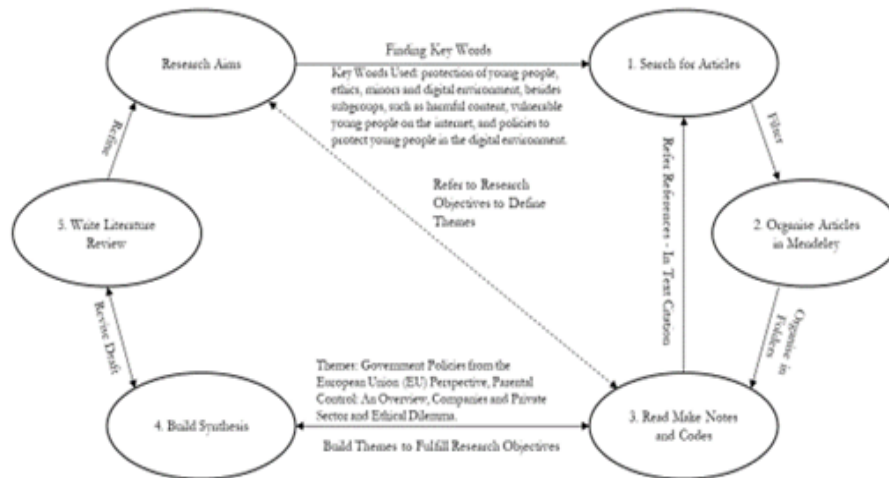


Figure 1. Review Process, elaborated by the author (2022)

### A STATE-OF-THE-ART REVIEW

The review's purpose is to present, explain, and evaluate the existing literature about the topic and provide evidence, recommendations, and solutions to answer the research question. Current research in this area is compared with previous research focusing on the following concepts/issues: government policies from an EU perspective, parental controls, self-regulation (corporate and private sector), and ethical perspectives (Bryman, 2004).

#### Government Policies from the European Union (EU) Perspective

The protection of minors in the digital environment is a critical goal of the EU (European Union). In fact, in 1996, the European Commission published a document recognising the importance of this issue, mainly because new media platforms could contribute more visibly and at a faster rate than traditional media to make such content more accessible to minors (Commission of the European Communities, 1996). However, this document was only the starting point, since, in that same year, the European Commission published another document with the primary goal of proposing the first specific control measures to protect minors, to create a more critical approach to the use of online content, essentially based on technological standards, content filtering systems, covering parental control software, and an age-based labelling system (Commission of the European Communities, 1996).

Therefore, the European Commission laid the foundations for several programs to protect minors in the digital environment, increasing awareness of such a problem. According to the

European Audiovisual Observatory IRIS plus EAO, (2012), the European Commission has significantly contributed to increasing awareness of the need to evaluate and rethink the regulatory and legal framework protecting minors in the digital environment, especially in keeping with the dynamism and changing nature of the media landscape. Hence, it was being acknowledged that the existing model for protecting minors in the audiovisual environment was transitioning to the online world/digital environment, with the internet making it quite impossible to apply the existing and more traditional protection standards.

Such acknowledgement was the foundation of the “Action plan for a safer internet”, which was created in 1999 to promote a favourable environment to the development of the internet industry, more precisely by encouraging safe use of the web and by combating illegal and harmful content (Labio-Bernal, Romero-Domínguez and García-Orta, 2020).

The main pillars of the “Action plan for a safer internet” are the following; 1) the development of content classification and filtering systems; 2) safety through a European network of hotlines for reporting illegal content; 3) the development of self-regulation initiatives; and 4) initiatives to raise awareness and educate through media literacy programs (O’Neill, 2018; Labio-Bernal, Romero-Domínguez and García-Orta, 2020). Overall, all of these fundamental pillars have been maintained throughout the different stages of the plan’s implementation, increasing awareness regarding the importance of protecting minors, their dignity, and their privacy in the digital environment. Hence, in the second stage of the program (“Safer internet plus”, 2005-2008), the need to expand the action’s strategies according to the changes occurring in terms of technology and communication trends was highlighted (EUR-Lex, 2009). The third stage of the program was launched in 2009, more precisely in the context of a consolidated online environment, which was even more used by children, despite them being significantly vulnerable (IRIS plus EAO, 2015).

Since the implementation of this first project, several European institutions have developed quite intense initiatives, such as:

- 1) The “dotSAFE” program.
- 2) The “Safer internet forum”, since 2004, with legal authorities, representatives from the industry, civil organisations (child protection groups, parent-teacher associations, and consumer groups), and legislative institutions.
- 3) Insafe and INHOPE, referring to a global network of hotlines for reporting illegal content online with the goal of eliminating online child sexual abuse.
- 4) “EU kids online”, consisting in mapping experiences of children online in order to assess their safety and risks on websites.
- 5) “Mediappro”, which is a media literacy project.
- 6) “SIP-Bench” program, referring to parental control strategies.
- 7) The celebration of Safer Internet Day.
- 8) The creation of the “Internet governance forum”.
- 9) The establishment of several points of contact where children can get educated about navigating safely on the internet and on how to combat cyberbullying and online sexual abuse – Safer Internet Centres (SICs).
- 10) The Poscon (Positive Online Content and Services for Children in Europe) Network.
- 11) The European NGO Alliance for Child Safety Online.

12) The Net Children Go Mobile.

13) And the SPIRTO (Self-Produced Images Risk Taking Online) (IRIS plus EAO, 2015).

The final stage of the program which began in 2014, is still underway today and is focusing on specific areas of action, namely:

- 1) To increase awareness and empowerment, which includes teaching digital literacy and online safety, in all schools within the EU.
- 2) To encourage the production of educational and creative online content for children and promote positive online experiences for children.
- 3) To combat online child sexual abuse material, as well as sexual exploitation of children.
- 4) To create a safe environment for children, mainly through age-appropriate privacy configurations, age-based and content-based classifications, and broader use of parental controls (IRIS plus EAO, 2015).

Still, it is noteworthy to mention that this last stage of the program was only launched after the publication of two specific documents in 2012, with one examining the biggest challenges in the online sector regarding child protection and the other introducing a new line of action that was dedicated to the promotion of quality content for minors (Council of the European Union, 2012; European Commission, 2012). The concept of “quality content” for minors refers to content that increases their skills, knowledge, and competencies, emphasising creativity and being reliable and safe. Furthermore, the same document also recognises that this type of content can encourage better web use, namely if children are also involved in creating such content. This recognition differs from previous and earlier stages, considering that the EU had only highlighted the importance of the parents, educators and civil society’s roles in making such digital environment safe, hence leaving the creation, production and distribution of online content to the relevant industry (Council of the European Union, 2012; European Commission, 2012).

The new campaign POCC (“Positive Online Content Campaign”) aims to raise awareness regarding the importance of quality content for minors while simultaneously encouraging the involvement of children and young people in creating such content, promoting a safe online environment and experience to minors overall (POCC, 2019). The rationale of this specific program is that by exposing children to high-quality online content in their first online experiences, they will be able to learn to fully recognise the components of positive and appropriate content and services in the digital environment (Council of the European Union, 2012; POCC, 2019).

Nowadays, all these challenges are incorporated in the “Better Internet for Kids” (BIK) program, which consists of a hub for research, practices, cooperation networks and a wide range of media literacy initiatives (BIK, 2021). The case of Spain must be highlighted since it has addressed the BIK in a broader context, including broader policy initiatives. For instance, in 2013, Spain published one of the most relevant general political frameworks, the *Digital Agenda for Spain*, serving as an umbrella program for government actions directly related to the information society and the digital agenda (Gobierno de España, 2013). The following year, Spain launched the *Spanish national cybersecurity strategy*, essentially covering areas related to promoting a

culture of cyber security for all citizens in general and increasing online protection levels (European Audiovisual Observatory, 2016; Gobierno de España, 2019).

Even though there was a change in policy regarding the inclusion of creative and quality content by children, the EU has traditionally shown a significant preference for self-regulation, which has been expressed in multiple initiatives since 2007. Indeed, in that year, the European Commission published the *European framework for safer mobile use by younger teenagers and children*, which was the outcome of the work developed by the High-Level Group on Child Protection, comprising the following members: mobile operators, GSMA Europe, child protection organisations, content providers, and the European Commission (European Commission, 2007; GSMA Europe, 2021). Furthermore, the mobile operators and the content providers that comprise this group also signed the Agreement on Safer Internet Day, and since then have been working on its implementation, namely by encouraging the participation of even more mobile operators, as well as by ensuring the development of national codes of conduct for self-regulation, aiming to make it easier to implement such agreements (European Commission, 2007; GSMA Europe, 2021).

In 2012, several members of the GSMA Europe joined the ICT Coalition, which aimed for safer use of connected devices and online services by children and young people (ICT Coalition, 2021). In more detail, some of the companies that ended up joining this initiative were: Apple, BSkyB, BT, Dailymotion, Deutsche Telekom, Facebook, France Telecom-Orange, Google, Hyves, KPN, Liberty Global, LG Electronics, Mediaset, Microsoft, Netlog, Nintendo, Nokia, Opera Software, Research in Motion, RTL Group, Samsung, Skyrock, Stardoll, Sulake, Telefonica, TeliaSonera, Telecom Italia, Telenor Group, Tuenti, Vivendi, and Vodafone. (Labio-Bernal, Romero-Domínguez and García-Orta, 2020, p. 137)

More recently, in 2016, the initiative changed its name to “Alliance to better protect minors online” (The alliance to better protect minors online, 2017). The Alliance includes all the following member companies:

ASKfm, BT Group, Deutsche Telekom, Disney, Facebook, Google, KPN, the Lego Group, Liberty Global, Microsoft, Orange, Rovio, Samsung Electronics, Sky, Spotify, Sulake, Super RTL, TIM (Telecom Italia), Telefónica, Telenor, Telia Company, Twitter, Vivendi, and Vodafone. (Labio-Bernal, Romero-Domínguez and García-Orta, 2020, p. 137)

In addition to these company members, the initiative also included the participation of other associations, such as: “BBFC, Child Helpline International, Coface, Enacso, EUN Partnership, FFTelecoms, FOSI, FSM, GSMA, ICT Coalition, NICAM, Toy Industries of Europe, and Unicef” (Labio-Bernal, Romero-Domínguez and García-Orta, 2020, p. 137). In sum, the Alliance has emerged due to recognising the constant risks associated with online services, proposing the identification of potential areas where minors' safety and rights could be compromised. Thus, the combination of parents' efforts, national and international organisations, educators, civil society, and public authorities in a global approach guarantees the protection of minors in the digital environment (The alliance to better protect minors online, 2017).

### **Parental Control: An Overview**

Overall, minors's experiences with digital technologies involve an increasing quota of young users born and developing in environments where digital technologies are widely available and

used. Nowadays, this occurs from early infancy, since children aged 2-4 years use touchscreen devices, such as smartphones or tablets, to play or watch movies, and parents frequently introduce these digital technologies to their children to use them in certain social situations (Mascheroni and Ólafsson, 2014; Smahel *et al.*, 2020; YPULSE, 2021).

Considering the most recent report on the worldwide internet diffusion among young people, one in three users is estimated to be a child or teenager (under 18) (UNICEF, 2019). Moreover, the report depicts that children mostly use digital technologies at home, with more intense and prolonged activities during the weekends. Also, children often use digital technologies at school at least a day a week (UNICEF, 2019). Therefore, it is evident that the access to digital technologies is expanding among young generations, which justifies why this reality ends up raising questions as to how to guarantee young generations the opportunities offered by new technologies (to study, to socialise or to enhance their skills), and on how to protect them from potential dangers of the digitalised world or harmful content (i.e., contact with unknown people and exposure to pornographic or violent content) (The alliance to better protect minors online, 2017; Livingstone, Winther and Saeed, 2019).

Nonetheless, parents are also directly exposed to digital technologies in many fields of their life. These new technologies have changed how family members communicate, enjoy themselves, acquire information, and solve daily problems. Still, parents are the first mediators of their childrens' experiences in digital environments: they integrate digital technologies into their ordinary routines, promoting both constructive and safe uses (Smahel *et al.*, 2020). Thus, the concept of digital parenting emerges, consisting of a description of their practices and efforts to comprehend, support, and regulate their childrens' activities in such digital environments (Livingstone and Helsper, 2008).

Some studies of young digital users (9-16 years old) in many European countries have compared parents' opinions before and after the diffusion of mobile services (Livingstone *et al.*, 2012; Mascheroni and Cuman, 2014). After four years, most parents declare that they know less about their kids' online activities and have more difficulties closely monitoring their digital technologies usage. However, parents are more aware of the risks of using the web, preferring to talk to their children about Internet security rather than limiting or even prohibiting Internet use (Livingstone *et al.*, 2017). Hence, parents can either encourage or limit the use of digital technologies to their children, according to the opportunities or danger they attribute to them (Smahel *et al.*, 2020).

In this sense, a new parenting style emerged, being completely different from the traditional ones (i.e., authoritative parenting, laissez-faire parenting, authoritarian parenting, and permissive parenting) – the internet parenting style (Darling and Steinberg, 1993; W.F. Lau and H.K. Yuen, 2013). Parenting styles refer to the context in which parents raise and socialise with their children, comprehending two different dimensions: responsiveness/warmth (involvement, acceptance, and affect that they express towards the child's needs) and demandingness/control (rules, control, and maturity expectations for the child's socialisation) (Darling and Steinberg, 1993).

Regarding the internet parenting style, researchers have identified the key dimensions of parental warmth/control more strictly related to the child's behaviours on the Internet/digital



technologies (Table 1). It is essential to mention that these internet parenting styles are related to the childrens' use of digital technologies – for instance, a low parental control might result in more time of Internet usage by children (Valcke *et al.*, 2010; W.F. Lau and H.K. Yuen, 2013).

**Table 1. Key dimensions of the internet parenting style (Valcke *et al.*, 2010, p. 89).**

Style dimensions	Item/Examples
Parental control	Supervision: <i>"I'm around when my child surfs on the Internet"</i>
	Stopping internet usage: <i>"I stop my child when he/she visits a less suitable website"</i>
	Internet usage rules: <i>"I limit the time my child is allowed on the Internet"</i>
Parental warmth	Communication: <i>"I talk with my child about the dangers related to the Internet"</i>
	Support: <i>"I show my child 'child friendly' websites."</i>

Internet parenting styles also depend on the childrens' characteristics, such as age, self-esteem, emotional regulation, and behavioural problems. More specifically, styles vary and accommodate childrens' age. For instance, parents who adopt an authoritative style when children are in infancy tend to become more permissive as children get older (Martínez *et al.*, 2019). Nonetheless, parental mediation, which differs from parenting styles, is more important to the present study, considering that it refers to "the diverse practices through which parents try to manage and regulate their children's experiences with the media" (Livingstone *et al.*, 2015, p. 7). There are two broad mediation approaches among the existing literature: *enabling* (or *instructive*) mediation and *restrictive* mediation (Livingstone *et al.*, 2017). Table 2 summarises the main parental mediation strategies, providing some examples regarding the most common practices.

**Table 2. Main parental mediation strategies and examples of common practices (Coyne *et al.*, 2017).**

Parental mediation strategy	Examples of common practices
Enabling or active mediation	Parents engage in different activities to enhance the kid's appropriate use of the digital technologies (explain the usage of the device and/or talk about the contents)
Co-use or co-viewing mediation	Parents are present when the kid displays the activity with the media but do not talk about the content
Restrictive mediation	Strict attention to rules and control to the kid's digital activities (rules of when the kid can use digital technologies or pose time restrictions)
Technical restriction	Adoption of software applications or other technical tools to control the kid's activities (filters on PC for the kid's safety)

The enabling or active mediation is the most common approach in European families with 9-16 years old children, while restrictive mediation is more frequent in families with younger children (Livingstone *et al.*, 2017). Therefore, it is possible to conclude that parental mediation regarding digital technologies also changes according to the kids' ages, aiming to suit their needs better and protect them from online harm.

Regarding parental control, it is vital to this study to approach the EU Kids Online Project. Essentially, this project was funded by the European Commission's Safer Internet Programme, consisting of a thematic network that aimed to identify, compare, and draw conclusions from existing research about children and online technologies in Europe (Livingstone and Haddon, 2009; EU Kids Online, 2021). Furthermore, this project constructed a publicly accessible, as well as searchable, database of nearly 400 studies conducted across Europe, which is why EU Kids Online has concluded that the existing research is "unevenly distributed across Europe, with most in Germany, the UK, Denmark and least in Cyprus, Bulgaria, Poland, Iceland, Slovenia and Ireland" (Livingstone and Haddon, 2009, p. 236).

In another report, it has been established that "EU Kids Online is a thematic network designed to inform this policy context by examining European research (national and multi-national) on cultural, contextual and risk issues in children's safe use of the internet and online technologies" (De Haan and Livingstone, 2009, p. 3). The programme explicitly addresses three intersecting domains:

- 1) Children (mainly up to 18 years old), their families, domestic users.
- 2) Online technologies: mainly but not only the internet; focusing on use and risk.
- 3) European empirical research and policy, prioritising the 21 countries in the network (De Haan and Livingstone, 2009, p. 3).

After analysing the existing research within the scope of the EU Kids Online project, it is possible to conclude that children can encounter four main types or forms of risks in digital technologies and four types of online opportunities (Table 3).

**Table 3. Risks and opportunities for children in digital technologies (De Haan and Livingstone, 2009, p. 5)**

		<b>Content:</b> Child as recipient	<b>Contact:</b> Child as participant	<b>Conduct:</b> Child as actor
<b>OPPORTUNITIES</b>	<b>Education learning and digital literacy</b>	Educational resources	Contact with others who share one's interests	Self-initiated or collaborative learning
	<b>Participation and civic engagement</b>	Global information	Exchange among interest groups	Concrete forms of civic engagement
	<b>Creativity and self-expression</b>	Diversity of resources	Being invited/inspired to create or participate	User-generated content creation
	<b>Identity and social connection</b>	Advice (personal/health/sexual etc)	Social networking, shared experiences with others	Expression of identity
<b>RISKS</b>	<b>Commercial</b>	Advertising, spam, sponsorship	Tracking/harvesting personal info	Gambling, illegal downloads, hacking
	<b>Aggressive</b>	Violent/gruesome/hateful content	Being bullied, harassed or stalked	Bullying or harassing another
	<b>Sexual</b>	Pornographic/harmful sexual content	Meeting strangers, being groomed	Creating/uploading pornographic material
	<b>Values</b>	Racist, biased info/advice (e.g., drugs)	Self-harm, unwelcome persuasion	Providing advice e.g., suicide/pro-anorexia

Still, and since the EU Kids Online project is a part of the Safer Internet plus Programme, the main emphasis is on online risks. Considering this specific focus, the significant policy recommendations of the EU Kids Online project aim to safeguard children and young people from negative experiences, where parental control or mediation is one of the critical strategies (De Haan and Livingstone, 2009).

In a more recent report, Zaman and Nouwen (2016) note there is an increasing number of parental controls and technology tracking and monitoring technologies in the market. They were initially launched as tools, apps (applications) or services that parents can rely on to keep their children safe, allowing them to prevent their kids from seeing inappropriate online content, detect cyberbullying at early stages, and limit chatting or in-app purchases. The following table (Table 4) summarises the current parental controls in the market, categorising them according to their function, implementation, and design initiator (Zaman and Nouwen, 2016).

**Table 4. Parental controls’ categorisation according to function, implementation, and design initiator (Zaman and Nouwen, 2016)**

Axes	Type	Functionalities
<b>Function</b>	Time restrictions	Limit the time kids can spend online (Some apps allow the definition of specific time slots during which the kid can go online on weekdays or weekends)
	Content restrictions: - Incoming content interventions - Outgoing content interventions	Filtering content, allowing pre-approved content only, blocking pre-defined inappropriate content
		Blocking the type of information that can be uploaded or emailed
	Activity restrictions: - Economic activities - Social activities - Entertainment activities	Blocking online purchases
		Limit the people with whom the kid can interact
Blocking multiplayer games		
Monitoring and tracking	Monitor kids’ online activities and follow-up actions	
<b>Implementation</b>	Operating systems	Windows and iOS
	Web browsers	E.g., a kids’ browser that functions as a “walled garden.”
	Computer control software	Program designed to protect the kid online, typically using a combination of restrictive functionalities
	Mobile devices	Create restricted user profiles to limit access to features/content on tablets or phones and limit access to certain apps
	Home network	E.g., router-based solutions that filter internet content before it enters the house
	Game consoles	-----
<b>Design initiator</b>	Telecoms operators	System of parental controls to prevent content being seen by minors
	Software providers	-----
	Social networking site owners	Strict privacy settings for kids
	Hardware manufacturers	Administrator controls to set up a restricted profile for kids (password protection, content, activity restrictions)
	Game platform owners	-----
	Content providers	-----

Even though there are several studies about parental controls, the literature has not yet reached a conclusive answer regarding their effectiveness in reducing childrens’ online risks. Some research supports the effectiveness of preventive software, especially filtering, blocking, and

monitoring software, in reducing unwanted exposure to online sexual material for kids (10-15 years old). Nonetheless, the evidence cannot be generalised to all ages (Ybarra *et al.*, 2009). In a separate study, the obtained results demonstrated that parental controls failed to reduce online risks for kids, which highlights the need for further studies in this area of expertise (Duerager and Livingstone, 2012).

Moreover, the conducted research fails in another aspect, directly related to the parents' determination to use parental controls to keep their children safe in digital environments. For instance, parents of children aged 10 to 15 years old were stated to be more likely to adopt filtering software than parents of children aged 16 to 17 years old. In contrast, parents that do not trust their children are more likely to use filtering and blocking software to prevent their exposure to online sexual content (Mitchell, Finkelhor and Wolak, 2005).

According to Zaman and Nouwen (2016, p. 3), the contradictory research findings and conclusions regarding the effectiveness of parental controls are partly due to the following facts, which are currently missing:

- 1) A clear operationalisation of notions of technically mediated parental mediation.
- 2) An up-to-date categorisation of the wide diversity of existing tools.
- 3) An in-depth understanding of how parents use these tools (rather than whether parents use them).

Thus, it is vital to conduct more studies to better understand parents' current parental control practices and technologies to keep their children safe in the digital environment.

### **Companies and Private Sector – Self-Regulation Sector**

To understand how social media companies are trying to protect children and adolescents from harmful content and any problem caused by the digital environment, it is important to address two specific initiatives within the self-regulation sector, namely the “Alliance to Better Protect Minors Online” (hereafter referred to as the Alliance) and the “ICT Coalition for Children Online” (hereafter referred to as the ICT Coalition) (The alliance to better protect minors online, 2017; ICT Coalition, 2021).

The Alliance consists of a self-regulatory initiative launched on the Safer Internet Day in 2017, comprising several Information and Communication Technology (ICT) and media companies, NGOs, and UNICEF, and aiming to better protect minors online by improving their online environment. According to the European Commission (2019, p. 14), the main idea behind the Alliance “is to build on companies' existing competencies in these fields to improve their products and services to combat harmful content, conduct and contact on the internet and making devices and services safer to use for minors”. In the Statement of Purpose, which is the document that establishes the aims, the scope, and the method of the initiative, the Alliance's objectives are clearly defined. Overall, the Alliance aims to tackle three types of risks minors are exposed to on the internet, more precisely:

- 1) Harmful content, for instance violent or sexually exploitative content.
- 2) Harmful conduct, such as cyberbullying.
- 3) Harmful contact, such as coercion, “grooming”, or sexual extortion (The alliance to better protect minors online, 2017; European Commission, 2019).

The Alliance started with 22 endorsing companies, including several network operators, online content and services providers, and manufacturers. By the end of 2017, three additional companies joined the Alliance, bringing to a total of 25 endorsing companies. Moreover, the Alliance has 13 Associate Members, including NGOs and UNICEF (The alliance to better protect minors online, 2017). The diversity of companies demonstrates the geographical scope of the Alliance. Their operations are developed in several EU Member States and other countries, demonstrating the initiative's global operations and scope. Table 5 summarises the Alliance's members and associate members according to their sectors, geographical scope, and organisation type.

**Table 5 - Alliance members and associate members, their sector/organisation type, and geographical scope (European Commission, 2019)**

Name	Sector/Organisation type	Geographical Scope
<b>Endorsing Companies</b>		
<b>ASKfm</b>	Social media	Global
<b>BT Group plc</b>	Telecoms provider	European
<b>Deutsche Telekom AG</b>	Telecoms provider	European
<b>Facebook</b>	Social media	Global
<b>Google Inc.</b>	Technology (e.g., internet services, software/electronics development)	Global
<b>KPN</b>	Telecoms provider	National
<b>Liberty Global</b>	Telecoms provider	Global
<b>Microsoft Corporation</b>	Technology (e.g., internet services, software/electronics development)	Global
<b>Orange Group</b>	Telecoms provider	Global
<b>Rovio Entertainment Ltd.</b>	Video game developer	Global
<b>SUPER RTL/Mediengruppe RTL Deutschland</b>	Telecoms provider	European
<b>Samsung Electronics</b>	Technology (e.g., internet services, software/electronics development)	Global
<b>Sky</b>	Telecoms provider	European
<b>Snap Inc.</b>	Social media	Global
<b>Spotify AB</b>	Entertainment	Global
<b>Sulake Corporation Oy</b>	Video game developer	European
<b>Telefónica, S.A.</b>	Telecoms provider	Global
<b>Telenor Group</b>	Telecoms provider	Global
<b>Telia Company</b>	Telecoms provider	Global
<b>The LEGO Group</b>	Entertainment	Global
<b>The Walt Disney Company</b>	Entertainment	Global
<b>TIM SpA</b>	Telecoms provider	National
<b>Twitter</b>	Social media	Global
<b>Vivendi</b>	Entertainment	Global
<b>Vodafone Group Services Limited</b>	Telecoms provider	Global
<b>Associate Members</b>		
<b>BBFC</b>	NGO	National
<b>Child Helpline International</b>	NGO	Global
<b>COFACE Families Europe</b>	NGO Association	European
<b>eNACSO</b>	NGO Association	European
<b>EUN Partnership</b>	Network of ministries	European
<b>FFTelecoms</b>	Trade Association	National
<b>FOSI</b>	Non-profit organisation	Global
<b>FSM</b>	Non-profit organization	National
<b>GSM Association</b>	Trade Association	Global
<b>ICT Coalition</b>	Self-regulatory initiative	European
<b>NICAM</b>	Institute	National
<b>Toy Industries of Europe</b>	Trade Association	European
<b>UNICEF</b>	International organisation	Global

On the other hand, the ICT Coalition consists of a self-regulatory consortium of internet companies representing the entire content, services, and devices value chain. Essentially, this initiative brings together, and for the first time, key industry players from across the communications and internet market, including online services, connectivity platforms, and connected gaming and mobile devices. The main goal of the ICT Coalition is to “encourage the safe and responsible use of online services and internet devices among children and young people and to empower parents and carers to engage with and help protect their children in the digital world” (O’Neill, 2014).

In 2012, the ICT Coalition announced a set of specific principles, aiming for the development of products/services to enhance the safety of minors online and referring to several areas: 1) content; 2) parental controls; 3) responding to abuse/misuse; 4) child abuse material or illegal contact; 5) privacy and control, and 6) education and awareness. Overall, this initiative’s signatories to these principles ended up committing to:

- 1) Developing innovative strategies to enhance online safety and encouraging a responsible use of the internet and internet devices by children and young people.
- 2) Empowering parents and carers to engage with and help to protect their children.
- 3) Providing easily accessible, clear, and transparent information about online safety and behaviour.
- 4) Raising awareness of how, and to whom, to report abuse and concerns (O’Neill, 2014).

The 16 companies included in the ICT Coalition refer to 5 different content types: IPTV services/Video-on-demand; own- or third-party apps, other commercial content; user-generated content; communication/chat content; and cloud-hosting services (O’Neill, 2014). Table 6 presents the 16 companies that integrate this initiative and the corresponding type of content that they provide to their users.

**Table 6. Companies that integrate the ICT Coalition and the type of content they provide to users (O’Neill, 2014, p. 12)**

Type of content	Company
IPTV services/Video on-demand	Deutsche Telekom, KPN, Orange, Portugal Telecom, TDC, Telecom Italia, Telefónica, TeliaSonera, Vodafone
Own- or third-party apps, other commercial content	All (except TDC)
User-generated content	Facebook, Google, Portugal Telecom
Communication/chat content	Orange, Unibet, Google, Facebook, Telecom Italia, Portugal Telecom
Cloud-hosting services	Deutsche Telekom, Vodafone, Portugal Telecom, Telecom Italia

### **Ethical Dilemma**

The concept of ethics is defined as the “systematic exploration of questions about how we should act concerning others” (Rhodes, 1986). Another concept directly related to this is ethical sensitivity, referring to the individual’s conscience, whose actions might affect the welfare of others. Within the context of the digital environment, ethics involves four different aspects:

- 1) Determining whether the technological options either directly or indirectly affect another person negatively.
- 2) Developing an ideal plan of action.
- 3) Identifying the important values that are associated with each specific situation.
- 4) Implementing a solution/plan of action to be monitored and evaluated (Rest, 1982).

Moreover, it has been established that ethical choices occur along an ethical context continuum (ECC) and are influenced by the social and cultural norms prevalent where they occur and by the values people hold in a culture or society. In addition, the ECC allows people to evaluate the situation, question, or issue, namely if it is potentially harmful to others, neutral, or beneficial to others (Olcott *et al.*, 2015).

The main ethical frameworks that reflect the ethical philosophies that help to determine the action to be taken are: 1) duties; 2) best outcomes (harm-benefit); 3) rights; and 4) virtue-based approach. Overall, all these ethical frameworks are promoted and enforced through tools, namely the codes of conduct and ethical guidelines, and regulatory mechanisms, such as ethics review committees (UNICEF, 2012).

It is essential to mention the European Network of Ombudspersons for Children (ENOC), a not-for-profit organisation federating independent children's rights institutions (ICRIs) that aims to facilitate the promotion and protection of children's rights (Milovidov, 2019). The ENOC was launched in 1997, and its mandate is to:

- 1) Develop strategies for the implementation of the recommendations of the CRC.
- 2) Facilitate information sharing and exchange between its members.
- 3) At the international level, promote the establishment of ICRIs in countries where these do not yet exist and assist in their setup.
- 4) Encourage contact and mutual assistance between ICRIs and their members (Milovidov, 2019, p. 3).

According to Milovidov (2019, p. 5)

The impact on children and families is growing exponentially as new technologies are developed and themes such as "safety by design" or "privacy by design" are also being developed to reflect the ethical considerations being raised by the digital world. Along with ethical considerations, human rights issues, and other concerns, there are large disparities when we examine children's digital access, skills and use. (Milovidov, 2019, p. 5)

Taking into consideration the European context, nowadays, children can find support on several issues, such as radicalisation, cyberbullying, extremism, online child sexual exploitation, and hate speech, as well as seek assistance in terms of digital reputation, online sharing, identity, and footprints (Kirchschläger, 2019). Nonetheless, it is important to mention that society is currently having some difficulties applying appropriate standards to each new device, software, and platform to protect children and young people. In fact, the industry has been continuously looking at self-regulation while governments are trying to impose regulations on industry players. Still, the absence of effective standards results in the emergence of new areas of child online protection (Milovidov, 2019) (Table 7).

**Table 7. Some of the new areas of child online protection issues that emerge due to the absence of effective standards (Milovidov, 2019)**

<b>Emerging issue</b>	<b>Impact on children and young adults</b>
Artificial intelligence	Impact on children's development, behaviours, and ability to learn new skills
Algorithms	Bias and discrimination on social media sites and websites
Inclusion and access	Different inclusion and access to online environments
LGBTQIA+	Identity and share with others when faced with discrimination, hate speech, apps with conversion therapy
Disability	Children with special needs face more online harms
Ethnic minorities	Bias and discrimination continue online, with hate speech more toxic
Cybersecurity in family homes	Hacking, surveillance of webcams, home assistants

Most recently, the Council of Europe 2016-2021 strategy for children's rights focuses on five specific areas, more precisely: equal opportunities, participation, violence-free life, child-friendly justice and digital environment rights (Council of Europe, 2016). Regarding the latter, it is being reinforced by the Recommendation CM/Rec(2018)7 of the Committee of Ministers to member states on guidelines to respect, protect, and fulfil the children's rights in the digital environment (Council of Europe, 2018). In sum, this Recommendation CM/Rec(2018)7 aims to ensure children's interaction and safety, including topics such as: the provision of child-friendly content, the protection of personal data, helplines and hotlines, resilience and vulnerability, and both the role and responsibilities of business enterprises (Council of Europe, 2018). Hence, the main goal is to reinforce the protection and safety of children and young people in the digital environment while simultaneously ensuring that their rights are always safe and guaranteed.

### **Analysis**

Across the various topics discussed in this review was possible to answer the research question "*who is responsible for ethically protecting minors in the digital environment?*" outlined in the article's conclusion section below. Furthermore, this review resulted in another important delivery. The review's analysis made it possible to list 28 types of potential harmful content spread online, many of them promoted by SMIs (social media influencers), websites and bloggers. This list was formulated based on research studies, and real situations mainly focused on young people. This list can be seen below in Table 8. However, it is noteworthy that what is considered a harmful content will depend on the culture and country. Therefore, the list below is based on the author's interpretation.



**Table 8. Types of Content, elaborated by the author (2022)**

	<b>Types of Content</b>	<b>Sources</b>
1	Promoting products or brands	(Uzunoğlu and Misci Kip, 2014; Djafarova and Rushworth, 2017; Arora <i>et al.</i> , 2019; Stoldt <i>et al.</i> , 2019; Jiménez-Castillo and Sánchez-Fernández, 2019; Audrezet, de Kerviler and Guidry Moulard, 2020; Goodman and Jaworska, 2020; Ki <i>et al.</i> , 2020; Nafees <i>et al.</i> , 2021; Reinikainen <i>et al.</i> , 2021; Sánchez-Fernández and Jiménez-Castillo, 2021; Zhou <i>et al.</i> , 2021; Djafarova and Bowes, 2021; Kim and Kim, 2021; Masuda, Han and Lee, 2022; Cheung <i>et al.</i> , 2022; Farivar, Wang and Turel, 2022)
2	Promoting violent content	(Moreno <i>et al.</i> , 2009; Gupta, 2019; Jordan, Kalin and Dabrowski, 2020; Frischlich, 2021)
3	Promoting unhealthy food	(Harris and Graff, 2011; Coates <i>et al.</i> , 2019; Qutteina <i>et al.</i> , 2019b; Buente <i>et al.</i> , 2020; Pollack <i>et al.</i> , 2020; Kucharczuk, Oliver and Dowdell, 2022)
4	Promoting sexualised body image	(Allem <i>et al.</i> , 2017; Guinta and John, 2018; Sumter, Cingel and Hollander, 2021)
5	Promoting an ideal body image	(VanderStoep and Johnston, 2009; Meier and Gray, 2014; Chua and Chang, 2016; Fardouly, Pinkus and Vartanian, 2017; Hogue and Mills, 2018; Kleemans <i>et al.</i> , 2018; Raggatt <i>et al.</i> , 2018; Ando <i>et al.</i> , 2021; Jarman <i>et al.</i> , 2022; Roberts <i>et al.</i> , 2022)
6	Promoting an unrealistic lifestyle	(Goodman and Jaworska, 2020; Vasquez, 2020; Martinelli, 2021; Lim <i>et al.</i> , 2022)
7	Promoting alcohol products or brands	(Hendriks <i>et al.</i> , 2020; Carah and Brodmerkel, 2021; Russell <i>et al.</i> , 2021)
8	Promoting alcohol intake	(Egan and Moreno, 2011; Boyle <i>et al.</i> , 2016, 2021; Curtis <i>et al.</i> , 2018; Hendriks <i>et al.</i> , 2020)
9	Promoting cigarette smoking	(Yoo, Yang and Cho, 2016; Allem <i>et al.</i> , 2017; Hébert <i>et al.</i> , 2017; Kong <i>et al.</i> , 2019; Cavazos-Rehg <i>et al.</i> , 2021; Dalisay <i>et al.</i> , 2022)
10	Promoting cigarette products or brands	(Hébert <i>et al.</i> , 2017; O'Brien <i>et al.</i> , 2020; Dalisay <i>et al.</i> , 2022)
11	Promoting drugs intake	(Moreno <i>et al.</i> , 2009; Allem <i>et al.</i> , 2017; Buente <i>et al.</i> , 2020; Dalisay <i>et al.</i> , 2022)
12	Promoting sexual or pornographic content	(Moreno <i>et al.</i> , 2009; O'Keeffe and Clarke-Pearson, 2011; The Brown University Child and Adolescent Behavior Letter, 2014; Uhls, Ellison and Subrahmanyam,

		2017; Guinta and John, 2018; Jennings, 2021; Sanchez, 2022)
13	Promoting cyberbullying	(Moreno <i>et al.</i> , 2009; O'Keeffe and Clarke-Pearson, 2011; The Brown University Child and Adolescent Behavior Letter, 2014; Uhls, Ellison and Subrahmanyam, 2017; Guinta and John, 2018)
14	Promoting any type of bullying	(Abidin, 2019; Martínez <i>et al.</i> , 2019; Thelwall and Cash, 2021)
15	Promoting any type of abusive forms of marketing	(Archer, 2019; De Regt, Montecchi and Ferguson, 2019; Wolf, Nalloor and Archer, 2019; Davies and Hobbs, 2020; Goodwin, Joseff and Woolley, 2020; Hu <i>et al.</i> , 2020; Lee and Theokary, 2021; Farivar, Wang and Turel, 2022; Leite, Pontes and de Paula Baptista, 2022)
16	Promoting incitement to racial hatred or racial discrimination	(Cammaerts, 2009; Kiai, 2015; Alakali, Faga and Mbursa, 2017; Blaya, 2019; Clissold <i>et al.</i> , 2020)
17	Promoting any type of criminal activities	(Alakali, Faga and Mbursa, 2017; Allen and van Zyl, 2020; Jordan, Kalin and Dabrowski, 2020; Quincy and Manduza, 2021; Sirola <i>et al.</i> , 2021; Baker, 2022)
18	Promoting any form of terrorism	(Harwood, 2019; Allen and van Zyl, 2020; Singh, 2020)
19	Promoting any content related to human trafficking	(Sierra-Rodríguez, Arroyo-Machado and Barroso-Hurtado, 2022)
20	Promoting incitement to a religion or belief	(Commission of the European Communities, 1996)
21	Promoting fake news about politics	(Ferran, Turner and Faulders, 2018; Levitsky and Ziblatt, 2018; Singer and Brooking, 2018; Schirch, 2021)
22	Promoting fake news	(De Regt, Montecchi and Ferguson, 2019; Hobbs <i>et al.</i> , 2020; Al-Zaman, 2021; Leader <i>et al.</i> , 2021; Lotito, Zanella and Casari, 2021; Baker, 2022)
23	Promoting any kind of discrimination	(Sinha-Roy and Ball, 2021)
24	Promoting cultural discrimination	(Commission of the European Communities, 1996)
25	Promoting dangerous games	(Agence France-Presse, 2021; DeTuro, 2021)
26	Promoting risky experiences	(Agence France-Presse, 2021; Sirola <i>et al.</i> , 2021)
27	Promoting unhealthy food intake	(E. Coates <i>et al.</i> , 2019; Pollack <i>et al.</i> , 2020; Hawkins, Farrow and Thomas, 2021; Kucharczuk, Oliver and Dowdell, 2022)
28	Promoting any type of coercion or sexual extortion	(Albert and Salam, 2012; Leber and Abrahams, 2019; Albury <i>et al.</i> , 2020; Quincy and Manduza, 2021; Sinha-Roy and Ball, 2021)

## CONCLUSION

The key learning points from our review of “*who is responsible for ethically protecting minors in the digital environment?*” relies on pieces of evidence that the governments – the European Union and its countries, the private sector and parents have different roles in protecting minors in the digital environment, even though they and we are all responsible for youngers’ protection within and out of the digital world. According to the International Save the Children Alliance (2008), supported by the United Nations, families, communities, governments and non-governmental organisations (NGOs) together play a vital role in realising minor's rights to protection. Thus, all the institutions present in our society are responsible for protecting minors.

The European Union has been acting through important programmes to ensure the safety of young people within the digital environment, such as the “EU kids online”, consisting of mapping experiences of minors online to assess their safety and risks on websites. Another important aspect is the definition of what is good content for young people online, then “quality content” for minors refers to content that increases their skills, knowledge, and competencies, emphasising creativity and being reliable and safe (Council of the European Union, 2012).

Also, the digital environment perspective is included in the Council of Europe 2016-2021 strategy for children’s rights focusing on five specific areas, more precisely: equal opportunities, participation, violence-free life, child-friendly justice and “digital environment” rights (Council of Europe, 2016). In addition, this is reinforced by the Recommendation CM/Rec(2018)7 of the Committee of Ministers to member states on guidelines to respect, protect, and fulfil the children’s rights in the digital environment (Council of Europe, 2018). Finally, the Alliance depicts that a combination of efforts of parents, national and international organisations, educators, civil society, and public authorities in a global approach must guarantee the protection of minors in the digital environment.

From a parental control perspective, we have perceived that it is a challenge for them to track and control their childrens’ actions online and have more difficulties closely monitoring their digital technologies usage (Duerager and Livingstone, 2012; Mascheroni and Ólafsson, 2014). However, parents are more aware of the risks of using the web, preferring to talk to their children about Internet security rather than limiting or even prohibiting Internet use (Livingstone *et al.*, 2017). Therefore, the best solution for parents is to encourage, prohibit or limit the use of digital technologies to their children, according to the opportunities or danger they attribute to them, although always trying to monitor and be part of their children’s internet and social media habits. Furthermore, it is recommended that more studies be conducted to better understand parents' current parental control practices and technologies to keep their children safe in the digital environment, even though there are several applications and software to help parents to monitor their children online.

From the private sector standpoint, two specific initiatives are very important the “Alliance to Better Protect Minors Online” and the “ICT Coalition for Children Online”, both acting to protect minors online. However, further research in the area is recommended to understand the real effectiveness of these programmes and the main actions to protect youth by the social media companies and their outcomes, such as content analysis and minimum age subscription. For example, one of the most challenging aspects for social media companies is to ensure that

minors under the minimum age subscription are not subscribing to their channels (O'Neill, 2013). This issue might be solved through a face recognition system using a document showing their age and picture simultaneously and submitted for evaluation prior to subscription (O'Neill, 2013).

In conclusion, from an ethical point of view, Rest (1982) established four different ethical aspects within the digital environment, as follows; a) Determining whether the technological options either directly or indirectly affect another person negatively; b) Developing an ideal plan of action; c) Identifying the important values that are associated with each specific situation; and d) Implementing a solution/plan of action to be monitored and evaluated. Therefore, it is recommended that the government/state and companies follow these ethical rules to develop efficient measures and programmes to protect minors in the digital environment. The responsibility to protect minors in the digital environment relies on us all and all institutions in our society, as the internet and social media are present in our daily lives. Although parents, government and the private sector have been acting directly to ensure the protection of young people, further research is recommended to evaluate the current programmes, to understand the parents' control, how to empower and effectively train and inform parents for better results as well as it is expected that companies and the government constantly update and review their programmes, policies and legislation in order to have outstanding results. An integrative response from parents, companies and the government might be the best measure, even though there are currently no studies in this regard and no standardised measures to ensure efficient control.

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