

REPORT OF THE COMMITTEE OF EXPERTS FOR THE DEVELOPMENT OF A SAFE DIGITAL ENVIRONMENT FOR YOUTH AND CHILDREN



Report of the Committee of Experts for the Development of a Safe Digital Environment for Youth and Children

Ministry of Youth and Childhood

Technical General Secretary. Publications Centre

2025

Language: English

NIPO: 159250040

Free / Single issue / Online / PDF

<https://cpage.mpr.gob.es>

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1. INTRODUCTION

Context

The social and technological advances brought about by the digitalisation of our society are generating profound transformations that have a major impact on the rights, protection and comprehensive development of youth and children. The digital environment and its constant technological advances allow children and adolescents to interact digitally in key areas, such as education and recreational socialisation. The benefits of these processes of digitalisation and democratisation of access to digital environments must go hand in hand with the necessary measures to protect youth and children in cyberspace, placing their rights and best interests at the centre.

It is important to highlight the growing social demand in recent years calling for a safe, inclusive, and educational digital environment for children and adolescents, one that guarantees their wellbeing and development in the digital age.

The **Spanish Data Protection Agency (AEPD)** must be regarded as one of the institutions that has most strongly promoted and driven the commitment to safeguarding minors in the digital environment, ensuring their rights and freedom in relation to the processing of their personal data. Since 2015, with the adoption of its "Strategic Plan"¹¹, it has been implementing initiatives and measures in the interests of children and adolescents, such as the creation of the thematic section "Education and Minors" on its website. This section includes content, materials and resources to encourage healthy, responsible and safe use of digital devices and personal data, as well as a dedicated channel for queries (via WhatsApp, a telephone helpline and email).

The Agency has also carried out awareness-raising initiatives aimed at families and teachers through the systemic delivery of online training courses, in collaboration with the **National Institute of Educational Technologies and Teacher Training (INTEF)** and the **Spanish National Cybersecurity Institute (INCIBE)**, as well as campaigns such as those carried out with **UNICEF**, "*Un móvil es más que un móvil*"¹² and "*La guía que no viene con el móvil*"¹³. These initiatives provide key guidance for families when giving their children their first mobile phone. In addition, the **AEPD** annually awards a prize to schools, individuals, and organisations that stand out for their work in promoting a healthy and responsible use of the Internet by children and adolescents.

¹¹ AGENCIA ESPAÑOLA DE PROTECCIÓN DE DATOS, 2015. *PLAN ESTRATÉGICO 2015-2019*. Available at: <https://www.aepd.es/sites/default/files/2019-09/plan-estrategico-AEPD.pdf>.

¹² AGENCIA ESPAÑOLA DE PROTECCIÓN DE DATOS and UNICEF, 2023. *Un móvil es más que un móvil*. Available at: <https://www.aepd.es/mas-que-un-movil>.

¹³ AGENCIA ESPAÑOLA DE PROTECCIÓN DE DATOS and UNICEF, 2023. *La guía que no viene con el móvil*. Available at: <https://www.aepd.es/guias/la-guia-que-no-viene-con-el-movil.pdf>.

A key development in 2019 was the establishment of the "Priority Channel"¹⁴, designed to request the urgent removal of sexual or violent content published and/or disseminated online without the consent of the individuals affected, thereby preventing serious harm and damage. It includes a dedicated reporting line for minors over the age of fourteen.

It is also worth highlighting that, in 2019, following the implementation of Organic Law 3/2018 of 5 December on the Protection of Personal Data and Guarantee of Digital Rights (LOPDGDD)¹⁵, which incorporates the right to digital education, the working group "Minors, Digital Health and Privacy" was established. This group is dedicated to promoting digital education and to analysing and studying online risk situations affecting children and adolescents. It brings together public and private actors committed to safeguarding the best interest of the child. Its activities have focused on the prevention, detection and management of the consequences of intensive, problematic or addictive use of digital devices by children and adolescents, and on supporting scientific initiatives aimed at providing guidelines and recommendations to contribute to their digital health and wellbeing, such as the "Digital Family Plan" and the "Recommendations" of the **Spanish Association of Paediatrics**.

Similarly, the work undertaken to implement age verification systems for access to adult online content, such as pornography, is also noteworthy. This facilitated the development of a "Decalogue"¹⁶ setting out the principles and criteria that a system should meet in order to effectively verify age while respecting data protection and privacy regulations, and which has already been successfully tested.

In line with these efforts, the first European strategy for a Better Internet for Children (BIK) was launched in 2012, and updated in May 2022 (BIK+¹⁷), with the aim of ensuring the protection, respect and empowerment of children and adolescents online in the new digital decade. This strategy supports the network of Safer Internet Centres¹⁸, whose node in Spain is operated by **INCIBE**. These centres carry out awareness-raising and training activities, provide assistance, guide reporting, and identify emerging trends and threats through helplines. They also organise the annual Safer Internet Day with the support of the pan-European **INSAFE** network and operate hotlines to reduce the availability of child sexual abuse material online. Since 2018, **INCIBE** has coordinated the European consortium **SIC-Spain**, a national public-private collaboration platform for diagnosis and awareness-raising, with measurable impact in terms of the number of initiatives carried out, people reached and trained, and assessments produced¹⁹.

¹⁴ *Tú también puedes pararlo*. AEPD. [consulted: 12 September 2024]. Available at: <https://www.aepd.es/canalprioritario>.

¹⁵ JEFATURA DE ESTADO, 2018. *Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales*. Boletín Oficial del Estado, no. 294, Available at: <https://www.boe.es/eli/es/lo/2018/12/05/3/com>.

¹⁶ AGENCIA ESPAÑOLA DE PROTECCIÓN DE DATOS, 2023. *Decálogo de principios - Verificación de edad y protección de personas menores de edad ante contenidos inadecuados*. Available at: <https://www.aepd.es/guias/decalogo-principios-verificacion-edad-proteccion-menores.pdf>.

¹⁷ EUROPEAN COMMISSION, 5/2022. A digital decade for children and youth: the new European strategy for a better internet for children (BIK+). [online]. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0212&from=EN>.

¹⁸ Safer Internet Centres. Shaping Europe's digital future [online]. [consulted on: 28 September 2024]. Available at: <https://digital-strategy.ec.europa.eu/en/policies/safer-internet-centres>.

¹⁹ *Resultados SIC-Spain 3.0*. Incibe.es [online]. [consulted on: 28 September 2024]. Available at: <https://www.incibe.es/incibe/informacion-corporativa/con-quien-trabajamos/proyectos-europeos/sic-spain3/results; Resultados SIC-Spain>

In this regard, the initiatives already undertaken are complemented by those promoted by third-sector organisations. One example is the campaign led by **Adolescencia Libre de Móviles**, which brings together various national associations and more than 30,000 affiliated families, and has called for a family pact to delay the age at which children receive their first mobile phone. Another example is the set of consensus measures for a State Pact to protect children in the digital environment, proposed by the **European Association for Digital Transition** together with **UNICEF Spain, iCMedia, Dale una Vuelta, the ANAR Foundation** and **Save the Children**. These proposals, which adopt a comprehensive approach to the issue, include measures relating to health, education and the responsibility of all stakeholders, including industry. This initiative materialised in the “State Pact: Protecting Childhood and Adolescence in the Digital Environment”²⁰, promoted with the institutional support of the **Spanish Data Protection Agency (AEPD)**, the **National Commission on Markets and Competition**, the **Office of the Attorney General**, and the **Youth Institute (INJUVE)**. The pact has now gathered more than 200 signatories, among them foundations, associations, professional bodies, scientific societies and business organisations.

Methodology

The present assessment has been developed using a comprehensive approach that addresses the different areas involved in the development of minors, with particular attention to those in which technology has a significant impact or presence. A broad context of application has been considered, including the regulatory framework, official guidelines and good practices relating to the use of technology by minors, as well as their proper protection. The methodological process has been based on the collection, review and integration of expert contributions, ensuring a multidisciplinary perspective.

Establishment of the Committee of Experts

On 30 January 2024, the **Council of Ministers**, at the proposal of the Minister for Youth and Childhood, approved the agreement to create a Committee of Experts for the development of a safe digital environment for youth and children. This body will hereinafter be referred to as the “Committee of Experts”.

The agreement established a period of six months for the Committee of Experts to produce a document which, in relation to childhood, adolescence and youth, should:

2.0. Incibe.es [online]. [consulted: 28 September 2024]. Available at: <https://www.incibe.es/incibe/informacion-corporativa/con-quien-trabajamos/proyectos-europeos/sic-spain2/results>; *Resultados SIC-Spain*. Incibe.es [online]. [consulted: 28 September 2024]. Available at: <https://www.incibe.es/incibe/informacion-corporativa/con-quien-trabajamos/proyectos-europeos/sic-spain>

²⁰ENTIDADES FIRMATES, 2024. *PROTEGIENDO A LA INFANCIA Y LA ADOLESCENCIA EN EL ENTORNO DIGITAL* [consulted on: 12 September 2024]. Available at: https://pactomenoresdigitales.org/wp-content/uploads/2024/02/AETD_PACTO_ESTADO_DIGITAL_WEB.pdf.

1. Analyse best practices in the digital environment.
2. Identify the main risks and dangers they may face in the digital environment.
3. Formulate recommendations and actions for implementation, distinguishing between short-, medium- and long-term measures, to serve as a roadmap enabling the various public administrations, each within its area of responsibility, to guarantee the comprehensive development of youth and children.

The report will be submitted to the Government through the Ministry of Youth and Childhood, which will in turn forward it to the Congress of Deputies for consideration of its content.

Composition of the Committee of Experts

In accordance with Resolution 1 of February 2024, issued by the Undersecretariat and publishing the “Agreement of the Council of Ministers on the creation of the Committee of Experts for creating a safe digital environment for youth and children”, the Minister for Youth and Childhood was authorised to appoint the members of the Committee.

For the appointment of its members, and with the aim of providing a multidisciplinary assessment on how to develop safe digital environments (drawing on both scientific evidence and practical experience), the Resolution established that up to fifty members could be designated. Nominations were sought from other ministerial departments, parliamentary groups, and the Ombudsman.

The Committee was also required to include representatives from the **Observatory on Childhood**, the **Spanish Observatory on Racism and Xenophobia**, the **State Council for the Participation of Children and Adolescents**, the **Youth Council**, the **Young Digital Advisory Council**, the **Spanish Data Protection Agency**, the **State School Council**, the **National Cybersecurity Institute**, the **National Commission on Markets and Competition**, and the **Consumers and Users Council**. In addition, representation was to be drawn from confederations, parents’ associations, and national third-sector organisations. The Committee was also to include specialists in areas such as paediatrics, psychology, gender equality, the protection of mental health, digitalisation and cybersecurity, as well as legal experts in safeguarding the rights of youth and children.

In Annex 3 of this document, the list of members of the Committee of Experts, together with the Internal Regulations and the methodology agreed in plenary by its members, is set out. It may be stated that this is a group of experts contributing with a wide range of perspectives, approaches and responsibilities. Each member brings expertise in their professional field or career path, but there are also profiles marked by social leadership, arising from concern for personal or family experiences. These individuals have chosen to become activists for a cause that requires not only a multidisciplinary approach and professional experience, but also ethical and civic commitment.

Social demand and consensus

The creation in 2024 of the Committee of Experts for the Creation of a Safe Digital Environment for Youth and Children represented the most politically significant response to a social demand that had been growing for several years.

Following the rapid, and in many cases disorderly, digitalisation of children and adolescents as a result of mobility restrictions during the COVID-19 pandemic, public concern began to crystallise around certain aspects of this digitalisation. Along this path, a key moment came in 2023 with the proposal for a State Pact to protect minors in the digital environment, the first initiative of its kind to involve the most representative child protection organisations.

As already noted, the proposal was promoted by six civil society entities: the **European Association for Digital Transition**, the leading advocate of the initiative, together with **Save the Children**, the **ANAR Foundation**, **iCMedia**, **Dale la Vuelta** and **UNICEF**. It arose in a very specific political context. Presented in June 2023, it sought to establish a minimum basis of consensus, going beyond party divisions, in the run-up to the general elections in Spain one month later and the start of the Spanish Presidency of the Council of the European Union on 1 July.

The six promoting organisations shared concerns about the risks faced by children and adolescents in digital environments when using services designed for adults. These risks can affect their socialisation and exacerbate mental health problems such as anxiety and depression, while also facilitating violent situations such as bullying and sexual harassment. At the same time, they highlighted the way in which mobile devices have become a gateway to pornographic content, leading to the trivialisation of sexual relations, early sexualisation and exposure to inappropriate material. Finally, the signatories also warned about the large-scale harvesting of children's data, with a view to profiling them for sale to third parties for advertising purposes.

From very different perspectives and areas of expertise, the six organisations were able to agree on fifteen measures of consensus, addressed to various public authorities. The proposed measures emphasised the need to recognise the problem, to train professionals to deal with it, and to develop existing legislation so that all stakeholders assume their responsibilities towards a vulnerable population such as children and adolescents.

From the outset, the proposal for a State Pact generated an unusual degree of consensus, both among public institutions and social groups. Even before its formal presentation, the signatories secured the backing of the **AEPD** as an "Institutional Supporter". Subsequently, three other public entities also joined: the **Office of the Attorney General**, **Injuve**, and the **National Commission on Markets and Competition**.

In the civil sphere, just over a year after its presentation, the proposal for a State Pact has obtained the formal support of more than 210 organisations of all kinds. Notable among these are several foundations, beginning with the **Spanish Association of Foundations** itself, as well as the **Atresmedia Foundation**, the **Hermes Foundation** and **Fad Juventud**, to name only a few.

In parallel, the promoters of the Pact worked to promote their proposals among the different political powers, culminating in its presentation before the **Congress of Deputies**. Slowly but surely, the Pact became the seed of the Committee of Experts, as reflected in the prominent participation of several of the promoting organisations and their representatives in this initiative of the **Ministry of Youth and Childhood**.

Elements of debate and divergence in the Committee's work

A broad majority of experts agree that this document should remain open and dynamic, subject to updates in line with social changes in this field. Given its connection to technology, a constantly evolving reality subject to ongoing scientific analysis, adaptability is essential.

Throughout the Committee's work, significant and stimulating debates have arisen regarding the impact of technology on children and adolescents. These studies highlight two key approaches: one centred on safeguarding children's health, and another emphasising the integration and development of digital competences within education. From this exchange of knowledge, research and analysis, conclusions and recommendations have been drawn which, while differing in certain respects, are reflected in this report.

Far from being a limitation, this debate and divergence of views have considerably enriched the present text, offering a multidisciplinary perspective on a shared concern: the impact of new technologies on childhood. Examined from different angles, this issue will undoubtedly continue to be the subject of debate in the years ahead, underpinned by increasingly comprehensive scientific studies and evidence.

The generosity and broadness of vision with which experts have addressed complex questions, alongside their respect for differing opinions, underline the value of recognising dissent in this field, not as a weakness, but as a strength of this assessment.

2. THE PRIMACY OF THE BEST INTEREST OF THE CHILD

The best interests of children and adolescents

The best interests of children and adolescents are based on an assessment of all elements of the interests of one or more children and adolescents in a specific situation. In assessing and determining this, the legal system has ceased to consider them as objects of protection and now considers them as subjects with full rights²¹.

²¹ Supreme Court (Spain), judgment of 13 February 2015, author's translation: the prevailing interest is not an abstract one, but that of a specifically identified minor, with a name and surname, who has developed within a particular family, social, and economic environment, which should be preserved where beneficial.

The gradual incorporation of the best interests of children and adolescents into Spanish legislation stems from the Convention on the Rights of the Child (UNCRC)²². The Convention recognises that children and adolescents are a vulnerable group in society who need special protection and obliges all States Parties to ensure this and to give primary consideration to their interests (articles 3.1 and 3.2). This is also emphasised in article 24.2 of the Charter of Fundamental Rights of the European Union (CDFUE)²³.

Children and adolescents must be perceived and treated as subjects of law; the interests or rights of adults, families and communities cannot be invoked to violate their best interests²⁴.

The Committee on the Rights of the Child (CRC), in its General Comment No. 14²⁵, para. 32, defines this right as one of the fundamental values of the Convention, which must be understood and applied in its threefold aspect of substantive law, fundamental interpretative principle and procedural rule.

On the one hand, it is a substantive right, and its interests must be a primary consideration when weighing different interests. Among other aspects, the impact of the decision on their care, protection and safety, on their right to health, education and family life, and on their right to non-discrimination must be examined (paras. 6a and 52 to 79).

On the other hand, it is a fundamental interpretative legal principle, i.e. if a legal provision allows for more than one interpretation, the interpretation that most effectively satisfies the best interests of children and adolescents shall be chosen (para. 6b).

As far as procedural standards are concerned, these require that the justification for decisions clearly show that this right has been explicitly taken into account. In this regard, in each act or decision, the State must explain what it considered to be in the best interests of children and adolescents and how these interests were weighed against other considerations (para. 6c). The State's obligations also extend to the private sector. Indeed, beyond its own bodies, the State has an obligation to ensure that the interests of children and adolescents have been assessed and have been a primary consideration in decisions and measures taken by the private sector when these concern or affect minors (para. 13c).

Finally, in this General Comment, the Committee clarifies that the best interests of children and adolescents be understood and applied in close relation to the other three general principles of the Convention: the right to non-discrimination; the right to life, survival and development; and the right to be heard (paras. 41-45).

²² UNICEF COMITE ESPANOL, 2006. *CONVENCIÓN SOBRE LOS DERECHOS DEL NIÑO*: Available at: <https://www.un.org/es/events/childrenday/pdf/derechos.pdf>.

²³ EUROPEAN UNION AGENCY FOR FUNDAMENTAL RIGHTS, 2009. EU Charter of Fundamental Rights. Available at: <https://fra.europa.eu/es/eu-charter/article/24-derechos-del-nino>.

²⁴ See Concluding Observations on Italy, CRC/C/ITA/CO/5-6, 28/02/2019, para. 16 (b); Concluding Observations on Cape Verde, CRC/C/CPV/CO/2, 27/06/2019, para. 28.

²⁵ UNITED NATIONS - COMMITTEE ON THE RIGHTS OF THE CHILD, 2 March 2021. General Comment No. 14 (2013) on the right of the child to have his or her best interests taken as a primary consideration, CRC/C/GC/14, 2 March 2021. [online]. <https://documents.un.org/doc/undoc/gen/g13/441/92/pdf/g1344192.pdf>.

Conflict with other legitimate interests

The legal framework provided by the UNCRC and General Comment No. 14²⁶ not only establishes clear guidelines for decision-making but also imposes a legal obligation on States Parties and all actors involved in the protection of youth and children. This reinforces the need for public policies and judicial and administrative practices that reflect a firm commitment to the promotion and protection of children and adolescents. Their best interests encompass their physical, emotional, educational and social development. However, the interests of other persons (parents, guardians, institutions, etc.) may include legal rights and obligations, as well as economic, social or emotional interests.

This concept has been incorporated in Spain through Organic Law 1/1996²⁷ of 15 January on the Legal Protection of Minors, partially amending the Civil Code and the Civil Procedure Act, in its article 2: "Best interest of the child", which establishes the obligation to consider these interests above any other competing legitimate interests. The same legal analysis is established in article 3, paragraph 1 of the CRC, according to General Comment No. 14 in its paragraph 36.

This fundamental principle, although clear in its wording, can present significant interpretative challenges. To address these difficulties, the CRC emphasises that the interests of children and adolescents have the highest priority and cannot be placed on the same level as other considerations.

In the field of children and adolescents' protection and welfare, it is often necessary to assess whether what is best for them conflicts with other legitimate interests. This assessment is not straightforward and requires meticulous attention and case-by-case analysis, carefully weighing the interests of all parties involved. The harmonisation of rights must be the central objective, ensuring that the interests of children are explicitly considered by decision-makers.

This decision-making process involves dealing with a variety of situations that require flexibility and legal discernment. It is not only a matter of making decisions based on the immediate interests of children and adolescents, but also of considering the legitimate rights of third parties, such as parents, other children and adolescents, or society as a whole. Despite this complexity, the interests of children and adolescents must be a priority and not simply one consideration among many others.

This encompasses not only individual decisions that affect children and adolescents individually or collectively, but also actions, behaviours, proposals, services, procedures, and other measures that impact the protection of children's rights.

In practice, this means that individuals and organisations involved in decision-making must always assess each case individually. When weighing up the options, interests must be harmonised by seeking solutions that balance the rights of children and adolescents with the legitimate interests of others involved, whenever

²⁶ Idem.

²⁷ JEFATURA DEL ESTADO, 1996. *Ley Orgánica 1/1996, de 15 de enero, de Protección Jurídica del Menor, de modificación parcial del Código Civil y de la Ley de Enjuiciamiento Civil*. Boletín Oficial del Estado, no. 15, Available at: <https://www.boe.es/eli/es/lo/1996/01/15/1/con>.

possible. And in cases where several situations converge, it is necessary to: make decisions more flexible in order to adjust and adapt them to the particularities of each case, while maintaining the best interests of children and adolescents as a priority principle; consider the specific circumstances of each situation, identifying the interests and rights of all parties involved; clearly identify and assess the conflicting interests, without losing sight of the analysis of the consequences that may arise once they have been identified, and analyse the possible consequences of prioritising some over others. This analysis should include an assessment of the short-, medium- and long-term impact on the well-being of children and adolescents.

It must also involve multiple perspectives, taking into account the subject's own perspective, depending on their age and progressive capacity. Furthermore, their participation in the process must always be ensured, because the right of all children and adolescents to be heard is a right that protects them and is in their best interests. The principle of proportionality plays a crucial role in weighing up interests, and solutions must be sought that minimise harm and maximise well-being for all parties involved, with decisions being made that lead to a balanced and respectful weighing up of the best interests of the child. The starting point must always be the premise that the obligation to protect the best interests of children and adolescents does not imply the automatic exclusion of other interests, but it does require that any sacrifice of these interests be justified and clearly specified in terms of always prioritising the best interests of the child.

In the digital environment

Although the integration of children and adolescents into the digital environment is essential for the exercise of their citizenship, this incorporation cannot be achieved at any cost. The evidence of the risks and harms of thoughtless exposure to the digital environment is overwhelming, and States cannot ignore the violations of the fundamental rights of children that occur on the Internet. Similarly, not having the opportunity to participate in the digital dimension of society is a factor of exclusion that limits their development.

In 2021, the CRC adopted General Comment No.²⁸ on children in relation to the digital environment, in which it recalls that their capacities evolve through a gradual process of acquiring skills, understanding and autonomy, and that this process is particularly important in the digital environment, where children "can engage more independently from supervision by parents and caregivers" (para. 19). States should therefore take these considerations into account when designing measures to protect children and adolescents in this environment.

The best interest is a dynamic concept that encompasses a range of constantly evolving issues. Determining what constitutes the best interest of the child requires taking into account the specific characteristics of each child and adolescent, such as age, gender, maturity, experience, belonging to a minority group, physical, sensory or intellectual disability and social and cultural background.

²⁸ UNITED NATIONS – COMMITTEE ON THE RIGHTS OF THE CHILD, 2 March 2021. General Comment No. 25 (2021) on children's rights in relation to the digital environment - CRC/C/GC/25. [online]. Available at: <https://documents.un.org/doc/undoc/gen/g21/053/46/pdf/g2105346.pdf>.

In its analysis, the Committee emphasises that it is essential for States to ensure the best interests of children and adolescents in the digital environment. Given that it was not originally designed for them, yet plays an important role in children's lives, States Parties must ensure that, in all actions relating to this environment, priority is given to the best interests of children and adolescents (para. 12).

Every child and adolescent may suffer discrimination both through exclusion from the use of technologies and through receiving communications that convey hatred or unfair treatment when using these technologies (para. 10). States must therefore take proactive measures to prevent discrimination on the Internet on any grounds (para. 11). In this context, public authorities have an obligation to ensure the online safety of children and adolescents.

Recognising the opportunities that the Internet offers children and adolescents for their survival and development, the Committee notes that the risks related to content, contracts and behaviour in the digital environment "encompass, among other things, violent and sexual content, cyberaggression and harassment [...], exploitation and abuse, including sexual exploitation and abuse [...]" and that "States parties should identify and address the emerging risks that children face" (para. 14).

It also points out that the use of digital devices should not replace personal interactions and that "parties should pay special attention to the effects of technology in the earliest years of life, when brain plasticity is maximal and the social environment, in particular relationships with parents and caregivers, is crucial to shaping children's cognitive, emotional and social development". Furthermore, training on the appropriate use of digital devices should be provided to parents, carers, educators and other relevant actors (para. 15). Finally, it emphasises the need for minors to participate in the development of laws and policies and for their opinions to be given due weight (para. 17).

3. APPROACHES

Initial premises

Demystifying concepts: "responsible use", "digital native" and "regulation kills innovation"

Since the dawn of the Internet, there have been conflicts between those who argue that technological innovation changes — and should change — relationships between people, businesses and the way we access goods and services. Ultimately, access to the Internet would generate its own systems of values and norms. On the other hand, it is argued that the values and norms that govern the physical world, and which are regulated by legal norms, should also govern the digital environment. There should not be one set of principles for one and another set — or none at all — for the digital environment.

Language is not neutral. As has been extensively researched by psychology and linguistics, it has the power to shape our reality. Expressions such as "responsible use", "digital natives", or "regulation kills innovation",

proliferate in public, social, business and political debate when discussing measures to protect children and adolescents in the digital sphere.

Responsible use

Firstly, many of the platforms operating on the Internet and the interest groups they have built loyalty through opaque practices emphasise "responsible use" as the key to avoiding the psychological, intellectual and economic effects generated by addictive abuse of technologies.

Unfortunately, however, there are applications and platforms that intentionally influence user behaviour (both adults and children and adolescents) through dark patterns. Their aim is to maximise usage time and engagement through constant notifications, intermittent rewards (e.g. likes, the use of emoticons or comments on social media), infinite scrolling, or content that appeals to the emotions of adolescents. This creates an addiction that leads to compulsive behaviour such as checking one's phone or social media constantly, or simply not disconnecting from them at all. This is a particularly worrying issue in the case of children and adolescents, who have not yet developed the ability to regulate their use, as their brains are still maturing.

Therefore, delegating the task to "responsible use", rather than ensuring a critical and safe environment that protects children and adolescents, allowing them to develop, is aimed at making children and adolescents and their parents responsible for the use of digital media that open the door to the many applications that the market offers without any rules. "Responsible use" will only be effective if it is accompanied by public policies, regulations and penalties for those who fail to comply, establishing limits on the services offered by companies that take into account the rights of digital citizens.

Digital natives

Secondly, the expression "digital native" is frequently used. This would justify the idea that today's children and adolescents inherently have sufficient knowledge to be able to "navigate the networks".

This term was first used in 2001 by writer and lecturer Marc Prensky in his article "Digital Natives, Digital Immigrants"²⁹. It is important to note that, although the concept has become popular in academic literature (mainly in the field of education), there is no scientific basis or empirical data to support the claim that children and adolescents born in the digital age possess innate digital skills and abilities simply because they have grown up with technology. Even less so is there evidence that ease and ability to access Relationship, Information and Communication Technologies (RICT) is sufficient to ensure safe browsing that effectively protects their rights.

This concept of 'digital native' can also promote a deterministic view of technology, implying that simply having access to digital devices guarantees certain skills and competences. However, it does not take into account other factors such as education (in-depth digital skills or a critical understanding of technology), personal interest and social context.

²⁹ PRENSKY, M., 2001. Digital Natives, Digital Immigrants. On the Horizon [online], vol. 9, no. 5, Available at: <https://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>.

Regulation kills innovation

Thirdly, there is the idea — repeated insistently by the technology sector — that "regulation kills innovation". However, sectors such as food, pharmaceuticals and cultural content clearly show how demanding regulation, which ensures people's well-being and legal certainty, does not slow down companies' ability to innovate. On the contrary, it offers guarantees, controls risks and creates a fair framework for competition.

Existing regulation in the digital sphere and the creation of independent agencies that ensure data protection – and which will have to take on new responsibilities in the future – are proof that the digital world needs an institutional framework that guarantees the rights of citizens and consumers, protects their privacy, effectively regulates the commercialisation of data, and ensures a market that is as innovative as it is open to competition and puts an end to monopolistic practices.

One of the first disruptions to the digital sphere was piracy, along with social acceptance of the violation of the property rights of creators, authors and industries. Regulation against piracy did not slow it down; on the contrary, it triggered the emergence of digital content platforms and distribution systems that were fair, secure and efficient.

This idea is supported by a working paper published by the **US Patent and Trademark Office (USPTO)**³⁰. The research was conducted by Wendy Bradley, assistant professor at **SMU Cox School**, and **USPTO** economist Julian Kolev. "The companies in our sample exhibited a sharp increase in innovative activity following the impact of piracy, but they also changed their intellectual property strategies to seek a more diversified portfolio through an increase in copyright and trademark filings."

In short, the idea that regulation in the digital sphere is not an obstacle to innovation can be supported by several key points:

1. Consumer protection: Regulation can establish minimum standards of security and privacy, protecting consumers from abusive practices. This fosters consumer confidence in new technologies and digital services, which in turn can increase the adoption and use of digital innovations.
2. Facilitating competition: Regulation must ensure that all companies, large and small, compete on a level playing field. This prevents monopolistic practices and fosters an environment where start-ups can compete with established companies, thereby driving innovation.
3. Incentives for innovation: Regulations and public policies promoting R&D can encourage companies to innovate by acting ethically and responsibly. For example, data privacy regulations can drive the development of encryption technologies and other

³⁰ BRADLEY, W.A. and KOLEV, J., 2023. How does digital piracy affect innovation? Evidence from software firms. Research policy [online], vol. 52, no. 3, ISSN 0048-7333. DOI 10.1016/j.respol.2022.104701. Available at: <http://dx.doi.org/10.1016/j.respol.2022.104701>.

cybersecurity tools.

4. Market stability: A clear and stable regulatory framework can provide certainty for companies, which is crucial for long-term planning and R&D investment. The predictability of the regulatory environment can encourage companies to invest in new technologies.
5. Mitigating risks: Regulation would help minimise the dangers associated with the adoption of new technologies, such as risks to national security, the economy, or public health. This can prevent crises that could have long-term negative effects on innovation.
6. Ethics and morality: Finally, establishing obligations, prohibiting abusive practices against consumers, and other practices currently carried out by large platforms is, above all, an ethical and moral imperative. It is an obligation to continue building democratic systems that guarantee and protect the rights and duties of citizens, especially those of children and adolescents.

Economic dimension

Data commodification involving children and adolescents

Just as the physical world is commercialised, so too is the *online* world. But in the latter case, it is often done unnoticed. Numerous products or services offered to children and adolescents that appear to be free are not actually free. The truth is that paying with data is also a form of commercialisation. However, the most important element, the economic calculation of the relationship between the data provided by the consumer and the platform, has not yet been addressed.

According to the European think tank **Epicenter**³¹, the fact that consumers do not receive any economic value for their data does not mean that this value does not exist. The price they are actually paying, even if they do not perceive it, is called "shadow value". In the world of data, this "shadow value" is the additional profit that instant messaging or email service providers, social networks, video sharing platforms, among others, obtain by using the data that each new user provides, as well as any additional data that the same user provides for free. In other words, it is the opportunity cost involved in the user not receiving financial compensation in exchange for the use of their data³². The more transactions, the more data and money for big tech, or the higher its quality, efficiency or productivity. A clear example of monetisation – in this case unsuccessful – was the initiative by the US company **Meta** to use the personal data of its European users to train its artificial intelligence.

Numerous studies by researchers in the field of economics have defined how data creates value, increasing both current and future profits through its exploitation, which can be continued over time. They also point out how *big tech* companies can create value by reducing risk, allowing them to anticipate and reduce scenarios of

³¹ EPICENTER (European Policy Information Center) is an independent initiative of twelve leading think tanks from across Europe. It seeks to inform European policy debate and promote the principles of a free society by bringing together the expertise of its members.

³² <https://www.epicenternetwork.eu/blog/the-shadow-value-of-personal-data-4211/>.

uncertainty. The aforementioned **Epicenter** study points out that the value of user data should be measured by comparing the provider's revenue, market capitalisation and margin. At the end of 2020, **Facebook's** advertising revenue in Europe was €14.07 per user per year. Its market capitalisation generated a value of €196.72 per user. For **Alphabet, Inc.** (whose main subsidiary is **Google**), this value was €264.14. For other brokers such as **Boston Consulting Group**, as early as 2013, the value of data per user would exceed €500.00 per year.

Furthermore, the profiles of children and adolescents are economically very valuable, as they allow consumer relationships to be built from a very early age. Profiling through their personal data allows for monetisation, but also for the manipulation and management of their interests and consumption habits, and facilitates the creation of addictions to services, content and products.

Prohibition of exploitation: Article 32 of the UNCRC

As a continuation of the previous section, it should be noted that article 32 of the UNCRC³³ establishes the rights of children and adolescents to be protected from economic exploitation. This article has always been interpreted as protection against child labour. However, in a digital environment, as stated by the UN Committee on the Rights of the Child in 2013, children and adolescents also need protection against new types of exploitative practices.

Although the Convention does not define the scope of such economic exploitation, it is understood that it must be broader than the mere concept of "child labour". Whenever the data of children and adolescents is commercialised, there is a material interest in the unfair exploitation of a third party for their own benefit. This is especially true when the profiles of children and adolescents are very valuable economically, since, as mentioned above, they allow consumer relationships to be established from an early age.

Child labour is evolving with new forms of exploitation. Other rights of children and adolescents are also violated by such practices: online sexual exploitation, exploitation of the work of underage influencers, or the simple and constant commercialisation of their data by collecting it for subsequent sale. Article 32 of the UNCRC must take these new contexts into account, as this is the only way to guarantee adequate protection that is adapted to the contemporary needs of children and adolescents.

The report "The Child's Right to Protection against Economic Exploitation in the Digital World"³⁴ identifies several types of economic exploitation of children and adolescents in the digital environment, including:

1. Profiling and automated decision-making. This practice involves the capture, collection, analysis and sale of personal data of children and adolescents to create profiles that can influence commercial decisions. This ranges from advertising segmentation to significant decisions such as blacklisting or adapting learning pathways based on these profiles.

³³ See 12.

³⁴ VAN DER HOF, S., LIEVENS, E., MILKAITE, I., VERDOODT, V., HANNEMA, T. and LIEFAARD, T., 2020. The child's right to protection against economic exploitation in the digital world. *The International Journal of Children's Rights* [online], vol. 28, no. 4, ISSN 0927-5568. DOI 10.1163/15718182-28040003. Available at: <http://dx.doi.org/10.1163/15718182-28040003>.

2. Children and adolescents are exposed to aggressive commercial practices in the context of digital games, including in-game advertising, advergames (video games that allow continuous exposure of the user to the advertised brand), in-app purchases, and rewards through so-called "loot boxes." These practices can encourage problematic consumption behaviours.
3. Children and adolescents who become influencers or professional e-sports players may be exploited financially. These jobs are often managed and encouraged by parents, and may involve producing regular content of a high standard, which requires effort and time, to the detriment of the child's development and well-being.

Evolutionary view of childhood: foundations of neurodevelopment and maturity

In recent years, there has been growing concern in the field of paediatrics about how digital media affect neurodevelopment and psycho-affective development. There is scientific evidence that time spent in front of digital media at an early age is associated with poor cognitive and socio-emotional development. Both the timing and duration of this exposure have an influence on the neurodevelopment of children and adolescents.

Children under the age of 2

Neurodevelopment, neurobiological bases

Neurodevelopment is a dynamic process that begins in the prenatal stage and continues into adulthood. Within this long process, the first two years of life are fundamental, as they are the period of maximum neural plasticity. This refers to the process by which the brain forms all its 'wiring', based on experiences and with the aim of adapting optimally to the environment.

This process takes place through synapses: connections that are formed between neurons in response to processed stimuli that arrive from the outside through the senses, generating relationships between different parts of the brain and allowing each person to interpret the world.

The brain's maturation process is not exclusively quantitative in terms of size. Major changes occur at the qualitative level. Throughout childhood and adolescence, all the interconnections are modified until the brain functions like an adult brain. The brain of a newborn has more neurons than at any other time in life, but these are not yet connected to each other.

At birth, neurons begin to receive information through the senses and launch these synapses to transmit information to other neurons. These bridges or connections, which are generated largely in the first two years of life at a rate of two million per second, will significantly determine how the brain functions in adulthood. Depending on the information received by the neurons, the synapses will form in one way or another. This is the first fundamental aspect to consider in order to understand the relationship between neurodevelopment and exposure to digital devices.

Another important process during this stage is myelination, which refers to the process by which nerve fibres become surrounded by a protective sheath that allows nerve impulses to travel at high speed. Thanks to neuroplasticity, which is at its peak at this age, the more we use a circuit, the faster and more powerful it becomes. This brings us to the second key aspect of this relationship: what is not used is not strengthened.

The other crucial aspect from a neurobiological point of view is that neurodevelopmental milestones occur as a result of the interaction between genetic and environmental factors. In other words, even if the brain is ready to develop a skill (because it is genetically programmed to do so), it must find the right environment for that skill to develop. What is more, there is a timing or window period for each of these skills. If the environment is not suitable at that critical and sensitive moment of brain maturation, that milestone will not be reached, or will not be reached optimally. In other words, neurodevelopment is marked by the expression of genes, but these genes need an environment that enhances and demands their expression.

The acquisition of different skills and their refinement depend largely on the environment, stimuli, and opportunities offered to that child.

It follows that fostering an optimal environment rich in the stimuli that the brain needs to reach its full potential is a window of opportunity for the child to progress optimally into adulthood.

Neurodevelopment and screens

The stage up to age 2 is characterised by the development of gross motor skills, fine motor skills and language development. At this stage, unstructured play, manipulation and open spaces are necessary. The brain also needs to observe, copy and experiment with its peers and attachment figures.

Human contact is essential for learning and communication. This search for communication promotes language development. Learning through a screen does not provide the same results as learning through imitation of a person. In the first case, it is reduced by half³⁵.

The stimulus that the brain receives when exposed to a screen, especially if unaccompanied, is an impoverished stimulus. During this time, it receives a single style of interaction and learning, based on the relationship with a flat, smooth, two-dimensional surface. In this relationship, components such as texture, smell, gaze, the reaction of other people, adults or peers, and the responses of others to certain gestures or play, to give a few examples, are lost. In short, an insufficient environment is created that has an opportunity cost. It is not only what is done in front of the screen that is essential, but also what is not done when exposed to it.

There is already an extensive international bibliography on this subject: opportunity cost is a reality in today's society. Screen exposure in children of this age (including background noise) has been linked to language delays,

³⁵ YADAV, S., CHAKRABORTY, P., MITTAL, P. and ARORA, U., 2018. Children aged 6–24 months like to watch YouTube videos but could not learn anything from them. *Acta paediatrica* (Oslo, Norway: 1992) [online], vol. 107, no. 8, ISSN 0803-5253. DOI 10.1111/apa.14291. Available at: <http://dx.doi.org/10.1111/apa.14291> and MOSER, A., ZIMMERMANN, L., DICKERSON, K., GRENELL, A., BARR, R. and GERHARDSTEIN, P., 2015. They can interact, but can they learn? Toddlers' transfer learning from touchscreens and television. *Journal of experimental child psychology [online]*, vol. 137, ISSN 0022-0965. DOI 10.1016/j.jecp.2015.04.002. Available at: <http://dx.doi.org/10.1016/j.jecp.2015.04.002>.

difficulties in communication and social skills, lower intellectual capacity and difficulties in sustained attention in childhood³⁶.

With regard to language, it is important to highlight the multifactorial relationship between screen time and its influence on language development³⁷: age of onset, duration of use, characteristics and content of the screen, and whether viewing is done alone or in the company of an adult. The involvement of parents or carers — if there is interaction such as singing or gesturing, for example — during screen time plays an important role.

At this age, viewing screens for two hours a day has been significantly associated with a decrease in expressive and receptive language development scores. The effects on personal skills, interpersonal relationships, and play skills and leisure, have been even more relevant when they have been exposed to more than 4 or 5 hours of screen time per day³⁸.

More screen time at age 2 has been linked to lower scores at age 4 in areas such as communication, daily living skills, and socialisation. Frequent outdoor play mitigates this association, both in terms of socialisation and daily living activities³⁹.

Background television also negatively affects language use and acquisition, cognitive development, and fundamental executive function skills (attention, working memory, and impulse control) in 5-year-old children⁴⁰.

Three-year-olds who watch screens for 2 hours a day or more than 3 hours are 1.3-1.9 times more likely to develop behavioural problems than those who spend less than 1 hour a day watching screens, 1.4-1.7 times more likely to have delays in psychomotor development milestones, and 1.9 times more likely to have delays in vocabulary acquisition⁴¹.

³⁶ CANADIAN PAEDIATRIC SOCIETY. Screen time and preschool children: Promoting health and development in a digital world. Cps.ca [online]. [accessed: 12 September 2024]. Available at: <https://cps.ca/en/documents/position/screen-time-and-preschool-children>.

³⁷ KARANI, N.F., SHER, J. and MOPHOSHO, M., 2022. The influence of screen time on children's language development: A scoping review. The South African journal of communication disorders. Die Suid-Afrikaanse tydskrif vir Kommunikasieafwykings [online], vol. 69, no. 1, ISSN 0379-8046. DOI 10.4102/sajcd.v69i1.825. Available at: <http://dx.doi.org/10.4102/sajcd.v69i1.825>.

³⁸ DY, ANGEL BELLE C., DY, ALANE BLYTHE C. and SANTOS, S.K., 2023. Measuring effects of screen time on the development of children in the Philippines: a cross-sectional study. *BMC public health* [online], vol. 23, no. 1, ISSN 1471-2458. DOI 10.1186/s12889-023-16188-4. Available at: <http://dx.doi.org/10.1186/s12889-023-16188-4>.

³⁹ SUGIYAMA, M., TSUCHIYA, K.J., OKUBO, Y., RAHMAN, M.S., UCHIYAMA, S., HARADA, T., IWABUCHI, T., OKUMURA, A., NAKAYASU, C., AMMA, Y., SUZUKI, H., TAKAHASHI, N., KINSELLA-KAMMERER, B., NOMURA, Y., ITOH, H., and NISHIMURA, T., 2023. Outdoor play as a mitigating factor in the association between screen time for young children and neurodevelopmental outcomes. *JAMA pediatrics* [online], vol. 177, no. 3, [accessed: 12 September 2024]. ISSN 2168-6203. DOI 10.1001/jamapedialCTs.2022.5356. Available at: <http://dx.doi.org/10.1001/jamapedialCTs.2022.5356>.

⁴⁰ Idem.

⁴¹ MCARTHUR, B.A., TOUGH, S. and MADIGAN, S., 2022. Screen time and developmental and behavioral outcomes for preschool children. *Paediatric research* [online], vol. 91, no. 6, ISSN 0031-3998. DOI 10.1038/s41390-021-01572-w. Available at: <http://dx.doi.org/10.1038/s41390-021-01572-w>.

Both minor and adult use of screens interferes with parent-child interaction⁴². At this stage, a sensitive caregiver who is present and available is needed. In other words, someone who is sensitive to their needs and can meet them. When children are in front of a screen, they are unable to interpret their needs. If it is the adult who is using the screen, even if the child expresses those needs, the adult will not be available and therefore unable to respond.

There is also a strong association between the time parents spend in front of the screen and that of their children, suggesting that the use of digital media displaces or interferes with quality face-to-face interactions between parents and children⁴³.

The time adults spend in front of a screen while raising children also has an opportunity cost⁴⁴. Studies show that language development is lower the more hours mothers spend in front of screens⁴⁵.

Some studies find a positive association between receptive language development (not expressive or general) and limited screen time. However, they emphasise the importance of screen time being accompanied by an adult who actively participates, sharing time and offering opportunities for interaction and learning. It is also important that this occurs from the age of 3 (not before), and always with appropriate content and limited duration.

Regarding parental involvement in viewing, a study of 3-, 4- and 5-year-old children in Taiwan found that consistent involvement during screen time modulates their social competence. Conversely, screen time is negatively associated with social competence and parental involvement.

Children are nine times more likely to abuse screens if they watch them alone compared to watching them with an adult⁴⁶.

Studies have linked the amount of time parents spend using their mobile devices to the frequency of attention-seeking behaviours, "negative behaviours" and negative interactions in children. Frequent use of a phone to reward or distract children between the ages of 1 and 4 can cause them to ask for it (and get angry if denied) more often.

Routine use of devices to distract or calm children can impede the development of self-management strategies and lead to excessive dependence on screens for emotion regulation. Greater exposure to screens at age 2 is associated with lower self-regulation at later stages (3-5 years), particularly in infants from families with lower socioeconomic status⁴⁷.

⁴² B BRUSHE, M.E., HAAG, D.G., MELHUIH, E.C., REILLY, S. and GREGORY, T., 2024. Screen time and parent-child talk when children are aged 12 to 36 months. *JAMA pediatrics* [online], vol. 178, no. 4, ISSN 2168-6203. DOI 10.1001/jamapedialCTs.2023.6790. Available at: <http://dx.doi.org/10.1001/jamapedialCTs.2023.6790>.

⁴³ Ibid.

⁴⁴ See 26

⁴⁵ MUSTONEN, R., TORPPA, R. and STOLT, S., 2022. Screen time of preschool-aged children and their mothers, and children's language development. *Children* (Basel, Switzerland) [online], vol. 9, no. 10, ISSN 2227-9067. DOI 10.3390/children9101577. Available at: <http://dx.doi.org/10.3390/children9101577>.

⁴⁶ See 26.

⁴⁷ Idem.

Excessive screen time has been linked to behavioural disorders, developmental delays and language disorders, learning difficulties, autism spectrum disorders (ASD) and attention deficit hyperactivity disorder (ADHD), especially in preschool-aged boys⁴⁸.

The first three years of life are particularly delicate, with an increased risk of behaviours similar to ASD⁴⁹. Although the aetiology of this specific disorder has been linked to genetic factors, it appears that environmental factors may also play a role to varying degrees. In Japan, it was observed that boys who spent excessive time in front of screens during their first year of life had a higher risk of developing ASD at age 3, with the risk increasing the more hours per day they spent on this activity⁵⁰.

In China, 3-year-old children exposed to screens are 1.9 times more likely to develop ASD behaviours than those who have not been exposed⁵¹, and excessive screen time in early childhood has been associated with poor cognitive and social-emotional development⁵².

A Canadian study has found that excessive screen time in preschoolers increases the risk of developing attention difficulties later in life by a factor of 6, as well as a 7-fold increase in the risk of developing ADHD⁵³.

It has also been observed that children with a history of early screen exposure had more ADHD-type symptoms than those with later or no exposure⁵⁴.

Early screen use has been associated with lower reading activities, resulting in greater screen use at later ages⁵⁵.

In very preterm infants (28 weeks), high screen time has been independently associated with lower total IQ (TIQ) and greater deficits in executive functions (metacognition, global executive function, inhibition, and attention) at 6-7 years of age⁵⁶.

⁴⁸ QU, G., HU, W., MENG, J., WANG, X., SU, W., LIU, H., MA, S., SUN, C., HUANG, C., LOWE, S., and SUN, Y., 2023.

Association between screen time and developmental and behavioral problems among children in the United States: evidence from 2018 to 2020 NSCH. *Journal of Psychiatric Research* [online], vol. 161, ISSN 0022-3956. DOI 10.1016/j.jpsychires.2023.03.014. Available at: <http://dx.doi.org/10.1016/j.jpsychires.2023.03.014>.

⁴⁹ CHEN, J.-Y., STRODL, E., WU, C.-A., HUANG, L.-H., YIN, X.-N., WEN, G.-M., SUN, D.-L., XIAN, D.-X., CHEN, Y.-J., YANG, G.-Y., and CHEN, W.-Q., 2021. Screen time and autistic-like behaviors among preschool children in China. *Psychology, health & medicine* [online], vol. 26, no. 5, ISSN 1354-8506. DOI 10.1080/13548506.2020.1851034. Available at: <http://dx.doi.org/10.1080/13548506.2020.1851034>.

⁵⁰ KUSHIMA, M., KOJIMA, R., SHINOHARA, R., HORIUCHI, S., OTAWA, S., OOKA, T., AKIYAMA, Y., MIYAKE, K., YOKOMICHI, H., and YAMAGATA, Z. Japan Environment and Children's Study Group. Association Between Screen Time Exposure in Children at 1 Year of Age and Autism Spectrum Disorder at 3 Years of Age.

⁵¹ CHEN, J.-Y., STRODL, E., HUANG, L.-H., CHEN, Y.-J., YANG, G.-Y., and CHEN, W.-Q., 2020. Early electronic screen exposure and autistic-like behaviors among preschoolers: The mediating role of caregiver-child interaction, sleep duration, and outdoor activities. *Children* (Basel, Switzerland) [online], vol. 7, no. 11, ISSN 2227-9067. DOI 10.3390/children7110200. Available at: <http://dx.doi.org/10.3390/children7110200>.

⁵² ZHAO, J., YU, Z., SUN, X., WU, S., ZHANG, J., ZHANG, D., ZHANG, Y. and JIANG, F., 2022. Association between screen time trajectory and early childhood development in children in China. *JAMA pediatrics* [online], vol. 176, no. 8, ISSN 2168-6203. Available at: <http://dx.doi.org/10.1001/jamapedialCTS.2022.1630>.

⁵³ MCARTHUR, B.A., BROWNE, D., MCDONALD, S., TOUGH, S. and MADIGAN, S., 2021. Longitudinal associations between screen use and reading in preschool-aged children. *Pediatrics* [online], vol. 147, no. 6, ISSN 0031-4005. DOI 10.1542/peds.2020-011429. Available at: <http://dx.doi.org/10.1542/peds.2020-011429>.

⁵⁴ See 42.

⁵⁵ See 43.

⁵⁶ VOHR, B.R., MCGOWAN, E.C., BANN, C., DAS, A., HIGGINS, R., HINTZ, S. and EUNICE KENNEDY SHRIVER NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT NEONATAL RESEARCH NETWORK, 2021. Association of high screen-time use with school-age cognitive, Executive Function, and behavior outcomes in extremely preterm children. *JAMA pediatrics* [online], vol. 175, no. 10, ISSN 2168-6203. DOI 10.1001/jamapedialCTS.2021.2041. Available at: <http://dx.doi.org/10.1001/jamapedialCTS.2021.2041>.

At the neurobiological level, data is also beginning to emerge that points to significant changes at the organic level, both in electrical activity and microstructure.

Studies show an association between increased use of screen-based media (according to the criteria of the **American Academy of Pediatrics - AAP**) and reduced microstructural integrity of the white matter tracts in the brain that support language and emerging literacy skills in preschool children⁵⁷.

It has been shown that infants exposed to screens at 12 months of age exhibit a characteristic electroencephalographic pattern (from 1 to more than 4 hours a day, gradually), with a higher proportion of theta waves and a higher theta/beta gradient in the frontocentral and parietal regions, associated to some extent with executive functioning dysfunction at school age (at 9 years).

These executive functions, already linked to adolescence, are essential for self-regulation, learning, academic performance and mental health. They develop rapidly during the first years of life in the prefrontal cortex and are highly susceptible to environmental factors⁵⁸.

Adolescence

At this stage, most studies focus on the impact of screens on social interaction and mental health. Research focusing on their impact on neurodevelopment in adolescence is scarce.

Neurobiological bases of neurodevelopment in adolescence

In order to understand adolescent behaviour and the importance of this stage, it is important to know two facts about brain development. On the one hand, the maturation of the limbic system is completed during this stage. On the other hand, the progressive maturation of the cerebral cortex begins.

The limbic system, which completes its development at age 12, is a subcortical structure with multiple functions. These include:

1. Regulation of primary emotions such as fear and anger.
2. Modulation of primary needs such as hunger.
3. Generation of motivation to perform our actions, learn and remember.

The cerebral cortex matures in an occipital-frontal direction (from the back to the front). An initial process of neural connections occurs, followed by the process of neural pruning or selection of brain circuits. The prefrontal cortex finishes maturing between the ages of 25 and 30, and some of its functions are higher executive functions. These include emotional and behavioural regulation, planning and organisation, motivation to initiate tasks, working or immediate memory, decision-making, and task or self-monitoring. This explains the impulsive

⁵⁷ HUTTON, J.S., DUDLEY, J., HOROWITZ-KRAUS, T., DEWITT, T. and HOLLAND, S.K., 2020. Associations between screen-based media use and brain white matter integrity in preschool-aged children. *JAMA pediatrics* [online], vol. 174, no. 1, ISSN 21686203. DOI 10.1001/jamapedialCTs.2019.3869. Available at: <http://dx.doi.org/10.1001/jamapedialCTs.2019.3869>.

⁵⁸ LAW, E.C., HAN, M.X., LAI, Z., LIM, S., ONG, Z.Y., NG, V., GABARD-DURNAM, L.J., WILKINSON, C.L., LEVIN, A.R., RIFKIN-GRABOI, A., DANIEL, L.M., GLUCKMAN, P.D., CHONG, Y.S., MEANEY, M.J., and NELSON, C.A., 2023. Associations between infant screen use, electroencephalography markers, and cognitive outcomes. *JAMA pediatrics* [online], vol. 177, no. 3, ISSN 2168-6203. DOI 10.1001/jamapedialCTs.2022.5674. Available at: <http://dx.doi.org/10.1001/jamapedialCTs.2022.5674>.

and emotional behaviour seen in adolescence.

Therefore, it is unrealistic to assume that children and adolescents should be capable of using technology safely and responsibly. Neurobiologically, they have not yet developed this ability. Responsibility must therefore fall on adults.

At this stage of life, in order to generate adequate limbic-frontal neural connections, the brain needs learning stimuli and new challenges. Digital media interfere at this age in two ways: through increased activation in the limbic region and through decreased activity in the frontal area.

Multitasking, interacting with at least two screens simultaneously, is associated with poorer cognitive outcomes and decreased ability to filter out distractions, increased impulsivity, and lower working memory performance. Adolescents who spend more than two hours in front of a screen multitasking are more likely to experience severe cognitive difficulties⁵⁹.

Psycho-affective development

To better understand adolescent brain development, maturation can be divided into the phases of early adolescence (11–13 years), middle adolescence (14–17 years), and late adolescence (17–21 years).

During this period, an adolescent should achieve:

- Physical and emotional autonomy from their parents;
- Adapt to the group;
- Acceptance of their new body image;
- The establishment of one's sexual, moral and vocational identity.

New technologies can have an impact at this stage due to the misinformation and contradictory information they contain, often without a critical attitude in real life, causing difficulties in adapting to the group or accepting one's new body image.

Intergenerational issue: participation and ageism

Generational discrimination mainly includes the concept of ageism, which is particularly related to gerontophobia. Applying the criteria set out by Kaufman⁶⁰ on hate speech, the following could be pointed out:

- Children and adolescents are historically discriminated against, just like other social minorities.
- There are social representations and stereotypes about these groups, regularly disseminated on social media and in the general media.

⁵⁹ SONG, K., ZHANG, J.-L., ZHOU, N., FU, Y., ZOU, B., XU, L.-X., WANG, Z., LI, X., ZHAO, Y., POTENZA, M., FANG, X., and ZHANG, J.-T., 2023. Youth screen media activity patterns and associations with behavioural developmental measures and resting-state brain functional connectivity. *Journal of the American Academy of Child and Adolescent Psychiatry* [online], vol. 62, no. 9, ISSN 0890-8567. DOI 10.1016/j.jaac.2023.02.014. Available at: <http://dx.doi.org/10.1016/j.jaac.2023.02.014>.

⁶⁰ KAUFMAN, G.A., 2015. *Odium dicta* [en línea]. Consejo Nacional para Prevenir la Discriminación. ISBN 9786078418152. Disponible en: https://www.gob.mx/cms/uploads/attachment/file/144564/OdiumDicta_WEBINACCSS.pdf.

- They are socially discriminated against, excluded on generational grounds, and their exclusion from society is normalised, especially as active users of social media.
- Furthermore, this social exclusion is intentional and based on certain characteristics attributed to these social groups, especially if they are adolescents.

In any case, ageism is a controversial term since it is normally linked to people who suffer discrimination in their old age. Its meaning in relation to childhood was introduced by John Wall, director of the **Childism Institute**⁶¹. Wall explains that the concept of "childism" provides a needed critical lens for deconstructing adultism and patriarchy and reconstructing age-inclusive research and societies", empowering children and adolescents in the sense that it responds to their marginalised experiences, transforming academic, social and political norms and structures.

The concept originated in the interdisciplinary field of childhood studies and spread to various disciplines in the humanities and social sciences. The term has been in use since approximately 2006, viewing children positively as empowered social beings.

An open and inclusive conception of rights

Children's rights must be respected, protected and fulfilled in the digital environment. Innovations in digital technologies have broad and interdependent consequences for their lives and rights, even when they do not have access to the Internet.

Firstly, we must start from an essential premise. The guarantees, obligations and rights established by international conventions on human rights and the rights of children and adolescents, European Union treaties, the Charter of Fundamental Rights of the European Union and secondary legislation, as well as the Spanish Constitution and current legislation, are fully applicable. This is regardless of their previous 'analogous' nature. Issues such as discrimination, the protection of privacy, the principle of non-maleficence and liability for damage caused, or the inescapable duty to guarantee the best interests of children and adolescents, apply directly to digital environments without question.

Another issue is identifying aspects of digital technology that require specific attention in certain areas, or are so novel that they do not fit within the existing regulatory framework. For example, the impact of generative artificial intelligence or neuro-rights (human rights specifically designed to protect the brain and its activity as advances in neurotechnology occur), as suggested by the Charter of Digital Rights⁶². Therefore, a distinction must be made between cases where the existing regulatory framework needs to be specified through legal or other instruments, and those where the emergence of new rights is being claimed.

On the other hand, regulatory innovation is highly dependent on the principles governing the EU legal system – subsidiarity and primacy – and the internal legal system in terms of competences. When a reform is of

⁶¹ <https://www.childism.org/>.

⁶² SECRETARÍA DE ESTADO DE DIGITALIZACIÓN E INTELIGENCIA ARTIFICIAL, 2021. *Carta de Derechos Digitales* [online]. Available at: https://www.lamoncloa.gob.es/presidente/actividades/Documents/2021/140721-Carta_Derechos_Digitales_RedEs.pdf.

significance to the EU and falls within the appropriate scope of development, the Spanish State may promote action by the Council, the Commission or the European Parliament, but its capabilities will be limited. Once this first hurdle has been overcome, the framework of competence, whether state, regional or local, and the appropriate type of regulation will have to be determined.

Therefore, consideration should be given to the need to develop the regulatory framework by adopting new laws and reviewing and updating existing ones. This evolution must be in line with international human rights standards in order to ensure a digital environment that is compatible with the rights set out in the UNCRC and its optional protocols, and with the EU framework as a reference. This legislation must remain relevant in the context of technological advances and emerging practices. Similarly, demand budget allocations, public policies and other administrative decisions related to their development. On the other hand, the mere recognition of rights or the definition of prohibited behaviours is ineffective, and even counterproductive, when legislative policy is not accompanied by adequate means.

The challenge is considerable, given that the UNCRC itself does not establish a hierarchy of rights. Their enforceability, interdependence and comprehensiveness require us to be creative and precise in their application and to strike a balance when their exercise in an inappropriate manner could give rise to risks or harm. That will be the time to assess the best interests of children and adolescents in order to guide the measures that need to be taken.

A model open to participation

It is strongly recommended that children be involved in the development of laws, policies, programmes, services and training on their rights in relation to the digital environment. This should be done by taking into account their diversity, listening to their needs and giving due importance to their opinions, while ensuring universal accessibility to participation channels and processes at all times.

The digital environment itself can be a tool for consulting them, ensuring that their opinions are taken seriously and that their participation does not lead to undue surveillance or data collection that violates their right to privacy and freedom of thought and opinion. It should also be ensured that consultation processes include those who do not have access to technology or who need support to use it, thus guaranteeing equal opportunities and non-discrimination.

The development of their faculties should also be respected as an enabling principle that determines their gradual acquisition of skills, understanding and autonomy. This process is crucial in the digital environment, where they can participate more independently from the supervision of their families or carers.

As stated in the Spanish "Childhood Strategy"⁶³, it is essential to give children and adolescents a voice on the measures that affect them and to ensure that those who are most at risk of being excluded from participation can participate and express their opinions with the guarantees and individualised support they require.

Furthermore, in accordance with the mandate established in the CRC, our legal system regulated, by Order DSA/1009/2021⁶⁴ of 22 September, the creation of the State Council for the Participation of Children and Adolescents and the Implementation Strategy for the Eradication of Violence against Children and Adolescents.

Likewise, the Convention on the Rights of Persons with Disabilities (CRPD), adopted by the **United Nations General Assembly** in 2006, recognises the importance of access and equal participation in society for persons with disabilities, including children and adolescents. Although this Convention does not specifically address access and protection in relation to digital environments in an explicit manner, it does contain relevant principles and provisions that can be applied to this context.

However, the digital environment is predominantly designed, owned and managed by the private sector, and currently lacks regulation to a large extent. For the effective exercise of their rights, it is necessary to regulate and enforce the responsibility of companies to respect children's rights, prevent and remedy the abuse of their rights, in particular by providing children and adolescents with a high level of privacy, security and protection by design and by default.

Risks that threaten rights

Along with the opportunities, new risks have emerged in the use of technology that must be addressed from an ethical and responsible perspective to promote good use and self-protection.

Child and youth participation

The difficulty in obtaining quality information, as well as the lack of critical analysis skills, undermine the democratic quality of processes and hinder learning in the area of participation, thus violating this right. Added to this is the lack of specific channels in each sector, including universal accessibility measures that guarantee equal opportunities for children and adolescents.

Emotional well-being and mental health

According to data from **UNICEF Spain**⁶⁵, 15% of Spanish adolescents show symptoms of severe depression and the rate of suicidal ideation stands at 10%. Among the 33% of adolescents who exhibit problematic Internet use (PIU), and without a proven cause-and-effect relationship, the emotional well-being indicator is reduced by half and the depression rate is more than triple.

⁶³ MINISTERIO DE ASUNTOS EXTERIORES Y DE COOPERACION, 2015. *Estrategia de Infancia de la Cooperación Española* [online]. Available at: https://www.cooperacionespanola.es/wp-content/uploads/documentos/estrategia_infancia_cooperacion_espanola_web.pdf.

⁶⁴ MINISTERIO DE DERECHOS SOCIALES Y AGENDA 2030, 2021. *Orden DSA/1009/2021, de 22 de septiembre, por la que se crea el Consejo Estatal de Participación de la Infancia y de la Adolescencia*. Boletín Oficial del Estado [online], no. 231. Available at: <https://www.boe.es/eli/es/o/2021/09/22/dsa1009>.

⁶⁵ ANDRADE, B., GUADIX, I., RIAL, A. and SUÁREZ, F., 2021. *Impacto de la tecnología en la adolescencia. Relaciones, riesgos y oportunidades* [online]. UNICEF España. ISBN 9788412405828. Available at: https://www.unicef.es/sites/unicef.es/files/comunicacion/Informe_estatal_impacto-tecnologia-adolescencia.pdf.

Furthermore, although digital media offer great possibilities and benefits to children and adolescents (such as accessing information, interacting with their peers in another medium, communicating with family members, entertainment, etc.), their use by children and adolescents is particularly sensitive. This is due to the stage of development they are at and the fact that these products are designed for adults, which can affect their socialisation and increase the risk of mental health problems.

There is also concern about the possible excessive or inappropriate use of screens depending on age, as the time spent on devices has increased significantly in recent years. This, in turn, can have a negative impact on healthy habits, such as sleep patterns and nutritional habits, among others.

Coexistence and protection against violence. Vulnerability to bullying

One in three adolescents may be suffering from bullying at school, and one in five may be a victim of cyberbullying. However, only 3.3% would say that they are experiencing it.

Sixteen per cent of adolescents who have suffered bullying or cyberbullying suffer from severe depression, compared to 3% in the unaffected population. In cases of bullying and cyberbullying, the rate of suicidal ideation increases fourfold, according to the aforementioned data from **UNICEF Spain**⁶⁶.

Misuse of the digital environment can precipitate situations of violence to which children and adolescents may fall victim: sexual assault (online grooming), cyberbullying or sexting without consent, and violence that can combine and spill over into the physical world.

According to research by **Save the Children Spain**⁶⁷, 7 out of 10 minors have suffered violence in digital environments, and girls continue to be the most affected. It should be noted that the possibility of infinitely reproducing and forwarding digital content means that these forms of violence are perpetuated over time.

This circumstance will be analysed in more detail later in section 4.3 and subsequent sections.

Hate speech

Hate speech against vulnerable groups is a precursor to hate crimes. Promoting it through public institutions or the media legitimises its reproduction on social media, in schools, or on the streets.

The European survey "Speak Out: A Survey of Online Anti-LGBT+ Hate Speech and Hate Crime"⁶⁸ reveals that almost 70% of LGBTBI+ people have experienced LGBTBIphobia through social media in the last five years. The figures show that those attacked online were insulted (95%), threatened with physical violence (57%), or threatened with having their sexual orientation or gender identity revealed (29%). In addition, 27% received threats of sexual assault and 31% received death threats, among others. In 54% of cases, the perpetrator or perpetrators were anonymous or unknown to the victim.

⁶⁶ Idem.

⁶⁷ SANJUÁN, C., 2019. *VIRAL VIOLENCE VIOLENCIA VIRAL - Análisis de la violencia contra la infancia y la adolescencia en el entorno digital [online]*. Save the Children España. Available at: https://www.savethechildren.es/sites/default/files/imce/docs/informe_violencia_viral.pdf.

⁶⁸ HUBBARD, L., A survey of *online* anti-LGBT+ hate speech and hate crime. Safetobe.eu [online]. [consulted: 12 September 2024]. Available at: <https://safetobe.eu/wp-content/uploads/2020/10/Survey-online-hate-crimes-report.pdf>.

In turn, the report "Estado LGTBI+ 2023" (LGTBI+ Status 2023)⁶⁹ shows consequences for emotional health that could be considered fatal, such as a predisposition to anxiety or fear, and a decrease in life satisfaction in those who have suffered harassment, even five years later.

Situation of children and adolescents with disabilities and those who are particularly vulnerable

Children with disabilities, especially those with cognitive disabilities, are more vulnerable to digital exclusion and the risks associated with the use of technology. Some of the barriers and risks they experience include:

- **Technological accessibility:** Accessibility barriers may include physical problems (e.g., handling devices), difficulties related to sensory aspects (e.g., lack of adaptation in user interfaces) or cognitive aspects (e.g., understanding and processing information). The lack of adaptation, adjustments and customisation options exclude these children from using technology, which is particularly relevant for those who express more intense and complex support needs.
- **Access to digital education:** The lack of adequate training for professionals who understand the needs of people with disabilities in relation to digital contexts limits the learning opportunities of children with disabilities and increases their vulnerability to exclusion and other risks in the use of technology.
- **Communication barriers:** Some minors, such as those with autism spectrum disorders, experience specific and significant difficulties in communicating and participating socially. These extend to digital environments, including problems understanding language, interacting with others, or clearly expressing their opinions, perspectives, and interests.
- **Online safety risks:** Some minors with disabilities experience an increased risk of being exposed to harassment, aggression or violence in digital environments, due to difficulties in understanding the subtleties of online social interaction, as well as in identifying the risks that arise in these contexts and accessing the protection and support channels they need.

Neuro-rights: growing recognition and regulation

What are neurodata and neurotechnologies?

In recent years, there has been growth in the use of neurotechnologies outside the clinical setting, expanding into areas such as education, entertainment, and surveillance. This broader use raises ethical and legal concerns, especially with regard to privacy and the protection of fundamental rights.

Neurodata could be defined as information obtained from the brain and nervous system. This includes data on brain activity and other neurological functions, which can be collected using various technologies, such as

⁶⁹ FEDERACION ESTATAL DE LESBIANAS, GAIS, TRANS, BISEXUALES, INTERSEXUALES Y MAS, 2023. Estado LGTBI+2023. [online]. [consulted: 12 September 2024]. Available at: https://felgtbi.org/wp-content/uploads/2023/11/I- Informe-Estado-socioeconomico_felgtbi.pdf.

electroencephalograms or functional magnetic resonance imaging. It can be used for a variety of purposes, from medical research to commercial applications and neuromarketing.

In this regard, neurotechnologies are usually classified according to their interaction with the brain: invasive and non-invasive. The former involve the insertion of devices into or near the brain, while the latter are based on external devices that record brain activity without the need for surgery. Neurotechnologies can record brain activity, manipulate it, or interact with external devices.

In terms of applications, neurodata can be used in multiple fields, such as health (for the diagnosis and treatment of diseases), education (to improve learning), and marketing (to understand and predict consumer behaviour). However, these applications also carry significant risks, such as potential discrimination based on neurodata or invasion of mental privacy.

Ethical risks and challenges in the processing of neurodata

The processing of neurodata raises serious ethical and data protection challenges. One of the main risks is the possibility that it could be used to infer highly sensitive personal information, such as emotional states or intentions, without proper consent. This type of intrusion into mental privacy is particularly concerning in contexts such as law enforcement or neuromarketing, where brain manipulation could lead to violations of fundamental rights.

As pointed out in the "TechDispatch Report: on neurodata"⁷⁰ by the **European Data Protection Supervisor** and the **AEPD**, it is necessary to ensure that neurodata processing is proportionate and minimised. In other words, only data necessary to fulfil specific purposes should be collected and processed. The risks associated with the accuracy and reliability of neurodata are also highlighted, especially considering the plasticity of the human brain and the possible variations in its interpretation.

However, it should be noted that when neurodata processing is carried out with data from children and adolescents, the associated risks are even greater, as they may not fully understand the implications and consequences of allowing access to such data. This could lead to the collection and use of sensitive information without their full consent or understanding. Neurodata can reveal intimate information about their thoughts, emotions and mental states, and this lack of control and knowledge is a considerable risk: "in processing activities involving underage data subjects, transparency might be even harder to achieve. If explaining neurodata processing to adults who are not experts in the neural field might be complex, explaining it to youth and children could be even more difficult given the necessity to simplify whilst still providing an accurate description of the processing. This could easily happen in education or entertainment application domains," the report notes.

⁷⁰ AGENCIA ESPAÑOLA DE PROTECCIÓN DE DATOS and EDPS, 2024. TechDispatch 2024-1. [online]. Available at: <https://www.aepd.es/guias/neurodatos-aepd-edps.pdf>.

Furthermore, the plasticity of the brain in these age groups, which is constantly developing, may affect the accuracy of the neurodata collected, because variations in brain development can lead to incorrect or incomplete interpretations of the data, which could have negative consequences in terms of misdiagnosis or inappropriate decisions in areas such as education or health.

These technologies allow for brain stimulation or modulation, which could influence the natural development of brains of children and adolescents. This includes possible impacts on the formation of personal identity and cognitive autonomy, with this intervention in brain processes potentially having lasting and potentially harmful effects.

Furthermore, if neurotechnologies are not properly designed and tested for a wide range of users, including minors, problems of data bias may arise, leading to unfair or discriminatory decisions based on neurodata and negatively affecting access to educational or health opportunities, among others.

Neuro-rights

Neuro-rights are a new category of rights designed to protect people's neural integrity and mental indemnity against the risks arising from the misuse of neurotechnologies. These rights seek to safeguard aspects such as mental privacy, personal identity and autonomy, equitable access to cognitive augmentation — aimed at improving brain performance in both healthy individuals and patients with neurological disabilities — and protection against bias in algorithms or automated decision-making processes.

Neuro-rights are not considered new human rights in themselves, but rather modern interpretations of traditional principles such as freedom, equality and human dignity, applied to the challenges and realities arising from the widespread use of advanced technologies that interact with the neural network and the human brain. They emerge as a pragmatic and protective response to address the potential dangers that neurotechnologies could pose, ensuring that respect for human dignity is maintained in an environment increasingly influenced by scientific and technological advances.

This process began in 2017, when an interdisciplinary group led by Spaniard Rafael Yuste met at **Columbia University** and defined the first reflective (legal and ethical) criteria as part of the fourth generation of human rights.

To this end, the following neuro-rights are established:

- Right to mental privacy (people's brain data): Neuro-rights seek to ensure that neuro-data (data derived from an individual's neural synopsis) is not extracted without the person's consent. Unlike traditional privacy protection, the sphere of protection of neurorights is not reflected in a physical space external to the individual, nor in interaction with third parties, but is directly related to a person's brain morphology and the ability to identify the synaptic patterns that import spaces of personal significance, and which may incorporate memories or algorithms specific to their reasoning. Furthermore, this information can be obtained by

electronic devices without identifying who is extracting it and for what purpose.

- Right to identity and personal autonomy (free will): This seeks to prevent neurodata from being artificially introduced into a person's neural network without their consent or that of the person authorised to give it. Furthermore, it also seeks to prevent the incorporation of neurodata that, even with their consent, restricts or limits their autonomy as such. Neurolaw requires that any application or programme does not affect an individual's ability to recognise themselves as such, nor prevent them from making decisions that are currently attributed to them by law.
- Right to equitable access to cognitive augmentation: Neuro-rights are not only personal freedoms, but also include a guarantee of equality that generates duties of access for the State. This is because the increase in abilities that the unlimited use of these technologies can provide is capable of generating such a magnitude of asymmetry between people that it can easily lead to a social fracture that is irresistible for the State. Beyond social rights to education or work, in terms of equal access to cognitive augmentation, it is important to maintain certain margins of equity between the skills and abilities that a person can choose, as this can have an intergenerational impact on the life choices available to them, similar to the principles of genomic enhancement.
- Right to protection from algorithmic bias or automated decision-making processes: Neuro-rights protect individuals from segregation and exclusion, extending not only to the direct use of instruments on individuals, but particularly to their connection with the digital world. The use of social networks and the virtual world is particularly sensitive to the use of neurodata, as the association of individuals with certain digital profiles facilitates discrimination in the content they can access. This is not only a matter of equality before the law, but also, less obviously, of the right to life in terms of lifestyles that can be pursued by individuals or moral integrity. Ethical issues are covered by the Declaration of Human Rights, the Nuremberg Code (1947), the Belmont Report (1978), the **World Medical Association's** Declaration of Helsinki, and the International Ethical Guidelines for Biomedical Research on Human Subjects (2002) of the **Council for International Organisations of Medical Sciences** in collaboration with the **WHO**, among others.

Chile: pioneers in the regulation of neuro-rights

In March 2023, the Subcommittee on Economic, Social, Cultural and Environmental Rights of the Chilean constitutional process asked the **Encuentros del Futuro Foundation** for an analysis of the progress of neurotechnologies and neurorights in the context of the draft of the new Chilean Constitution.

One of the main objectives of the aforementioned foundation in this context, emphasising the urgency of updating the constitutional framework, was to ensure that science and technology serve the human person and

that fundamental principles such as freedom, equality and non-discrimination are respected. To this end, it proposed the incorporation of explicit protection for brain data and the central nervous system, limiting its use to what is provided for by law and for the benefit of the owner.

The justification for regulation at the constitutional level was based on the fact that the speed at which neurotechnologies are advancing exceeds the capacity of ordinary regulations, which means that such rights must be enshrined at the institutional level to ensure adequate and effective protection, without inhibiting scientific development, but guaranteeing that it is oriented towards human well-being and the common good.

Therefore, following a parliamentary debate, neuro-rights were incorporated into the Chilean Constitution, recognising them as fundamental to protecting individuals in an advanced digital age in which equitable and fair access to the benefits that these technologies can offer is promoted, protecting human dignity from the risks of technology.

The proposal was based on the following conceptual foundations:

- Principle of beneficence: Science and technology must be at the service of human beings, shaping a system of guarantees and rights that promotes their development, but at the same time sets limits based on respect for and protection of universally recognised human rights.
- Equity in access: According to which the system of guarantees must prevent any kind of arbitrary discrimination in access to technologies that improve human conditions. In this regard, **UNESCO's** Universal Declaration on the Human Genome and Human Rights⁷¹ establishes some relevant standards to be considered as examples.
- Non-discrimination: The protection of human dignity requires safeguarding individuals against arbitrary discrimination that may arise from the use of automated information processing systems in decision-making processes. Inclusion, similar to the European General Data Protection Regulation, which prohibits the adoption of automated decisions that affect people's rights, unless they are strictly necessary to satisfy a need in the public interest and to the extent that safeguards such as subjection to court oversight and remedies to challenge such decisions are provided for.

Gender perspective

Digital violence: girls and women as the main victims of discrimination and violence online

Although both men and women can experience interpersonal violence and abuse related to their online activity, women and girls are much more likely to suffer repeated and serious forms of abuse, including sexual violence, as a result of their use of the digital environment. This is pointed out **by the Council of Europe's Group of**

⁷¹ UNESCO - NATIONAL OFFICE IN BRAZIL, 2001. The *Universal Declaration on the Human Genome and Human Rights* [online]. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000122990_spa.

Experts on Action against Violence against Women (GREVIO)⁷², which warns that in recent years, experiences of gender-based violence against women and girls in digital and physical environments have been amplified by digital technology, reaching a scale of violence never seen before.

In Spain, the **National Observatory of Technology and Society (ONTSI)**, attached to the Ministry of Economic Affairs and Digital Transformation, has published a report on digital gender-based violence⁷³ which concludes that women suffer continuous attacks and crimes against their honour and privacy in the digital sphere, reflecting the violence to which they are subjected in real life. **The Ministry of Internal Affairs' Crime Statistics Portal** records 1,068 cases of victimisation of women due to illegal computer access, 5,134 due to threats and 1,069 due to coercion and 1,245 for discovery and/or disclosure of secrets. Official statistics show a growing trend.

Digital gender-based violence has serious consequences. According to **ONTSI** data:

- More than 25% of women between the ages of 16 and 25 in Spain have received inappropriate advances through social media.
- In less than a decade, crimes involving contact with minors under the age of 16 for sexual purposes via technology have increased fivefold in Spain.
- 42% of girls and young women who have suffered online harassment showed emotional stress, low self-esteem and loss of confidence.

The **ONTSI** concludes that this is a major problem that affects broad sections of society, especially adolescent and young women, making it difficult for many of them to use and enjoy digital technologies, with a significant impact on their personal and professional development. This is also confirmed by data from the latest reports by the **ANAR Foundation**⁷⁴ as well as the latest reports from the **Public Prosecutor's Office**, which point out that sexual assaults are not only committed by adults against minors, but also between adolescents or youth, who have often viewed pornography through technologies where different practices encourage the use of women as sexual objects, degrading them as persons and even using physical/emotional violence against them.

As just noted, a major responsibility in this context must be attributed to the new pornography available today online and freely accessible⁷⁵, which is, for the most part, extremely violent. This pornography is based on traditional and toxic *machismo*, which is presented as the realisation of the patriarchal fantasy: there are no

⁷² GRUPO DE EXPERTOS EN LA LUCHA CONTRA LA VIOLENCIA CONTRA LA MUJER Y LA VIOLENCIA DOMÉSTICA (GREVIO), 2020. *Primer informe de evaluación - ESPAÑA [online]*. Convenio del Consejo de Europa sobre Prevención y Lucha contra la violencia contra las Mujeres y la Violencia Doméstica. Available at: <https://violenciagenero.igualdad.gob.es/wp-content/uploads/InformeGrevioEspana.pdf>.

⁷³ OBSERVATORIO NACIONAL DE TECNOLOGIA Y SOCIEDAD, 2022. *Violencia de género: una realidad invisible 2022 [online]*. Ministerio de Asuntos Económicos y Transformación Digital. Available at: https://www.ontsi.es/sites/ontsi/files/2022-07/_violenciadigitalgenero_unarealidadinvisible_2022.pdf.

⁷⁴ Fundación ANAR (2022) *Informe Teléfono/Chat ANAR 2022*; Fundación ANAR (2022) *Estudio: Conducta suicida y salud mental, en la infancia y adolescencia en España (2012- 2022), según su propio testimonio*; and Fundación ANAR (2023) *Estudio: Evolución de la violencia contra las mujeres en la infancia y adolescencia en España*.

⁷⁵ BALLESTER, L., ORTE, C., AND YOUTH AND INCLUSION, 2018. *Nueva pornografía y cambios en las relaciones interpersonales*. Ediciones Octaedro; BALLESTER, L., DOSIL, M., VILLENA, A. Y TESTA, G., 2023. *La nueva pornografía "online" y los procesos de naturalización de la violencia sexual*, in GUTIÉRREZ GARCIA, A. (DIR.), *Una mirada interdisciplinaria hacia las violencias sexuales*, pg. 233-250. Available at: <https://dialnet.unirioja.es/servlet/libro?codigo=946941>

limits to sexual practices, even if they involve overt violence, and women's words do not matter, because whatever they say, the desire of the man or men, who are always the protagonists, is ultimately consummated⁷⁶. This pornography is structured around the objectification and submission of women, as well as the normalisation of violence as part of the process of male arousal, with a notable presence of more fragile bodies such as those of adolescents, involving cases of Sexual Exploitation of Children and Adolescents (SECA), or pregnant women⁷⁷.

In this context, there is a growing body of research linking regular consumption of pornography with an increase in sexual violence and the desensitisation of adolescents to the seriousness of such acts, which increases the likelihood of them becoming both perpetrators and victims of sexual offences⁷⁸.

European and **UN** organisations also denounce the existence of pornography and its free access by children and adolescents on specific platforms as well as on social media and messaging applications. Sexist content in video games that portray women as hypersexualised and subordinate, also constitute an unacceptable dissemination of sexist discourse that promotes the degradation of girls and women and gender-based violence⁷⁹. Back in 2011, the **Parliamentary Assembly of the Council of Europe** expressed its "deep concern at the public's increased accessibility to violent and extreme pornographic material, graphically portraying scenes of degradation, sexual violence, torture, murder, necrophilia or bestiality for the purposes of sexual arousal" and placed particular emphasis on the negative impact of this violent and extreme pornographic material on the dignity of women and their right to live free from sexual violence⁸⁰.

It should also be noted that pornography feeds on the trafficking of women and girls for sexual exploitation in order to offer the vast amount of violent content available on the internet. Without forced sexual exploitation through deception or threats – a problem that affects almost exclusively women and girls (more than 90%) – this

⁷⁶ ALARIO, M., 2021. *¿Por qué tantos hombres se excitan sexualmente ejerciendo violencia? La invisibilización y la erotización de la violencia sexual contra las mujeres en la pornografía*. Atlánticas. Revista Internacional de Estudios Feministas, 6 (1), 190–218. Available at:

<https://doi.org/10.17979/arief.2021.6.1.7164>; ALARIO, M., 2021. *Política sexual de la pornografía*. Sexo, desigualdad, violencia. Cátedra.

⁷⁷ Idem.

⁷⁸ ANDRIE, E. K., SAKOU, I. I., TZAVELA, E. C., RICHARDSON, C., AND TSITSIKA, A. K., 2021. Adolescents' online pornography exposure and its relationship to sociodemographic and psychopathological correlates: a cross-sectional study in six European countries. *Children*, 8 (10), 925.

<https://doi.org/10.3390/children8100925>; COBO, R., 2017. *La prostitución en el corazón del capitalismo*. Los Libros de la Catarata; DAWSON, K., TAFRO, A. AND ŠTULHOFFER, A., 2019. Adolescent sexual aggressiveness and pornography use: A longitudinal assessment. *Aggressive Behaviour*, 45 (6), 587597. <https://doi.org/10.1002/ab.21854>; HATCH, S. G., ESPLIN, C. R., AARON, S. C., DOWDLE, K. K., FINCHAM, F. D.,

HATCH, H. D., AND BRAITHWAITE, S. R., 2020. Does pornography consumption lead to intimate partner violence perpetration? Little evidence for temporal precedence. *The Canadian Journal of Human Sexuality*, 29(3), 289–296. <https://doi.org/10.3138/cjhs.2019-0065>; HATCH, S. G.,

ESPLIN, C. R., HATCH, H. D., HALSTEAD, A., OLSEN, J., and BRAITHWAITE, S. R., 2020. The Consumption of Pornography Scale – General (COPS–G). *Sexual and Relationship Therapy*, 38(2), 1–25. <https://doi.org/10.1080/14681994.2020.1813885>; LEE, E. and LEE, H.E., 2024 The Relationship between Cyber Violence and Cyber Sex Crimes: Understanding the Perception of Cyber Sex Crimes as Systemic Issues. *Children* 2024, 11, 682. <https://doi.org/10.3390/children11060682>; WRIGHT, P.J., AND TOKUNAGA, R.S., 2016. Men's Objectifying Media Consumption, Objectification of Women and Attitudes Supportive of Violence Against Women. *Archive of Sexual Behaviour*, 45 (4), 955–964.

<https://doi.org/10.1007/s10508-015-0644-8>; YBARRA M.L., THOMPSON R.E., 2018 Predicting the Emergence of Sexual Violence in Adolescence. *Prev Sci*. 2018 May;19 4):403-415. <https://doi.org/10.1007/s11121-017-0810-4>

⁷⁹ See 13; COUNCIL OF EUROPE 2018. Recommendation CM/Rec (2018)7 of the Committee of Ministers to Member States on Guidelines to respect, protect and fulfil the rights of the child in the digital environment; SPECIAL RAPporteur ON VIOLENCE AGAINST WOMEN, ITS CAUSES AND CONSEQUENCES, 2018. Report to the Human Rights Council, A/HRC/38/47. Available at: <https://docs.un.org/en/A/HRC/38/47>

⁸⁰ PARLIAMENTARY ASSEMBLY, 2021. Resolution 2412 (2021) "Gender aspects and human rights implications of pornography". Available at: <https://pace.coe.int/en/files/29579>; PARLIAMENTARY ASSEMBLY 2011. Resolution 1835 (2011) "Violent and extreme pornography". Available at: <https://pace.coe.int/en/files/18028/html>.

content could not exist⁸¹ Society must be aware of this fact: viewing pornography means supporting the trafficking industry.

Similarly, the sex industry promotes the normalisation of prostitution of adolescents and young women, i.e. the sale of their bodies and sexuality, through various websites: those related to sugar daddies or others such as **OnlyFans**, which are contributing to their exploitation through ICTs⁸², under the illusion of supposed "empowerment", which is nothing more than traditional female sexual exploitation.

As the Special Rapporteur on violence against women concludes, the Internet has become a privileged space in which various forms of violence against women and girls are perpetrated: not only pornography, but also sexist *online* games and the non-consensual distribution of intimate images. This violence can lead women and girls to refrain from using the Internet: 28% of those who were subjected to ICT-based violence have deliberately reduced their online presence, while others have become socially isolated or have suffered economic harm⁸³.

Therefore, in the face of an issue such as digital violence, which predominantly affects women and girls, and in accordance with international and national legislation (Organic Law 1/2004⁸⁴, Organic Law 3/2007⁸⁵ and Organic Law 10/2022⁸⁶), the State must address this issue in a way that is not gender neutral, but specifically addresses the social, educational, legal and other factors that make women and girls the main victims of this violence. In this context, it is essential to collect data disaggregated by sex in order to substantiate this gender approach.

It is therefore essential to take into account the differences in the *online* and *offline* experiences of boys and girls. For example, if this issue is not addressed from a perspective that investigates, highlights and integrates into public policy the elements that indicate and determine that this violence is mainly directed at women, adolescents and girls, and that it is mainly men - adults and minors - who engage in discriminatory and/or criminal behaviour towards them (violence in pornography, grooming, harassment and revenge pornography, sextortion, etc.), the measures deployed will not be effective. Hence the importance of incorporating a gender perspective into public policies.

The gender perspective as a key tool in combating gender-based violence in the digital environment

The incorporation of the gender perspective aims to resolve inequalities of this kind in society and achieve equality between women and men, which is a fundamental element and one of the main objectives of our

⁸¹ MILANO V., 2022 *Estudio sobre pornografía en las Illes Balears: acceso e impacto sobre la adolescencia, derecho internacional y nacional aplicable y soluciones tecnológicas de control y bloqueo*, Universidad de las Illes Balears e Instituto Balear de la Mujer.

⁸² SAIZ MARTÍNEZ, M., 2023. *ONLYFANS - Un espacio blanqueado del negocio del sexo* [online]. Federación Mujeres Jóvenes. Available at: https://mujeresjovenes.org/wp-content/uploads/2024/05/Informe-Onlyfans_Federacion-Mujeres-Jovenes.pdf.

⁸³ See 66.

⁸⁴ JEFATURA DEL ESTADO, 2004. *Ley Orgánica 1/2004, de 28 de diciembre, de Medidas de Protección Integral contra la Violencia de Género*. Boletín Oficial del Estado [online], no. 313. Available at: <https://www.boe.es/eli/es/lo/2004/12/28/1/con>.

⁸⁵ JEFATURA DEL ESTADO, 2007. *Ley Orgánica 3/2007, de 22 de marzo, para la igualdad efectiva de mujeres y hombres*. Boletín Oficial del Estado [online] no. 71. Available at: <https://www.boe.es/eli/es/lo/2007/03/22/3/con>.

⁸⁶ JEFATURA DEL ESTADO, 2022. *Ley Orgánica 10/2022, de 6 de septiembre, de garantía integral de la libertad sexual*. Boletín Oficial del Estado [online], no. 215. Available at: <https://www.boe.es/eli/es/lo/2022/09/06/10/con>.

democratic and constitutional order. Equality is a universal norm that has been internationally recognised since its incorporation into the Universal Declaration of Human Rights (1948) and, subsequently, into the Convention on the Elimination of All Forms of Discrimination Against Women (1979) and the main international treaties. Gender equality and the fight against violence against women is one of the main values and objectives of the EU. Under these instruments, Spain must guarantee equality between men and women in all spheres of public and private life and take measures to eliminate any kind of discrimination and violence against women.

Sexual and gender-based violence and harassment are undoubtedly the most serious manifestation of discrimination against women and girls, as they are used to penalise or hinder the exercise of their rights and freedoms and to maintain men in a position of dominance and privilege. To combat these particularly serious forms of discrimination, States have adopted more specific instruments that recognise the right of women and girls to a life free from violence. At European level, the **Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (Istanbul Convention⁸⁷)**, ratified by Spain in 2014, is the benchmark for international standards in this field. Specifically, States have an obligation not to commit violence against women and to act with due diligence to prevent, investigate, punish and compensate for acts of violence committed by non-State actors - individuals, companies, organised crime, etc. - (Art. 5), applying a gender perspective (Art. 6).

In terms of prevention, the Convention obliges States to adopt the necessary measures to change behaviours and stereotypes that make violence against women acceptable to some, as well as to provide training to professionals who work with potential victims, to raise public awareness of the different forms of violence and the trauma they cause, and to include teaching materials on issues of equality and violence against women and girls in curricula at all levels of education.

In terms of protection, the Convention obliges States to prioritise the needs and safety of victims, to establish specialised and comprehensive support services, as well as free 24-hour helplines, among other measures.

In criminal matters, in addition to the obligation to criminalise and prosecute physical, sexual and psychological violence, as well as sexual harassment, both *online* and *offline*, the convention requires that aggravating circumstances be established in cases where the offence was committed against or in the presence of a minor, where extreme violence was used, or where the offence was committed by two or more persons.

Public policies have historically been based on the needs of the dominant group in society and on the needs of those who made the decisions: men. Since the second half of the 20th century, the greater presence of women in decision-making, new commitments to women's rights in legislation, and the development of gender studies and sex-disaggregated data have helped to reveal the fact that, historically, public policies have not taken into account the different needs and situations of women. Public policies have been designed by men to respond to the needs of men. Without the incorporation of a gender perspective, traditional approaches that fail to address

⁸⁷ COUNCIL OF EUROPE, 2011. Council of Europe Convention on preventing and combating violence against women and domestic violence [online]. Available at: <https://rm.coe.int/1680462543>.

women's needs and perpetuate their situation of discrimination will not change. This situation has shaped the construction of our societies and continues to permeate them.

Incorporating a gender perspective means integrating a vision of gender equality into all stages and levels of policies, regulations and programmes. Women and men have different needs and circumstances, including unequal access to power, resources, human rights and institutions. Women are discriminated against in different ways and generally more severely in terms of access to and enjoyment of their rights. The situations of women and men also differ according to the region in which they live, their age, ethnic or social origin, and other factors. The aim of gender mainstreaming is to take these differences into account when designing, implementing and evaluating policies, programmes and projects, in order to identify, highlight and specifically address the often differing prevention and protection needs of men and women, and to ensure that the progress sought benefits both on an equal footing.

A dual approach to gender equality, combining the mainstreaming of gender perspectives in all policies with specific measures for the advancement of women, is considered to be the most effective. This dual approach is also reflected in the **United Nations'** "2030 Agenda for Sustainable Development", which includes a separate goal on gender equality and the empowerment of women and girls (Sustainable Development Goal 5), as well as various gender-sensitive targets in other goals (mainstreaming). Finally, the **EU** has various materials and strategies to support states and other actors in incorporating the gender perspective⁸⁸.

The role of industry

Before discussing the role of industry in building a safe digital environment for youth and children, it is necessary to analyse the different sectors involved.

In this way, four major sectors can be identified: firstly, companies offering digital social media services and video sharing platforms; secondly, companies providing video on demand (VoD) platforms; thirdly, telecommunications companies, which provide the fixed and mobile connectivity necessary for devices to connect to the network; and finally, manufacturers of electronic devices that can be used by minors.

Each of the four sectors identified belongs to a different link in the value chain of the Internet economy, which means that they have different commercial interests, as well as different levels of control over the content that reaches minors. This means that they should have different responsibilities and obligations, taking into account the consequences of their activity for children and adolescents.

In June 2024, the Committee of Experts sent a questionnaire to representatives of business entities belonging to the four sectors mentioned above. The questions focused mainly on the following issues:

⁸⁸ EUROPEAN PARLIAMENT, 2019, Gender mainstreaming in the EU: State of play. Available at: [https://www.europarl.europa.eu/RegData/etudes/ATAG/2019/630359/EPRS_ATA\(2019\)630359_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2019/630359/EPRS_ATA(2019)630359_EN.pdf); EUROPEAN INSTITUTE FOR GENDER EQUALITY, 2024, What is gender mainstreaming? Available at: https://eige.europa.eu/gender-mainstreaming/what-is-gender-mainstreaming?language_content_entity=en.

1. Implementation of the principles of the **AEPD's** ten-point guide to age verification systems
2. Default protection of minors
3. Service contracts
4. Parental controls
5. Recommendation algorithms
6. Default privacy and parental control settings
7. Cooperation with third parties
8. Evaluation of educational platforms
9. Assessment of the suitability of products/services for children and adolescents
10. Impact assessments and correction of deviations
11. Complaints and action protocols
12. Identification of harmful content in general and, in particular, content created through generative AI.
13. Deletion of the digital footprint of children and adolescents on the Internet
14. Advertising specifically targeting children and adolescents
15. Transparency in donations and sponsorships

The digital industry companies that received the questionnaire were as follows:

1. Amazon Prime
2. Apple
3. Facebook
4. Google Classroom
5. HP
6. Huawei
7. Instagram
8. LinkedIn
9. More Orange
10. Match Group
11. Microsoft
12. Netflix
13. Nokia
14. Samsung
15. Sony
16. Telefónica
17. TikTok
18. Twitch
19. Vodafone

20. WhatsApp
21. Xiaomi
22. YouTube
23. YouTube Kids
24. ZTE

Of these, **Huawei, LinkedIn, Match Group, Nokia, Samsung, and Sony Entertainment** did not respond to the questionnaire.

It was also agreed to send the questionnaire to **Porn Hub** and **OnlyFans**, although it was not possible to locate a registered office or representative in the European Union.

Based on the information provided in their responses, the following conclusions are presented.

Social media and video sharing platforms

This sector includes companies such as **Alphabet** (owner of platforms such as **YouTube, YouTube Kids** and **Google Classroom**), **Meta (Facebook, Instagram, WhatsApp)**, **Twitch** (owned by **Amazon**) and **TikTok** (owned by the Chinese company **ByteDance**).

The platforms operated by these companies usually require a minimum age for registration (generally 13-14 years old). However, there are no robust age verification systems in place; instead, age is verified based on estimates or self-declarations. Furthermore, basic use of these platforms is usually free, so it is not necessary to provide a valid means of payment to create an account, which removes a significant barrier to access for minors. This means that the use of these systems is financed by the collection of personal data, which is used for profiling and advertising purposes, posing a risk to children and adolescents.

Another risk factor is the possibility of users creating and distributing their own content, which makes it more difficult to control its suitability for children and adolescents. The risks associated with their interaction with other social media users must also be considered.

Finally, there is no control over the algorithms that these platforms implement to recommend content to users.

Even so, these companies claim to implement mechanisms to protect minors through a combination of the following elements:

- Community standards
- Parental control tools: Screen time control, blocking unwanted interactions, blocking advertisements, creating children's profiles, family synchronisation of profiles, blocking downloads or purchases.

- Private accounts by default
- Disabled features: Direct messages, live connections, recommendation systems
recommendation systems, notifications, comments
- Content level filters

When it comes to content moderation, both social media and video-sharing platforms use human moderation and artificial intelligence, which takes into account local context and culture. The use of generative artificial intelligence and its labelling is gradually being incorporated. Some platforms opt for watermarks, while others choose to implement a labelling system available to content creators.

These companies claim that the system for reporting inappropriate content tends to be expeditious and that different actions are taken depending on the severity, ranging from warnings, temporary suspension, blocking, account deletion and reporting to the State Security Forces.

Finally, it should be noted that companies in this sector are often large multinationals whose headquarters are located outside the European Union (in the United States or China). Furthermore, they often operate in "grey areas" where regulation has not yet been implemented or has only recently been introduced (such as the Digital Services Regulation, the Digital Markets Regulation and the European Data Protection Regulation). These two aspects make it difficult for European countries and their regulators to control and regulate the content and services they offer.

All this means that the services offered by companies in this category have the greatest impact on the security of the digital environment for youth and children.

Video-on-demand (VoD) platforms

This sector includes companies such as **Netflix**, **Amazon** (with its **Prime Video** platform), **Disney** (with its **Disney+** platform), **MAX** (owned by **Warner Bros**) and **Apple TV**. There are also VoD platforms from telecommunications operators, such as **Movistar+**, **Orange TV** and **Vodafone TV**.

Platforms operated by companies in this category do not allow user-generated content, so they have complete control over the content offered in their catalogue.

They only allow adult users to register. Validation takes place when an account is opened, as a valid payment method must be provided (assuming that the minor does not have one). It is also intended that minors can only use the applications under the supervision and consent of an adult, and the latter can restrict use and content through parental control tools such as: preconfigured child profile (without advertising or notifications), PIN lock, title restrictions, purchase blocking, live event blocking or channel blocking.

Although the leading companies in this sector in terms of number of users are non-EU companies, their platforms are subject to the content rating rules established by the regulator (**CNMC**), through age classification (TP, +7, +13, +16, +18) and content descriptors. Even so, there is no control over the algorithms these platforms use to recommend content or to profile and collect data on minors.

Telecommunications companies

This sector includes companies such as **Telefónica (Movistar)**, **Vodafone Spain**, **MásOrange** (created from the merger of **Orange Spain** and the **MásMóvil** Group), and **DIGI**.

The activity of these companies focuses on providing connectivity and, where applicable, physical infrastructure for connection to the network, so they have no control over the applications and content accessed through it. The only exception is that they may interrupt access to platforms or applications that have been declared illegal by the competent authority.

Their services can only be contracted by adults. In addition, they make various parental control tools available to users, such as:

- Age-based content classification
- Data connection deactivation (study time, disconnection times, etc.)
- Blocking (of content and downloads)
- Parental PIN
- Purchase blocking
- Safe Internet mode
- Whitelists
- Usage alerts
- Function disabling
- Cybersecurity systems for individuals and schools (to secure the network)

These companies also usually have various channels for reporting and providing information.

The telecommunications sector is one of the most heavily regulated in the European Union, which means that the risk that its products and services may pose to children and adolescents is very low.

Manufacturers of electronic devices

This sector includes manufacturers of various devices: desktop and laptop computers (with **Windows** operating systems, produced by different manufacturers, and with **Mac** operating systems, produced by **Apple**); mobile devices (*smartphones* and tablets, with **Android** and **iOS** operating systems, the latter manufactured by **Apple**, as well as other minor operating systems); digital watches (with **Google** or **Apple** operating systems or closed operating systems); and desktop and portable video game consoles.

In general, to create a user account on an operating system (for computers and mobile devices), a minimum age must be declared (14 years old to create an **Apple** ID, or legal age in the case of **Microsoft**, for example). However, this is not verified by reliable systems.

Manufacturers provide their own parental control tools in their operating systems: time and usage limits, content limits, communication security, ask before buying, age ratings in app stores, and control of devices used by minors.

As for the design of the apps offered in the stores of the various manufacturers, those included in the children's categories do not allow external links or recommendations and do not include advertising.

With regard to video games, console manufacturers often include settings that allow the use of parental control tools (time limits, disabling features such as purchases or direct messaging, among others). The video game industry also has a European age rating system (PEGI) based on self-regulation, which is therefore voluntary.

In this sector, the main risks for children and adolescents also come from algorithms for recommending content and applications in their digital stores, as well as online profiling and data collection.

Conclusions from industry contributions

In general, none of the four sectors identified currently offer robust and effective age verification systems. Instead, age verification is carried out through self-declaration, estimation, or indirect measures (such as the requirement to provide a valid means of payment, assuming that minors do not have access to such means).

Today, this poses a direct risk to the safety of minors in the digital environment. And although the **AEPD** has successfully tested the feasibility of developing age verification systems that guarantee user anonymity and privacy, none of the video-sharing and social media platforms – which are required by law to do so – have implemented them. In reality, this translates into a lack of real commitment to protecting minors in the economic space that they have created, especially considering that the target audience for these social networks or video-sharing platforms is teenagers.

Although opinions differ, the majority of the businesses surveyed indicate that any age verification system should be implemented at the operating system level of electronic devices, so that it is unique and effective across all applications used on them.

On the other hand, all the different companies surveyed offer various tools that families can use to control the interactions and content their children are exposed to. However, as mentioned above, these tools are not truly effective, as they can be circumvented relatively easily. Furthermore, in many cases, certain features or applications are automatically deactivated when the minor reaches a certain age, without taking into account other criteria such as medical or legal considerations, or even those relating to maturity or the degree of digital autonomy acquired. Companies that offer audiovisual content and video games usually have age rating systems

in place, but these are merely guidelines, as they do not incorporate any verification method to restrict access.

It should be noted that the industry has so far shown little commitment to the safety and protection of children and adolescents in the digital environment. The general trend in Spanish regulation is to require companies to adhere to fairly strict standards of corporate social responsibility. This criterion even includes SMEs, which are smaller in size and turnover. However, the technology sector, which is dominated by large non-EU corporate groups with huge annual turnovers, continues to rely on self-regulation and 'good practices' that are applied on a largely voluntary basis. Given this situation, the only short-term solution is the implementation of serious and approved age verification systems. These are: those on which there is a decision by the CNMC, following a mandatory non-binding report from the AEPD.

The protection of minors in this area deserves special attention, which is currently not being provided effectively enough.

Monitoring by the Committee on the Rights of the Child

The CRC is a body of 18 independent experts that monitors the implementation of the UNCRC by its member states.

All member states must submit regular reports to the Committee on how they are exercising these rights. The Committee examines each report and expresses its concerns and recommendations to the state party in the form of "concluding observations".

The protection of children and adolescents in the digital environment is a challenge that requires a cross-cutting approach. The CRC has worked on various documents at the global level and specifically on the issue in Spain, with the aim of obtaining its commitment to adopt and continuously update robust legislative frameworks and policies, promoting education and awareness, but also providing adequate support to families and children and adolescents, always with a view to taking advantage of technology, but invariably ensuring the effective protection of rights.

In this regard, General Comment No. 20, dedicated to the effectiveness of adolescents' rights, published in 2016, indicated the special attention that States should pay to the digital environment (pp. 47 and 48). In it, the CRC warned of the social reality that digital and social media were becoming the main means of communicating and receiving, generating and disseminating information.

In 2016, the CRC encouraged States to promote safety in the digital environment by implementing comprehensive strategies, such as digital literacy on the risks of the internet, but also by requiring companies to exercise due diligence in relation to children's rights in order to identify, prevent and mitigate the impact of their activities in this environment.

In 2018, the CRC assessed Spain in its 5th and 6th reports. In these reports, Spain communicated its "Action Plan (2017)", which highlights that "digital safety and literacy have been improved at the highest institutional and regulatory level" (p. 112).

The regulatory framework referred to in the report is Organic Law 1/1996⁸⁹, as amended in 2015; however, this legislation only addresses the protection of children and adolescents in the digital environment in article 5, on their right to information. This regulation is limited to a framework of good intentions in that special attention will be paid to digital and media literacy, placing the responsibility on children and adolescents to identify situations of risk arising from the use of new technologies (specifically, it establishes a commitment to offer tools and strategies "to protect themselves", rather than offering direct protection mechanisms, and under the responsibility of the State).

In the institutional framework, the Spanish State report highlighted the approval of the "Digital Agenda for Spain", which focused on voluntary sectoral codes of conduct and self-regulation and self-control systems.

Without going into detail about the regulatory framework, the CRC, in its concluding observations on the 5th and 6th reports, recommended that Spain create a state council for audiovisual media, also suggesting the development of initiatives to regulate access to the Internet and digital media and their use by children and adolescents (para. 20). It is in this observation that the CRC strongly recommends that Spain enact comprehensive legislation to protect children and adolescents.

In 2021, the CRC issued its General Comment No. 25 on the rights of children and adolescents in relation to the digital environment. It highlights their right to non-discrimination in this environment, considering that "other forms of discrimination can arise when automated processes that result in information filtering, profiling or decision-making are based on biased, partial or unfairly obtained data concerning a child."

With regard to the best interests of children and adolescents, General Comment No. 25 emphasises that this must be a primary consideration in all actions related to the digital environment, ensuring that its design and use adequately promote this. States must involve the relevant bodies to ensure that all rights of children and adolescents are respected, including their right to information, protection and to be heard, with transparency in the evaluation and criteria applied.

The CRC does not encourage States to provide training to parents, educators and other actors on digital literacy, in the sense of holding families or children responsible in the event of a lack of protection. On the contrary, it recommends that States adopt appropriate measures to protect children and adolescents in the digital environment, as a duty to protect them from anything that constitutes a threat to their right to life, survival and development, including violent content, cyberbullying, exploitation, sexual violence and/or abuse.

This issue is particularly relevant to the age and stage of development of each child, and it is the duty of States to "respect the evolving capacities of the child as an enabling principle that addresses the process of their

⁸⁹ See 8.

gradual acquisition of competencies, understanding and agency". For this reason, the CRC recommends that States ensure that digital service providers offer services in line with the evolving capacities of children and adolescents (paras. 19 to 21).

The CRC could not be clearer in calling on States to make a real and effective commitment to protecting children and adolescents in the digital environment, recommending that companies should respect and remedy violations of rights in the digital environment. And States must ensure compliance through laws, regulations and policies, ensuring effective protection and resources for children, parents and caregivers (paras. 35 to 39).

However, the most noteworthy aspect is the recommendation made by the CRC that States enable and facilitate the provision of adequate and effective judicial and non-judicial redress mechanisms for all children and adolescents to address violations of their rights in the digital environment (paras. 43 to 49).

The CRC redirects responsibility for access to harmful content to companies, guiding States to encourage them to implement labelling, content reliability and codes of conduct. But above all, it also redirects responsibility to States, as they are the ones who have made a commitment to protect children and adolescents from harmful and unreliable content, as well as the duty to ensure that relevant companies and other digital content providers develop and implement guidelines that allow children and adolescents to access content safely.

Through its recommendations, the CRC does nothing more than combine and reconcile the duty of States to guarantee children their fundamental right to access information in the digital environment with their duty to guarantee their protection in that same environment (paras. 50 to 61).

Privacy and the right to honour and self-image are fundamental elements to be protected according to the CRC, which reminds States of their duty to guarantee the protection of these rights.

The CRC indicates to States their duty to adopt legislative and administrative measures aimed at protecting children and adolescents from violence in the digital environment (para. 82). And this is what, in theory, Spain complied with a few months after the issuance of General Comment No. 25.

On 4 June 2021, Organic Law 8/2021⁹⁰ on the comprehensive protection of children and adolescents against violence (LOPVI) was enacted, which, according to article 1.2, "for the purposes of this law, violence is understood to mean any action, omission or negligent treatment that deprives minors of their rights and well-being, threatening or interfering with their proper physical, mental or social development, regardless of the form and means of commission, including that carried out through information and communication technologies, especially digital violence," establishing as the purposes of the regulatory text, among others (article 3 m). "To establish the protocols, mechanisms and any other measures necessary for the creation of safe, caring and inclusive environments for all children in all areas covered by this law in which minors live their lives. A safe environment shall be understood to be one that respects the rights of children and promotes a protective

⁹⁰ JEFATURA DEL ESTADO, 2021. *Ley Orgánica 8/2021, de 4 de junio, de protección integral a la infancia y la adolescencia frente a la violencia*. Boletín Oficial del Estado [online], no. 134, Available at: <https://www.boe.es/eli/es/lo/2021/06/04/8/con>.

physical, psychological and social environment, including the digital environment".

By framing behaviours and omissions that undermine the rights and well-being of minors as violence in the digital environment, and by setting out the protective purpose of state law in conjunction with the best interests of children and adolescents — the central axis of the general criteria articulated in section 4 of the law itself — Spain has established cutting-edge legislation that provides comprehensive protection for the rights of childhood and adolescence.

Three years later, in 2024, Spain is once again under review by the CRC, and as preliminary issues to the 7th Report (published on 22 March 2023), the State is requested to outline the measures that have been adopted to encourage companies to comply with General Comment No. 25. In particular, the State is asked to inform the CRC of the measures it has taken to protect the personal data of children and adolescents, the accessible reporting procedures and policies and mechanisms to protect them from violence, excessive screen use and online harassment (para. 16 b).

On 23 April 2024, the Spanish State submitted its report to the CRC, responding to the preliminary questions for its 7th evaluation, with paragraphs 100 to 111 addressing the rights of children and adolescents in the digital environment, including the "State Pact for the Protection of Minors on the Internet" with a commitment to draft a comprehensive law on the rights of children and adolescents in the digital environment (para. 102), highlighting the LOPIVI itself as the basic legislation.

4. RELATION BETWEEN CHILDHOOD AND TECHNOLOGY

4.1 Access

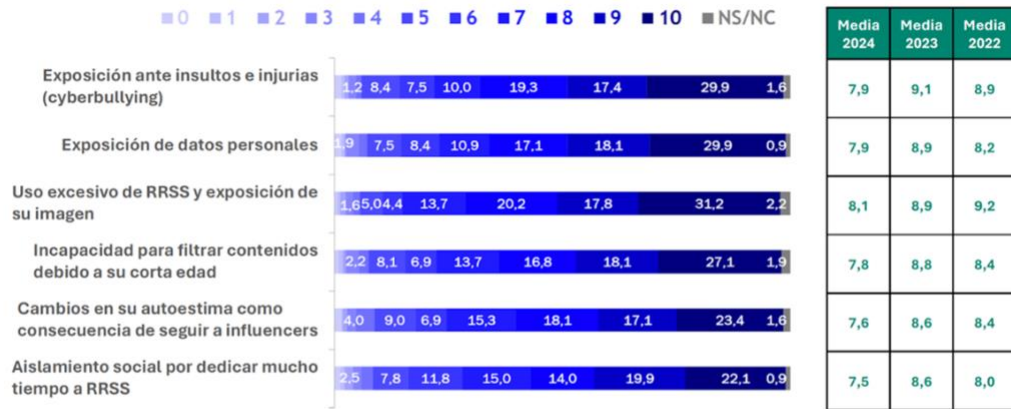
Family

The social role of families

As reflected in the "XIII Family Barometer" by **The Family Watch Foundation**⁹¹, although the average age at which children receive their first mobile phone has increased compared to the previous year (13 years old, compared to 12 in 2022), the perception of risk associated with social media use among young people has decreased slightly among families. However, this perception remains very high in all aspects evaluated: exposure of one's own image or personal data, inability to filter content, changes in self-esteem, social isolation and exposure to cyberbullying. As for the institutions involved in mitigating these potential impacts, the survey responses continue to highlight the fundamental role of families. In 2023, there has been a significant increase in the percentage of families who also consider legislation to be a key factor in this regard (21%).

⁹¹ FUNDACIÓN THE FAMILY WATCH FOUNDATION – INSTITUTO INTERNACIONAL DE ESTUDIOS SOBRE LA FAMILIA-, 2024. *XIII Barómetro de las Familias*. [online]. Available at: <https://thefamilywatch.org/wp-content/uploads/EN-231101-Resultados-Barometro-TFW-9enero2024-1.pdf>.

Risks of social media for youth



En una escala de 0 a 10 (siendo 0 nada y 10 mucho), ¿en qué medida cree que los siguientes riesgos relacionados con las redes sociales pueden ser perjudiciales para los jóvenes actualmente?

n = 1.021



SOURCE: XII Family Barometer 2024

In addition to pointing out the risks of social media on young people's image and behaviour, Spanish families recognise harmful dynamics in advertising and commercial communications. As in previous years, approximately 60% of those interviewed consider it necessary to increase legislation to regulate advertising involving minors, while nearly 50% believe that this type of content tends to present an idealised image or show children and pre-teens as older than they are. Only 20% of families believe that TV series and programmes and digital platforms promote healthy relationships among young people.

Regarding the perception of the importance of mental health in our society, most respondents believe that it is an increasingly normalised issue and one about which there is more information available, despite believing that suicide rates have increased in recent years among both youth and adults. Factors contributing to the deterioration of mental health in youth include the influence of social media (38%), increased *bullying* in schools (35%) and low self-esteem (30%). In the case of the adult population, financial difficulties (65%) and feelings of loneliness (43%) are identified as the main causes of mental health deterioration.

The role of parents as role models for good use. Sharenting

One of the constants that is largely reflected in the studies is the surprising lack of involvement that some parents have regarding their children's use of digital devices. Despite the concern that the issue raises, only 13% of parents actually limit the content their children access on the Internet. 24% limit the hours of use and 30% set some kind of rules in this regard. However, 37% of adults habitually use their mobile phones during meals, which means that their children are significantly more likely to engage in risky online behaviour and develop screen addiction problems.

The word *sharenting* is an acronym of two words: 'share' and 'parenting'. It consists of "the habitual use of social media to share news, images, etc of one's children"⁹². The causes of this phenomenon can be diverse, ranging from the adult's desire to create a family image, to expressing the happiness that their children bring them and wanting to share it, or even the monetisation of the activity generated by minors, among others. Organic Law 1/1996⁹³, in its article 4, establishes that children and adolescents have the right to the protection of their honour, privacy and self-image. Parents, as legal guardians, must act in the best interest of the child, which includes decisions about the publication of images or information relating to their children in public or private media.

According to a survey conducted in Spain among parents of children and adolescents aged 9 to 17, 89% of families share their children's content on **Facebook, Instagram or TikTok** about once a ⁹⁴.

Some families' significant lack of knowledge about the digital world — for example, not realising that even if they have limited the visibility of their profile by making it private, their friends or family members may share images they have received through social media, or that these images could even be used by third parties due to the platform's own policies — can put children and adolescents' security and privacy at risk (their digital footprint on the Internet).

These are not famous people or public figures, but rather individuals who, instead of having private social media profiles, share all their activity, including photos with their children, on public pages indexed by search engines. Law 13/2022, of 7 July, on Audiovisual Communication⁹⁵ (LGCA), establishes in article 7 that audiovisual communication service providers must take measures to protect minors from content that could negatively affect their physical, mental or moral development.

The study "Exposure of minors on Instagram: instamothers, brand presence, and a legal vacuum"⁹⁶ points out that, of the accounts analysed, posts featuring minors receive 41% more *likes* than those that do not. However, there is still a lack of awareness of the risks, as 30% of mothers between the ages of 31 and 45 love to share photos of their children on social media⁹⁷.

Organic Law 1/1982⁹⁸ on civil protection of the right to honour, personal and family privacy, and personal self-image specifically protects these rights for all persons, including minors. Any unlawful interference with these rights may be subject to legal action, and in the context of *sharenting*, parents may be held liable for posts that violate these rights of their children.

⁹² <https://www.collinsdictionary.com/es/diccionario/ingles/sharenting>.

⁹³ See 12.

⁹⁴ JIMENEZ IGLESIAS, E., ELORRIAGA-ILLERA, A., MONGE-BENITO, S., OLABARRI-FERNÁNDEZ, E., 2022. "Exposición de menores en Instagram: instamadres, presencia de marcas y vacío legal". *Revista Mediterránea de Comunicación*, no. 13, year 2022.

⁹⁵ JEFATURA DEL ESTADO, 2022. *Ley 13/2022, de 7 de julio, General de Comunicación Audiovisual*. Boletín Oficial del Estado [online], no. 163, Available at: <https://www.boe.es/eli/es/lv/2022/07/07/13/con>.

⁹⁶ See 81.

⁹⁷ Data from the website [Cheerz.com](https://www.cheerz.com)

⁹⁸ JEFATURA DEL ESTADO, 1982. *Ley Orgánica 1/1982, de 5 de mayo, de Protección Civil del Derecho al Honor, a la Intimidad Personal y Familiar y a la Propia Imagen*. Boletín Oficial del Estado [online], no. 115, Available at: <https://www.boe.es/eli/es/lo/1982/05/05/1/con>.

There are risks that must be assessed before capturing or distributing an image or video of a minor. Undoubtedly, the first and most serious of these is the ease with which a child molester or paedophile could access the photograph of the minor, download it from the profile and use it for any illegal purpose related to child pornography. According to the report "Profile of detainees for crimes related to child sexual abuse material"⁹⁹, in 72% of cases of convicted sex offenders, there were everyday images of minors that were not sexualised, i.e. photos from commercial sources, family albums or legitimate sources.

Organic Law 3/2018¹⁰⁰ establishes strict rules on the processing of personal data. In the case of minors, the explicit consent of parents or guardians is required for the processing of their data (Art. 8). *Sharenting* involves the processing of minors' personal data and must therefore comply with these provisions, ensuring that any dissemination of information has the appropriate consent and is carried out in a secure and proportionate manner.

Furthermore, the exponential increase in the use of generative AI applications has given rise to another risk, which consists of altering the image of a minor (it can be any photo in any context) by combining it with another of a pornographic nature to create a new photograph with highly sexual content, unwittingly featuring the minor.

Another risk is the harassment that children and especially adolescents may be subjected to by their peers when they see photographs taken by their parents published. It should be borne in mind that every child and adolescent is completely different and, therefore, may react differently to this situation. Article 197 of the Criminal Code classifies as a crime the dissemination of images or audiovisual recordings obtained in a home or any other place out of sight of third parties without the consent of the person concerned.

For some, it will be rewarding to have a digital album of their entire childhood and be surrounded by family and close friends, but for others, perhaps the more reserved, this overexposure could cause serious self-esteem issues. "56% of parents share potentially embarrassing information about their children, 51% provide data that could be used to locate them, and 27% post directly inappropriate photos."¹⁰¹. In Spain, 42% of minors feel embarrassed by the content uploaded by their parents to the Internet¹⁰², and although the LOPDGDD¹⁰³ includes a specific mention of the exercise of this right, it is necessary to assess how the publication of content may harm the adult life of the minor. There is an obligation to protect the image and privacy of minors, not a right to make arbitrary use of them. It is the digital footprint of minors on the Internet that is at stake.

⁹⁹ SOLDINO GARMENDIA, V and CARBONELL VAYÁ, E.J., 2019. *Informe Perfil del detenido por delitos relativos a la pornografía infantil* [online]. Universidad de Valencia. Ministerio del Interior, Gobierno de España. Available at: https://www.interior.gob.es/opencms/pdf/archivos-y-documentacion/documentacion-y-publicaciones/publicaciones_descargables/seguridad-ciudadana/Perfil_de_detenido_por_delitos_pornografia_infantil_126191414_web.pdf.

¹⁰⁰ See 6.

¹⁰¹ HINKER, A., SCHOENEBECK, S.Y. and KIENZT, J.A., 2016. Not at the Dinner Table: Parents- and Children's Perspectives on Family Technology Rules. Researcher Gate.

¹⁰² Various authors. EU Kids Online 2020. Survey results from 19 countries.

¹⁰³ See 6.

Legal guardianship and parental authority: their scope

Guardianship is a legal institution designed to protect and represent minors who are not emancipated and are not under the parental authority of their parents. It is regulated in the Civil Code¹⁰⁴ Book I, Title IX, Chapter I on "Guardianship and custody of minors" (Art. 199). Guardianship is exercised by a person appointed by the court or by operation of law when the parents are unable to exercise parental authority, in which case a court order is required for its establishment and supervision by the authorities.

This implies a substitution of the parents' duties to protect, care for and look after minors under guardianship. Likewise, the duties of representation in legal acts and administration of the ward's property until they reach the age of majority or until their emancipation.

Parental authority is defined as the set of powers and rights that the law grants to parents over their minor children who are not emancipated. It is regulated in the Civil Code¹⁰⁵, title VII of book I, article 154, which establishes that parents must act in the best interest of their children, in accordance with their personality and with respect for their rights and integrity. As with guardianship, parents also assume the role of administering their children's assets until they reach the age of majority or become emancipated. This means that this role must be exercised under the principle of *favor filii*, as Article 156 establishes that, in general, this function is always joint, unless otherwise established by the express consent of one of the parents or by court order, and must always operate in a climate of "joint responsibility and positive parenting".

Article 162 states that "parents who have parental authority have legal representation of their minor children who are not emancipated." Therefore, parents must act on behalf of and in the interests of their children, representing them in matters affecting both their personal and financial affairs. However, there are exceptions to this representation by parents, whereby they may not perform acts relating to the personal rights of their children when the latter are capable of exercising those rights themselves in accordance with their maturity. These cases usually involve "mature minors", those who have reached the age of 16 and to whom the law grants certain prerogatives for the autonomous exercise of their personality rights.

This autonomy obliges parents to respect their children's capacity to act in the exercise of their rights and interests, provided that these are in their best interests. In such cases, parents must refrain from acts that prevent or could constitute an unlawful interference with their rights, such as violating the secrecy of communications, their right to privacy, etc. Article 3 of Organic Law 1/1982¹⁰⁶ establishes that parental interference in these rights is possible provided that the mature minor gives their express consent, but only if that consent does not imply an impairment of their honour or reputation, or is contrary to their interests.

¹⁰⁴ AGENCIA ESTATAL BOLETÍN OFICIAL DEL ESTADO, 2011. Código Civil. [online]. Edición conjunta del Ministerio de Justicia y de la Agencia Estatal Boletín Oficial del Estado. Available at: https://www.mjusticia.gob.es/es/AreaTematica/DocumentacionPublicaciones/InstListDownload/Codigo_Civil.PDF.

¹⁰⁵ Idem.

¹⁰⁶ See 86.

One of the functions also included in parental authority is that of education. Education is not an exclusive function of schools, but rather a joint function that aims to develop the full potential and personality of children and adolescents. The involvement of parents in education, both *offline* and *online*, will enable them to become responsible digital citizens. Special attention should be paid to digital and media literacy. In these matters, the State must respect the normal development of the personalities of children and adolescents, taking into account their opinions in accordance with their age and maturity and ensuring, within the development appropriate to each child's age, their participation in the development, monitoring and evaluation of child protection strategies, policies, programmes and services.

The State must support families with tools that help their children interact more safely online and develop digital skills to deal with the dangers that lurk on the Internet, such as identity theft, cyberbullying, sextortion, *grooming*, addiction, digital gender-based violence, inappropriate content, personal data theft, etc.

Organic Law 8/2021¹⁰⁷, in its article 45, advocates for the safe and responsible use of the Internet, stipulating that public authorities "shall promote measures to support families, reinforcing and supporting the role of parents through the development of skills and abilities that facilitate the fulfilment of their obligations (...)". In this way, families can face the challenges of a hyperconnected society with the aim of exercising digital parental responsibility, creating safe Internet environments and control tools that protect the interests of citizens in digital environments, etc.

Scope of corrective measures by parents and responsibilities of children

In the latest reform of article 154.2 of the Civil Code¹⁰⁸, the right of correction that parents had over their children was abolished. The previous wording stated that "Parents may also reasonably and moderately discipline their children," but it was considered that the removal of this right of discipline would prevent inappropriate behaviour in the form of certain disciplinary acts that exceeded the moderation required by law. The current wording states that "parents shall always exercise their functions in the interests of their children, in accordance with their personality, and respecting their rights and their physical and psychological integrity".

However, the inherent power of parental authority allows parents to exercise a right of correction through acts of reprimand and warning in response to inappropriate behaviour by their children, avoiding other types of measures that may be unjustified and even violate their rights.

This right of correction cannot collide with the duty of protection that mothers and fathers must fulfil, which is to care for, supervise and attend to their children in such a way that their actions do not affect the normal development of their personality and well-being. Therefore, this duty of parents includes the obligation to prevent their children from "being victims of harm or causing harm to third parties", leading to a task of supervision, control and protection, balanced with the rights of children and adolescents.

¹⁰⁷ See 77.

¹⁰⁸ See 92.

Article 84.1 of Organic Law 3/2018¹⁰⁹ specifies how parents should act appropriately in an *online* context. Not only by controlling and supervising the activities of children and adolescents on social media, but also by preventing any violation of their rights and interests due to harm caused to them when interacting in digital environments, and by defending their rights.

It must be emphasised that a lack of education in children and adolescents promotes their vulnerability and can lead to an inexcusable breach of the duties inherent in parental authority. If a minor causes harm to a third party or commits a crime — such as harassment, threats, sextortion, digital gender-based violence, etc. — the parents may be held liable for the conduct of their child under the doctrine of *culpa in educando*. They will be liable for the damages caused and for any offence that may have been committed as a result of this lack of control¹¹⁰. This educational requirement extends to both the real and virtual worlds.

The general rule on civil liability in our legal system is established in the Civil Code¹¹¹, in article 109, which states: "parents are liable for damage caused by children in their care". This does not exempt the child from liability, who will be liable for the damage as the perpetrator. However, it does establish the financial liability of parents based on the presumption of fault on the part of persons who, having the obligation to care for and supervise others (minors), act carelessly, allowing or giving rise to damage to third parties. Therefore, the last paragraph of article 1903CC excludes liability when those who are responsible for another person prove that they exercised all possible diligence.

Together, these two articles reinforce the principles of diligence and control and ensure that liability for damages can be appropriately redistributed, but they do not exempt parents from civil and, where applicable, administrative liability arising from inappropriate acts by their children that cause harm to third parties.

Organic Law 1/1995¹¹² of 23 November, on the Criminal Code, establishes in article 19 that "minors under the age of 18 shall not be criminally liable", so that if a minor under the age of 18 commits a crime defined therein, the provisions of Organic Law 5/2000¹¹³ shall apply. Applicable to persons between the ages of 14 and 18, it emphasises the educational and reintegration approach that characterises the Spanish system. Minors are responsible for their criminal acts and conduct and are liable civilly - but also criminally - for the damage caused. Civil liability for the damage and harm caused shall be borne jointly and severally by their parents, guardians, foster parents and legal guardians, in that order. Where the latter have not encouraged the minor's conduct through wilful misconduct or gross negligence, their liability may be moderated by the judge.

¹⁰⁹ See 6.

¹¹⁰ JEFATURA DEL ESTADO, 2015. *Ley 40/2015, de 1 de octubre, de Régimen Jurídico del Sector Público*. *Boletín Oficial del Estado* [online], no. 236. Available at: <https://www.boe.es/eli/es/l/2015/10/01/40/con>.

¹¹¹ See 91.

¹¹² JEFATURA DEL ESTADO, 1995. *Ley Orgánica 10/1995, de 23 de noviembre, del Código Penal*. *Boletín Oficial del Estado* [online], no. 281. Available at: <https://www.boe.es/eli/es/lo/1995/11/23/10/con>.

¹¹³ JEFATURA DEL ESTADO, 2000. *Ley Orgánica 5/2000, de 12 de enero, reguladora de la responsabilidad penal de los menores*. *Boletín Oficial del Estado* [online], no. 11. Available at: <https://www.boe.es/eli/es/lo/2000/01/12/5/con>.

The duties and responsibilities of children are regulated in article 155.1 of the Civil Code¹¹⁴, which requires them to obey and respect their parents. Another regulation that reinforces this duty of obedience is found in Organic Law 1/1996¹¹⁵, in Title I, Chapter III, on the duties of minors, in article 9 bis.

The duty of obedience to parents persists as long as their children are under their protection, and respect for them continues beyond the years in which their children are subject to parental authority. Both the duty of obedience and that of respect are obligations consistent with the position of minors in the legal system as subjects of rights who must progressively acquire obligations, and also because the same obligations and rights are required of parents with regard to their children. When children do not correctly follow this duty of obedience and respect, the consequences that may arise are varied, beginning with the application of the right of correction by the holders of parental authority themselves.

If corrective measures do not prevent a minor from committing a criminal act and this causes harm to a third party, Organic Law 5/2000¹¹⁶, on the Criminal Responsibility of Minors, will apply, which prioritises educational and reintegration measures over punitive sanctions. This law considers the best interest of the child at all times, establishing differentiated procedures and measures such as probation, placement in educational centres, and community service.

Article 7 sets out the measures that may be imposed on minors over the age of 14, ranging from a warning to closed detention in a juvenile centre. If a person under the age of 14 commits a crime through social media, the measures set out in Organic Law 5/2000¹¹⁷ will not apply, but rather those established by the public protection agency for this group, who are considered not criminally responsible.

This does not exempt this group of offenders from civil liability, for which their parents, guardians or responsible persons will be held accountable. Parents have a duty to cooperate with the authorities in the investigation of crimes committed by their children and have to collaborate in the enforcement of the penalties imposed. Failure to cooperate may result in additional legal consequences for parents.

Knowledge: effective support

There are various studies that support the idea that parents do not provide sufficient support to their children. **UNICEF's** report on the "Impact of Technology on Adolescence"¹¹⁸ shows that only 29% of parents set rules for technology use and only 13% limit the content their children can access. This study also correlates low parental supervision with an increase in risky behaviour among children and adolescents.

Also noteworthy is the report "Impact of ICT on coexistence in Andalusian families: an intergenerational challenge"¹¹⁹, produced by **Fad Juventud** in 2024. This study reveals different ways of understanding the

¹¹⁴ See 12.

¹¹⁵ See 17.

¹¹⁶ See 99.

¹¹⁷ *Idem*.

¹¹⁸ See 55.

¹¹⁹ ORGAZ ALONSO, C., BLANCO CAMPOS, M., MORADO CASTRESANA, R., BONETA SADABA, N. and TOMÁS FORTE, S., 2024. *Impacto de las TRIC sobre la convivencia en las familias andaluzas: un desafío intergeneracional* [online]. 2024. Zenodo. ISBN 9788419856180. Available at:

appropriate and inappropriate uses of ICT, as well as different ways of perceiving risks and dealing with them. This discrepancy can lead to difficulties in providing adequate support from families in the use of technologies. Therefore, it highlights the need for digital education that promotes greater digital competence in families, enabling them to improve their ability to support and supervise the use of technologies at home.

These data suggest that the family plays a fundamental role as an educational agent in digital education. Through close and proactive support, families can foster a safe and positive digital environment, promoting critical thinking, responsibility and digital ethics. In addition, by actively engaging in their children's digital learning, they can help them develop key skills for navigating today's digital world.

To this end, it would be necessary to establish an intergenerational dialogue that allows for addressing technology-mediated intra-family relationships. This dialogue should be guided by the following points:

1. Acceptance and recognition of the adult and youth worlds: It is necessary to establish a respectful dialogue with the positions of the different parties, assuming that there is no single perspective to address the different views. Rather, it is necessary to devise strategies that can accommodate heterogeneity.
2. Clear and negotiated boundaries: It is important to accept the need for clear boundaries (e.g., network access times) and to negotiate the ways in which these boundaries are articulated. Points of consensus must be sought and existing disagreements must be accepted. Negotiations should be aimed at agreeing on guidelines and boundaries that adults and youth interpret as legitimate and tolerable, and which contain a certain degree of predictability.
3. Consensus on threats: Adults and youth share important consensus on the risks associated with technology. It is considered that the role of youth can be relevant when addressing external threats (scams, theft, etc.) due to their greater mastery of technology, which can be empowering for adults, generating collective technological uses that favour family relationships.
4. Care and gender: Given the shift from traditional gender roles to technology-mediated forms of care, it is essential to encourage fathers and mothers to participate in technology-mediated care. Their lack of technological integration can reinforce traditional gender roles and generate an excessive workload for mothers. The strategy could encourage an equitable distribution of responsibilities and promote the participation of all family members in domestic management and care through technology.

5. Intergenerational parallels: These exist in many technology-mediated conflicts, and their root cause may be linked to the contexts of adolescence and youth rather than the technological context. These conflicts must be addressed by recognising generational differences and promoting dialogue that takes into account the particularities of each stage of life and each technological context, establishing links between the experiences of different people.
6. Integrate, disconnect and reconnect: Integration involves incorporating peers into family relationships as a way of resolving some of the conflicting demands that youth often experience. Disconnecting appeals to the need to agree on technology-free times, enjoying leisure and outdoor sports, for example. And reconnecting involves choosing a technology as a family to connect with together, such as watching a film that everyone will enjoy.

Tools that facilitate the work, but do not replace effective support.

Parental controls

Parental controls consist of a series of features and settings available in services, applications, operating systems and devices — such as smart TVs and voice assistants, among others — that are used by minors, as well as specific applications for their online protection, which normally must be configured from a supervisory or adult account¹²⁰. Network-level services are also included¹²¹, which allow all devices connected to the same network to have the same content filtering.

Some of the main functions of parental control tools are:

- Content filtering: Limiting exposure to content such as misleading advertising, sexual content, violence or content harmful to minors.
- Time control: Creating alerts when a certain time limit is reached, preventing further browsing after a certain time.
- Activity monitoring: Generating reports with browsing history, searches, or multimedia playback.
- Geolocation: Determining the current position and previous location of the child's device.

Currently, most adults (93%) are aware of at least one parental control tool, but only a portion of them use them effectively (81%), with a preference for options such as network filters (34%), screen time management (31%) and video game controls (29%), compared to device settings or security programmes (17% and 14% respectively)¹²². In the case of mobile phones, the proportion of families using applications or tools to filter or

¹²⁰ *Control parental*. INCIBE [online], [consulted on: 29 September 2024] Available at: <https://www.incibe.es/menores/recursos/control-parental>.

¹²¹ What is a Web Filter? KASPERSKY [online], 2018. [consulted on: 29 September 2024]. Available at: <https://www.kaspersky.com/resource-center/definitions/web-filter>.

¹²² WOOD, S., 2023. *Explorar la conciencia y el uso de controles parentales para apoyar la seguridad digital*. Internet Matters [online]. [consulted on: 29 September 2024]. Available at: <https://www.Internetmatters.org/es/hub/research/research-tracker-awareness-usage-parental-controls>.

block content is reduced to 28.5%¹²³.

There is also awareness of the need to use measures such as blocking inappropriate content in places such as schools¹²⁴ and libraries. In countries such as the United States, there are safety programmes for Internet use in schools and libraries^{125y126}, while in Italy there are safe use policies for schools and the installation of browsing filters is gradually being adopted¹²⁷. In Spain, the "*Escuelas Conectadas*" (Connected Schools) initiative, financed by **ERDF** funds, should ensure access to appropriate digital content, although there is no representative data on the penetration of tools at the school level.

In terms of their effectiveness, parental controls based on operating systems¹²⁸ perform better than other generalist or multi-device solutions. Reports also support the perception of the effectiveness of preventive software, such as filtering, blocking and monitoring programmes, in reducing unwanted exposure to inappropriate content for children aged 10 to 15, although there is no significant reduction for youth aged 16 to 17¹²⁹.

Finally, it is important to note that, as is inherent in any environment, technical measures do not prevent access to inappropriate content in all cases. Accidental failures in the configuration or execution of the tool may occur. There is also information available on the Internet on how to consume web content while avoiding access blocking¹³⁰, through information capture by external services or repositories that are not under the surveillance of web controls, and by using a VPN or proxy services that allow users to bypass device protection. It should also be noted that the protection provided by integrated filters may not be as effective as expected beyond the service for which it is designed¹³¹.

Therefore, parental controls should be considered a technical resource that facilitates the establishment of limits or protections for online browsing among children and adolescents, and are one more strategy in the work of parental mediation.

¹²³ MUÑOZ-CARRIL, P.C., et al. 2023. *Medidas de control parental en la regulación del uso de teléfonos inteligentes en la infancia*. Psychology, Society & Education [online], vol. 15, no. 3, Available at: <https://journals.uco.es/psye/article/view/16077/14913>.

¹²⁴ *Filtro de contenidos* - *Gobiernodecanarias.org* [online]. [consulted on: 29 September 2024]. Available at: <https://www3.gobiernodecanarias.org/medusa/ecoescuela/seguridad/ciudadania-y-seguridad-TRIC/centros-educativos/cauce/filtro-contenidos>.

¹²⁵ Universal Service Program for Schools and Libraries (E-Rate). Fcc.gov [online]. [consulted on: 29 September 2024]. Available at: <https://www.fcc.gov/consumers/guides/universal-service-program-schools-and-libraries-e-rate>.

¹²⁶ FCC adopts \$200M cybersecurity pilot programme for schools & libraries. Fcc.gov [online], 2024. [consulted on: 29 September 2024]. Available at: <https://www.fcc.gov/document/fcc-adopts-200m-cybersecurity-pilot-program-schools-libraries-0>.

¹²⁷ MARIANI, V., 2022. *Los Mejores Softwares de Filtrado de Internet para Escuelas: los filtros para una navegación protegida en la escuela*. FlashStart [online]. [consulted on: 29 September 2024]. Available at: <https://flashstart.com/es/los-mejores-softwares-de-filtrado-de-Internet-para-escuelas-los-filtros-para-una-navegacion-prottegida-en-la-escuela>.

¹²⁸ *Mejores Apps control parental 2024 - precios, marcas y ofertas*. www.ocu.org [online]. [consulted on: 29 September 2024]. Available at: <https://www.ocu.org/tecnologia/telefono/test/comparar-apps-control-parental/results>.

¹²⁹ ZAMAN, B. and NOUWEN, M., 2016. Parental controls: advice for parents, researchers and industry. [online], [consulted on: 29 September 2024]. Available at: <https://eprints.lse.ac.uk/65388>.

¹³⁰ SANCHIS, A., 2020. *Así es cómo tus hijos están saltándose los controles parentales de Android e iOS*. Xataka.com [online]. [consulted on: 29 September 2024]. Available at: <https://www.xataka.com/servicios/asi-como-tus-hijos-estan-saltandose-controles-parentales-android-e-ios>.

¹³¹ MALIK, A., 2023. TikTok gives parents personalised control over the content their teens see. TechCrunch [online], [consulted on: 29 September 2024]. Available at: <https://techcrunch.com/2023/06/27/tiktoks-family-pairing-gives-parents-personalised-control-over-content-teens-see/>.

They are merely a complementary tool to adequate digital education at home. While they allow immediate limits to be set (limiting access to certain content and time) for online safety, they do not provide the skills necessary for safe and responsible browsing. It is therefore necessary to gradually phase out these parental controls once they have been established. Although there is no specific age for moving from one phase to another, each family must assess the maturity level of the minor and their specific needs. Different types of support can be distinguished in this regard:

- **Support with parental tools**: Specific parental controls are configured according to the age and maturity level of the child, beginning when the child starts to access technological devices. These controls allow for content filtering, time control, configuration protection, channel blocking, and geolocation, among other features.
- **Support with guidance**: Continuous education is provided on digital safety, privacy, and ethical online behaviour, encouraging the development of critical thinking.
- **Support with confidence**: Active supervision and constant dialogue with the child are maintained, adjusting controls as necessary and promoting their autonomy.
- **Responsibility**: The use of parental controls is gradually reduced as the child demonstrates responsible behaviour and the appropriate skills to navigate the digital environment independently.

Parental controls should not be considered surveillance tools, but should be implemented with clear and agreed-upon guidelines, facilitating respectful accompaniment without intruding on privacy.

Age Verification Systems (AVS)

Age verification systems (AVS) are solutions designed to verify that the person accessing certain online content is of legal age. They can be classified according to the method used: verification by age declaration, based on the verification of an official document¹³² - such as an ID card or bank card - age estimation¹³³ or through digital certificates¹³⁴ or identity wallets¹³⁵.

AVS should ideally comply with certain principles. In December 2023, the **AEPD** published a decalogue¹³⁶ detailing these principles, which are summarised below.

Principle 1. The system for protecting minors from inappropriate content must ensure that they cannot be identified, tracked or located via the Internet.

¹³² *Identificación Electrónica - Trámites y Servicios Electrónicos - Punto de Acceso General*. Gob.es [online]. [consulted on: 29 September 2024]. Available at: https://administracion.gob.es/pag_Home/Tramites/Identificacion- electronica.html.

¹³³ ARAOLAZA, C., 2023. *Verificación de la edad en la red*. LetsLaw [online]. [consulted on: 29 September 2024]. Available at: <https://letslaw.es/verificacion-de-la-edad-en-la-red>.

¹³⁴ *Certificado Electrónico de Ciudadano*. SEDE ELECTRÓNICA FNMT [online]. Available at: <https://www.sede.fnmt.gob.es/certificados/persona-fisica>.

¹³⁵ European Digital Identity. European Commission [online]. [consulted on: 29 September 2024]. Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age_en.

¹³⁶ See 7.

When minors access inappropriate content, verification systems must prevent their identification among all Internet users. Any system that requires minors to reveal their status must be avoided.

Systems based on profiling Internet users allow minors to be identified, as do facial recognition systems and biometric information. The danger arises when the data obtained through these systems is susceptible to being incorporated into malicious services for the purpose of identifying them. That is why access to inappropriate content must be restricted on the basis of processing the information of the "person authorised to access" it. In other words, if this condition has not been verified, it must be prevented in any way that could be interpreted as involving a minor.

Likewise, the impact of personal data breaches of minors in third-party verification services or Internet services must be eliminated from the design stage.

Principle 2. Age verification should be aimed at enabling persons of the appropriate age to prove their status as "authorised persons", and should not allow the status of "minor" to be proven.

AVS should not verify the age of minors, as this would expose them to malicious services, excessive data collection or identification as such to third-party intermediaries, thereby failing to comply with the data processing requirements set out in the General Data Protection Regulation¹³⁷.

Therefore, AVS must be designed to verify users authorised to access certain types of content, i.e. they must be tools designed to certify users of legal age and not the other way around.

Principle 3. Accreditation for access to inappropriate content must be anonymous for Internet service providers and third parties.

The protection system must guarantee the privacy of individuals when browsing without identifying them. This does not prevent the need to identify the user depending on the activity, as in the case of sales. However, identification tools and protection systems for access to content are different types of data processing, as this must be anonymous and independent of processing for other legitimate purposes.

Anonymity is lost when the user's identity is verified on the Internet service or by a third-party intermediary, from the moment it is possible to associate certificates or signed attributes with unique identifiers linked to a person.

In view of the above, AVS for protection against access to inappropriate content must avoid the intermediation of third parties, with the Internet service provider ensuring effective compliance with the intended purposes. Among other measures, this accreditation can be carried out through age verification tools that are directly executed by personal devices, without requiring external resources.

¹³⁷ EUROPEAN PARLIAMENT and COUNCIL OF THE EUROPEAN UNION, 2016. REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [online]. Official Journal of the European Union 4.5.2016. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679>.

Principle 4. The obligation to verify the status of "authorised person" shall be limited solely to inappropriate content.

The general rule is free and anonymous browsing. That is, only in the case of wanting to access specific sites with age restrictions or content inappropriate for minors should the status of "authorised person" be required. Otherwise, if this status is required for access to any type of content, minors would be identified by default.

Therefore, a protection system must allow a person not to be obliged to define themselves as an "authorised person to access" on every occasion. In a service that provides content for both adults and content without age restrictions, it should only be necessary to prove the status of "authorised person to access" when accessing content for adults.

Principle 5. Age verification must be carried out in a reliable manner and aimed at certifying the age categorised as "authorised to access".

The categorisation of "authorised to access" should in no case involve the disclosure of the user's age.

Age verification mechanisms must provide an accurate value, categorised solely as "authorised to access", and under no circumstances allow service providers or third parties to process a person's specific age, or allow it to be inferred.

Principle 6. The system must ensure that individuals cannot be profiled based on their browsing behaviour.

The identification of websites with adult content can be carried out by means of labelling. When a user requests access to this type of content, the verification system must be executed, entailing privacy risks such as profiling or monitoring of the user and the type of content they access. Content labelling therefore influences user profiling; the risks increase when the data is processed by intermediary entities.

In view of this, access restrictions should be implemented locally on devices, thus eliminating profiling and monitoring. Local protection allows the implementation of the 'authorised access' verification system, or it could be done through operating systems or by adapting Internet service applications, such as search engines or chats. The main objective is to implement protection systems while minimising data.

Principle 7. The system must ensure that a person's activity is not linked between different services.

Linking the activity of an Internet user across different services can lead to their identification and profiling, based on their behavioural characteristics.

Systems that use unique codes across multiple services and platforms allow individuals to be tracked based on their activity, enabling their identification in some cases. These types of risks and situations require SVEs not to use unique identifiers common to different services, nor mechanisms that reveal user metadata that could enable their identification.

Principle 8. The system must guarantee the exercise of parental authority by parents.

Those exercising parental authority play an active role in the education of minors in their care, including protecting them from certain inappropriate content.

In view of this circumstance, the access criteria for AVS should not be imposed by third sector entities, but rather the policies for use and operation should be established taking into account families and their needs.

Principle 9. Any system for protecting minors from inappropriate content must guarantee the fundamental rights of all persons in their access to the Internet.

The scope of systems for protecting minors from inappropriate content must be proportionate and, in all cases, take into account competing rights.

Overzealous censorship of certain content would directly affect the rights to information, thought, conscience, religion and expression. Increasingly diverse content is found on the Internet, allowing access to a large volume of information, whether political, social, cultural, economic or educational. Users' browsing should not be hampered by rigid or excessive protection systems. Other rights that may be affected are the right to non-discrimination, in the case of preventing access to content for elderly people, or in the case of implementing biases related to gender, race or nationality in access to certain types of content; as well as the right to personal integrity or self-image.

For all the above reasons, fundamental rights must be guaranteed in Internet access and browsing.

Principle 10. Any system for protecting minors from inappropriate content must have a defined governance framework.

The governance framework must ensure that the protection system is implemented and deployed with technologies that preserve privacy and meet a minimum level of effectiveness. This must be evaluated objectively and critically, including in the analysis the collateral effects on individuals and society. The system, in its use and operation, must be transparent to users, particularly with regard to the anonymity of browsing and content limitation criteria, as well as effectively auditable by authorities and independent third parties.

Any system for protecting minors from inappropriate content must have a defined governance framework to ensure compliance with these principles, protect fundamental rights, and coordinate the participation of those with parental authority, educational institutions, child protection associations and foundations, researchers and privacy experts, the State, and technology and service providers in the digital society, among others.

Basic rules for effective support

In order to provide such support within the family, a number of considerations or basic rules should be taken into account, as described below.

Firstly, parents must have a basic understanding of the technological world in order to adequately support their children. More specifically, they must be aware of their children's digital use (the devices they use, the sites they

visit, the social media on which they have a profile, show interest in their digital tastes and hobbies), as well as keeping up to date. They do not need to become technology experts, but they do need to be aware of how it works, as well as news about new social media, minimum age of use, the existence of parental control tools, etc. To do this, they can subscribe to newsletters that will keep them up to date with the latest developments.

Secondly, rules and limits appropriate to the age, maturity and personality of their children should be set. There is no unanimous and clear criterion on what rules should be established regarding the use of technology, but each family should set them based on their values, knowledge, or their personal and family situation. However, there is consensus that it is necessary to establish rules and provide gradual, accompanied and informed access to technology, always in line with the recommendations of specialists in the field. Without going overboard, each family should decide how their child will use technology, what content they will see, for how long, whether they will see it in the company of others or alone, etc. The period leading up to adolescence is key to opening up spaces for conversation and for parents to understand how their children act, feel, react and think in their general lives and also when using technology.

Another basic rule to keep in mind is the promotion of open, clear and empathetic communication within the family, as this is a key factor in protecting against different risk behaviours. Parents should encourage dialogue from early childhood, where active listening prevails and there is no judgement or criticism. This will create a climate of trust at home and make it easier for children to turn to their parents if they have any problems related to technology (or any other issue). In addition, if conversations related to technology are promoted at home, for example, by asking about their favourite influencer, the type of content they like best, or any fake news they have detected, this will promote relationships of trust and work on aspects such as responsibility, respect, diversity, balance and decision-making.

Another important aspect, as mentioned above, is the role of parents as examples of good use. Some ways to set a good digital example are:

- Sharing the use of technology with the family, for example, by creating games, family videos, searching for information for a trip, etc.
- Teaching children from an early age that digital entertainment is not just about "looking". They can reproduce crafts they find on the Internet, learn to play an instrument with an app or tutorials, search for recipes and then cook, etc.
- Using verified sources of information as a family. For example, when they want a game or app or to access social media, you can search for information together to understand what it is about and thus be able to make a decision based on solid information.
- Show interest in your children's tastes and hobbies so that they feel important.
- Have conversations about their devices, social media, video games, etc. You can ask them about their tastes, what they find most and least difficult, etc.

- Share each member's digital role models (influencers) and explain what you like most about them.
- Praise their good digital habits, rather than just criticising their mistakes.

Closely related to this, it is worth highlighting the need for families to promote rules and principles to ensure respectful, responsible and ethical behaviour in the digital environment, known as netiquette. These principles can be summarised in the following points:

- Respect other people, regardless of their opinions or beliefs.
- Behave honestly, do not spread false information and be transparent about your intentions and identity.
- Protect privacy, i.e. do not share other people's personal information without their consent and respect their right to anonymity.
- Use appropriate language that is not vulgar, obscene or discriminatory.
- Be responsible with the content you share, ensuring that it is appropriate for everyone and does not infringe copyright.

Another is to work on offering and promoting non-technological activities to ensure a healthy balance between screen time and other activities. Children and adolescents also need to move around, be physically active and maintain face-to-face interactions to develop healthy social relationships and encourage their creativity, imagination and critical thinking. It is about finding a balance between technology-related and non-technology-related activities.

Finally, it is also important to promote digital skills and abilities for their future careers. The professions of the future will be those directly influenced by technological advances; some do not exist today, and others will be transformed. Families should promote both the digital and social skills that children and adolescents will undoubtedly need to face this professional future, as there is currently a gap between the digital skills required and the education they receive. Different aspects can also be worked on to help them develop these skills and face their professional future more competently, including: fostering their interest in technology, developing their soft skills such as communication, collaboration and problem solving, encouraging critical and creative thinking, supporting their interests or instilling a growth mindset, and teaching them the importance of persistence and resilience.

4.2 Impact of the digital environment on the health of children and adolescents

TRIC consumption has an impact on the physical and mental health of children and adolescents, depending on various factors such as age and intensity of consumption. The CRC¹³⁸ has referred to the effects of digital technologies on the development of children, especially during critical periods of neurological growth in early childhood and adolescence, and to the risks associated with the exposure of children and adolescents to the promotion of unhealthy products, such as certain foods and beverages, alcohol, drugs and tobacco. For its part,

¹³⁸ See 15 and 18.

the **Council of Europe** has expressed concern about various health risks related to ICTs, including excessive use of the digital environment, sleep deprivation and physical harm, including self-inflicted violence (CoE, 2018, para. 51).

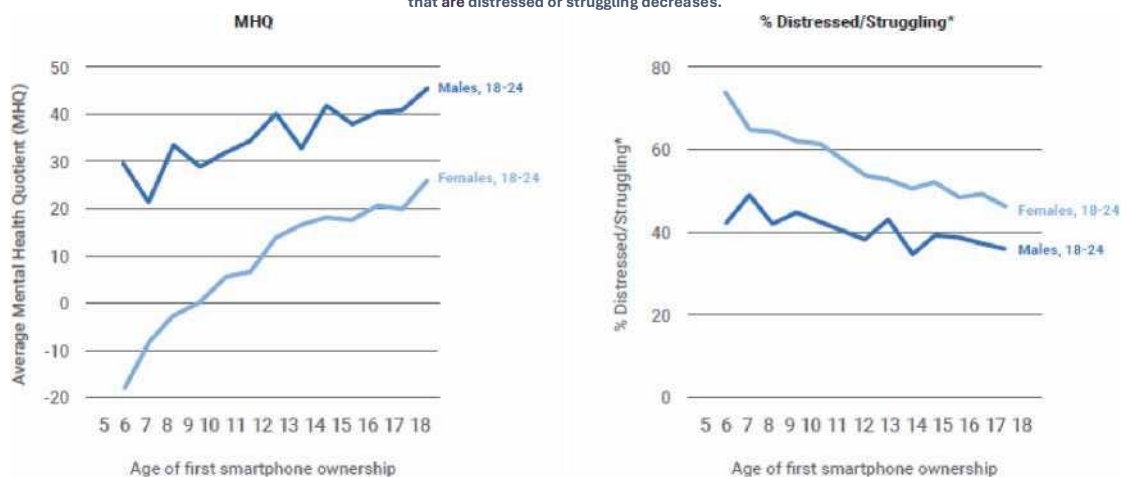
The **Canadian Paediatric Society**, in a position statement published in 2019 on screen use by children and adolescents, indicates that digital media are integrated into the daily lives of children and adolescents (aged 5 to 19), with potential benefits but also risks to learning, physical and mental health, and social life. It points to problems of addiction to technology, social media, video games, and pornography, which are becoming increasingly common. In addition, receiving (or sending) instant messages with negative content has been correlated with symptoms of anxiety or depressive disorders. Finally, it concludes that there is a significant association between excessive screen time (more than 6 hours per day) and feelings of depression in adolescents.

An **OECD** study notes that 43% of 15-year-old Spanish students experience nervousness or anxiety when they do not have access to a screen. They tend to get worse grades, are less satisfied with their lives, have less emotional control and are less resistant to stress.

Another study based on data collected from a sample of 27,969 youth in different countries and continents indicates that mental health in young adulthood (between 18 and 24 years of age) improves as the first smart device is acquired at a later age. The impact is more harmful the younger the age at which these devices are first used (**Sapien Labs**, 2024). Poorer mental health is observed in those who started using their own device at age 6 and better mental health in those who started at age 18. Another key finding of the study is that these results also describe a progressive shift in the global population towards one with lower social skills and resilience, and which harbours more frequent suicidal thoughts and feelings of aggression towards others, as the age of acquiring the first digital device becomes younger.

Figure 1: Mental wellbeing in young adulthood (ages 18-24) improves with older age of first smartphone

Mental wellbeing measured by the Mental Health Quotient or MHQ increases with older age of first smartphone ownership. Correspondingly, the percentage that are distressed or struggling decreases.



Data from ANAR¹³⁹ corroborates the impact of ICTs on mental health. In particular, according to data extracted from the latest reports produced by the ANAR Foundation's Study Centre:

- Technology has a cross-cutting impact on all issues affecting minors in Spain, some of which are particularly significant, such as mental health issues: suicidal behaviour, video game addiction and time spent using ICTs, eating disorders, low self-esteem (use of filters and unattainable role models) and aggression and violence (present in videos, games, series, etc.).
- Cases handled by the suicide hotline/chat service have increased 34.7-fold in the last decade. Similarly, during the same period, cases of self-harm increased 45-fold. In 2022, ICTs were involved in 46.7% of cases handled for suicidal ideation, 51.5% of cases for attempted suicide, and 33.09% of cases for self-harm.

Between 2018 and 2022, cases of gender-based violence handled by the ANAR Telephone/Chat service increased by 87.7% in terms of gender-based violence in the environment and by 87.2% in terms of gender-based violence against women and adolescent girls. The impact of technology influences it as a tool of domination and control over women. According to this study, technology was present in the following percentages according to type:

¹³⁹ Fundación ANAR (2022) *Informe Teléfono/Chat ANAR 2022*; Fundación ANAR (2022) *Estudio: Conducta suicida y salud mental, en la infancia y adolescencia en España (2012- 2022), según su propio testimonio*; y Fundación ANAR (2023) *Estudio: Evolución de la violencia contra las mujeres en la infancia y adolescencia en España*.

- a. gender-based violence against adolescents in 79.7% of cases,
- b. gender-based violence in the environment at 44%
- c. sexual violence in 23.6% of cases
- d. domestic violence in 32.6%
- e. other types of physical and/or psychological violence at 43.7%

In light of the risks described above, it should be noted that **UNESCO** recommends a global ban on the use of smartphones in schools¹⁴⁰ due to their negative impact (distraction, cyberbullying, access to inappropriate content, etc.). The use of mobile phones in schools is prohibited in France, Italy, Greece, Sweden, Finland, Portugal and the Netherlands.

Digital health

In 1946, the **WHO** defined health as "complete physical, mental, and social well-being"¹⁴¹. This definition was revolutionary for the population for three reasons:

1. It goes beyond the absence of disease
2. It includes the term well-being in health
3. It includes not only the physical but also the psychological and social aspects of the individual. It is the first definition that seeks well-being as a goal in medicine and not just the cure of disease.

There are later definitions of health. In the 1980s, Terris Milton removed the word "complete" from the definition as unrealistic and introduced the term "functionality"¹⁴², which represented another advance in the concept of health.

Today, digital media affect health in all spheres, including functionality and at all ages from birth to death. Due to the accumulated evidence, the **American Academy of Paediatrics** in 2016¹⁴³ and the **Canadian Paediatric Society** in 2017¹⁴⁴ published two consensus statements based on the available scientific evidence, referring for the first time to the impact of the digital world on paediatric health.

Digital refers to any screen, whether or not it is connected to the Internet: television, tablet, smartphone, computer, activity trackers, etc. The goal of digital health is to reduce the health risks of screens and Internet

¹⁴⁰ UNESCO GEM REPORT, 2023. 2023 GEM report: Technology in education: a tool on whose terms? Available at: <http://dx.doi.org/10.54676/ldqe8212>.

¹⁴¹ Frequently asked questions. Who.int [online]. [consulted on: 17 September 2024]. Available at: <https://www.who.int/es/about/who-we-are/frequently-asked-questions>.

¹⁴² MILTON, T., 1994. *La epidemiología y la Salud Pública: orígenes e impacto de la segunda revolución epidemiológica*. Rev. San. Hig. Pub, vol. 68.

¹⁴³ COUNCIL ON COMMUNICATIONS AND MEDIA, 2016. Media and young minds. Pediatrics [online], vol. 138, no. 5, ISSN 0031-4005. DOI 10.1542/peds.2016-2591. Available at: <http://dx.doi.org/10.1542/peds.2016-2591>.

¹⁴⁴ CANADIAN PAEDIATRIC SOCIETY. Screen time and preschool children: Promoting health and development in a digital world. Cps.ca [online]. [consulted on: 12 September 2024]. Available at: <https://cps.ca/en/documents/position/screen-time-and-preschool-children>; CANADIAN PAEDIATRIC SOCIETY, DIGITAL HEALTH TASK FORCE, OTTAWA, ONTARIO, 2019. Digital media: Promoting healthy screen use in school-aged children and adolescents. Paediatrics & child health [online], vol. 24, no. 6, ISSN 1205-7088. DOI 10.1093/pch/pxz095. Available at: <http://dx.doi.org/10.1093/pch/pxz095>.

content. To do this, it is necessary to promote healthy habits and safe, critical, and responsible use among parents.

There is currently scientific debate as to whether it is ethical to conduct scientific studies comparing two groups with greater or lesser screen use. Exposure to screens affects health and therefore children and adolescents should not be exposed to screens for scientific purposes. Currently, clinical trials are being conducted comparing digital disconnection with a control group where there is no intervention and exposure to screens is the same as in each family prior to the study.

Digital education is just like any other educational task. Children take it on board from birth and learn essentially through the example of adults. Therefore, it is not necessary to use screens in order to internalise the appropriate use of digital media. It is essential not to fall into the misconception that technological training involves turning children and adolescents into users by promoting the myth of the 'digital native', who is nothing more than a user of a particular interface, product or service, unable in reality to adapt to other environments due to a lack of training in the fundamentals, possibilities, limitations, risks and dangers of these systems. It is essential that society reflect deeply on the use of screens in adulthood and whether adults are suitable role models for active agents in the digital education of children and adolescents.

Epidemiology: before adolescence

A survey published in 2021 by the journal *Salud Pública*¹⁴⁵ shows that, in general, parents have not received information about how technology impacts their children's health and are unaware of the recommendations of scientific societies.

The average number of minutes per week spent watching television and playing video games by age is 71 minutes for children under 2 years of age. From 2 to 6 years of age, 112.8 minutes. From 6 to 10 years of age, 133 minutes. The times referred to in this study show that the recommendations of scientific societies are not being followed, especially for children under 2 years of age.

In this study, spending more than two hours a day in front of a screen is significantly related to:

1. Preference for video games and screens as a leisure activity
2. Frequent use of devices during meals
3. Watching television alone (without adult supervision)
4. Using the television as "background noise" (not turning it off, even when not watching)
5. Having a television in the bedroom
6. Having 5 or more screens in the home
7. Parents spending more than two hours using devices

¹⁴⁵ PONS, M., BORDOY, A., ALEMANY, E., HUGET, O., ZAGAGLIA, A., SLYVKA, S. and YÁÑEZ, A.M., 2021. *Hábitos familiares relacionados con el uso excesivo de pantallas recreativas (televisión y videojuegos) en la infancia*. *Rev Esp Salud Pública*, vol. 95.

It is also clear that adults who have received training and information about how digital media impact their children and adolescents spend less time using screens than those who have not received such training.

Epidemiology: during adolescence

A survey published in 2021 by **UNICEF**¹⁴⁶ analyses the use and risks of technology in adolescence through validated questionnaires. The study is national in scope and was conducted through an online questionnaire. A total of 41,509 adolescents of both sexes aged between 11 and 18 participated. According to this study, 94.8% of adolescents have a mobile phone with an Internet connection, a device they access at an average age of 10.96 years. Half have a connection linked to a contract and at least 1 in 4 have unlimited data.

In terms of usage time, it is noteworthy that 31.6% spend more than 5 hours a day connected to the Internet on any given weekday, a figure that rises to 49.6% during the weekend.

Only 29.1% report that their parents set rules for their use of technology. Paradoxically, 36.8% report that their parents usually use their mobile phones during meals. The establishment of rules and limits is reduced by half in the second stage of secondary school.

Impact of screens on health

The scientific evidence was weak because the most common type of studies were cross-sectional and based on self-reported questionnaires. Furthermore, they focused on screen time as the sole factor. Recent publications have demonstrated, through clinical trials and population studies, the effects of digital media on health and the benefits of digital disconnection. The impact of digital media on health is summarised in the following tables¹⁴⁷.

¹⁴⁶ See 55.

¹⁴⁷ STIGLIC, N. and VINER, R.M., 2019. Effects of screen time on the health and well-being of children and adolescents: a systematic review of reviews. *BMJ open* [online], vol. 9, no. 1, ISSN 2044-6055. DOI 10.1136/bmjopen-2018-023191. Available at: <http://dx.doi.org/10.1136/bmjopen-2018-023191>.

IMPACT OF DIGITAL MEDIA ON PHYSICAL HEALTH

Sleep	<p>Difficulty falling asleep.</p> <p>Decreased night-time sleepiness.</p> <p>Reduced melatonin secretion.</p> <p>Delayed circadian clock.</p> <p>Alteration of sleep phases.</p> <p>Having a phone in the bedroom increases sleep disturbance.</p> <p>Sleep deprivation causes: depressed mood, externalising behaviours, decreased self-esteem, coping difficulties, and alterations in brain development.</p>
Nutrition	<p>Higher energy intake.</p> <p>Less healthy diet due to consumption of high-calorie foods.</p> <p>Increased risk of obesity.</p> <p>Lower quality diet in early adolescence.</p>
Physical activity	<p>Adolescents who are already inactive spend more time using screens.</p> <p>Limiting screen time increases PA.</p>
Cardiovascular risk	<p>Higher risk of developing metabolic syndrome.</p> <p>Less screen time and more steps: lower diastolic blood pressure and higher HDL.</p>
Digital visual fatigue	<p>Dry eye</p> <p>Itching.</p> <p>Foreign body sensation.</p> <p>Watery eyes.</p> <p>Blurred vision</p> <p>Extraocular symptoms: neck and lower back pain, general fatigue and headache.</p> <p>In childhood and adolescence: progressive myopia and acute strabismus.</p>
Lifestyle and brain volume	<p>Decrease in brain volume in the temporal-parietal, frontotemporal, orbitofrontal, parietal and primary visual cortex regions.</p>
Quality of life	<p>Decrease</p>

Sleep has been extensively studied¹⁴⁸. Using digital devices for more than two hours increases the risk of sleeping less than necessary. Using screens before bedtime increases daytime sleepiness because it disrupts sleep in multiple ways: longer time to fall asleep, decreased night-time sleepiness, reduced melatonin secretion, delayed circadian clock, decreased and delayed REM sleep. The mere presence of powered-on multimedia devices in the bedroom disrupts sleep, possibly related to the temptation to check devices when they are present or due to a conditioned response involving increased arousal. Sleep deprivation due to night-time mobile phone use is associated in adolescents with depressive mood, behavioural disturbances, decreased self-esteem and coping difficulties¹⁴⁹.

In terms of diet, there is moderate evidence of an association between screen time, particularly television viewing, and higher energy intake and a less healthy diet¹⁵⁰.

With regard to physical activity, it can potentially decrease physical activity, and tends to confirm that adolescents who are already inactive spend more time using screens¹⁵¹.

Regarding fat mass, there is moderately strong evidence that increased television screen time is associated with higher levels of adiposity and cardiovascular risk in children¹⁵².

At the ocular level¹⁵³, digital visual fatigue (DVF) is a condition that encompasses visual and ocular symptoms resulting from prolonged screen use. It is characterised by dry eyes, itching, foreign body sensation, tearing, and blurred vision. Non-ocular symptoms associated with visual fatigue include stiffness with pain in the cervical and lumbar regions, general fatigue, and headache. The prevalence of DVF among children increased to 50-60% during the pandemic. In childhood and adolescence, it includes newly onset myopia and increased progression of existing myopia, making it one of the most significant eye health complications.

With regard to pain, there is an association between screen time and neck/shoulder pain, headache, and lower back pain, although this has been examined in very few studies¹⁵⁴.

¹⁴⁸ *Idem*.

¹⁴⁹ *Idem*.

¹⁵⁰ CANADIAN PAEDIATRIC SOCIETY, DIGITAL HEALTH TASK FORCE, OTTAWA, ONTARIO, 2019. Digital media: Promoting healthy screen use in school-aged children and adolescents. *Paediatrics & child health* [online], vol. 24, no. 6, ISSN 1205-7088. DOI 10.1093/pch/pxz095. Available at: <http://dx.doi.org/10.1093/pch/pxz095>.

¹⁵¹ See 177.

¹⁵² *Idem*.

¹⁵³ KAUR, K., GURNANI, B., NAYAK, S., DEORI, N., KAUR, S., JETHANI, J., SINGH, D., AGARKAR, S., HUSSAINDEEN, J.R., SUKHIJA, J. and MISHRA, D., 2022. Digital eye strain—A comprehensive review. *Ophthalmology and therapy* [online], vol. 11, no. 5, ISSN 2193-8245. DOI 10.1007/s40123-022-00540-9. Available at: <http://dx.doi.org/10.1007/s40123-022-00540-9>.

¹⁵⁴ See 177.

At the social level, the effects could be both harmful (negative interactions and social comparison) and beneficial (social connection and support). It depends on the quality of the interactions and individual factors. Certain cognitive styles, such as those with high levels of rumination, increase the negative effects of social media. In addition, the negative impact of social media on depressive symptoms appears to be greater for adolescents with low levels of in-person interaction, in contrast to those with high levels of face-to-face socialisation¹⁵⁵.

In terms of quality of life, there is moderate evidence of an association between screen time and lower perceived quality of life, which is weaker for a threshold of two or more hours of screen time per day¹⁵⁶.

Similarly, it affects the family environment, with a deterioration in family relationships, and the social environment, by promoting the absence of social interaction in real life.

Addressing digital health in the consultation

It is necessary to ask questions in the consultation about the use of technology in the family and to inform them of its impact on health: preparation for childbirth, prenatal consultations, healthy child check-ups from birth and in response to any health concerns. In addition, it is crucial to assess protective factors at the family, school, social and mental health levels: secure attachment, family dialogue, assertive communication, leisure and free time activities (contact with nature, team sports and reading), adequate emotional and values education, good self-esteem, satisfaction with school life. Parents need to be encouraged to take a proactive role in limiting the use of devices and social media at the family level.

Some recommendations for reducing the impact of the digital world on the health of children and adolescents are summarised in the table below.

¹⁵⁵ Idem.

¹⁵⁶ Idem.

Time of use (according to age)	<ul style="list-style-type: none"> • < 5 years: limit use. 0 minutes. Video conferencing only • 6-12 years: < 1 hour per day and in the company of adults • >13 years: < 2 hours, supervised and preferably on a landline fixed
Sleep	<ul style="list-style-type: none"> • Avoid using screens 1-2 hours before bedtime • Keep devices turned off and out of the bedroom
Nutrition	<ul style="list-style-type: none"> • Avoid using screens during meals • Healthy diet
Physical activity	<ul style="list-style-type: none"> • Regular physical activity according to age recommendations
Eye and muscle health	<ul style="list-style-type: none"> • Ergonomics: proper posture • Blink for 20 seconds and look into the distance for 20 seconds after 20 minutes of screen time (20/20/20 rule)
Attention	<ul style="list-style-type: none"> • When studying or working, turn off any devices that are not necessary or remove them from the room.
Place of use	<ul style="list-style-type: none"> • Common areas of the home, such as the living room. • Avoid screens in private areas, such as the bathroom and bedroom.
Devices	<ul style="list-style-type: none"> • Switch off devices that are not in use (background noise). • Delete unused applications from the device
Disconnection times	<ul style="list-style-type: none"> • Reading, eating, physical exercise, family games, socialising, etc. • Devices should be silenced and kept in a pre-agreed place
Security	<ul style="list-style-type: none"> • Avoid sharing sensitive information and photos or anything that could compromise our privacy. • Change passwords frequently and ensure they are secure

GENERAL RECOMMENDATIONS FOR ADDRESSING DIGITAL HEALTH IN A MEDICAL CONSULTATION

Family digital plan

In 2023, the **Spanish Paediatric Association** published the "Family Digital Plan"¹⁵⁷, with one section for families and another for paediatricians. It also includes a series of recommendations in the "My Family Digital Plan" section. The information in the plan is written in colloquial, non-scientific language to make it more accessible. It includes recommendations based on the age of the children, which can be useful for the whole family. Each recommendation can be chosen or not, and users can add their own. The ultimate goal is to obtain a document that can be printed and placed in a visible location in the home.

¹⁵⁷ *Plan digital familiar de la Asociación Española de Pediatría*. Aeped.es [online]. [consulted on: 14 September 2024]. Available at: <https://plandigitalfamiliar.aeped.es/>.

It is a simple, measurable and flexible tool that allows parents to start questioning what role they want digital media to play in their family and to raise awareness about digital health.

Some of its key points are:

1. The aim of digital health is to reduce the risks of screens and Internet content on health.
2. It is necessary to promote healthy habits and safe, critical and responsible use of screens among parents. Early detection of risks and pathologies arising from the use of devices is important.
3. During every health check-up, paediatricians should ask about screen use and make appropriate recommendations based on the patient's age.
4. Screens affect physical and mental health, social interaction and neurodevelopment.
5. The Family Digital Plan represents a revolution in the promotion of digital health, as adults — become active role models rather than passive agents.

Risks to mental health

Taking into account the classification of risks to children in relation to the digital ecosystem proposed by Livingstone and Stoilova¹⁵⁸, the risks are interrelated and considered multidimensional, with risks to health and well-being common to all approaches and areas exposed. There is sufficient scientific evidence on the impact that this content has on physical and mental health and development from birth to adulthood¹⁵⁹.

In relation to childhood, in addition to ensuring that neurodevelopmental achievements are not interfered with, basic health and safety needs must be met so that the digital ecosystem does not interfere with fundamental development processes or health. Once these have been guaranteed and their use in the family, educational and leisure spheres has been regulated, it will be time to gradually introduce technology into society.

The basic developmental processes that must be guaranteed are:

1. Autonomy: sufficient rest, hygiene routines, age-appropriate nutrition and sleep, self-care, decision-making and responsibility-taking.
Cognitive development: developing each person's abilities, learning acquisition, developing personality and personal self-fulfilment.
Social contact: a support network and environment that allows for learning social norms, developing empathy, ethical values and basic communication and conflict resolution skills.
Physical exercise: healthy, outdoor, heart-healthy leisure activities that encourage learning rules, tolerance for failure, social skills, and commitment.

¹⁵⁸ See 135.

¹⁵⁹ ASOCIACIÓN ESPAÑOLA DE PSIQUIATRÍA DEL NIÑO Y EL ADOLESCENTE, 6/2024. *Recomendaciones de Uso de Nuevas Tecnologías en la Infancia y Adolescencia* [online]. Available at: <https://aepnya.es/wp-content/uploads/2024/06/AEPNYA-Recommendations-for-the-Use-of-New-Technologies-in-Childhood-and-Adolescence-1.pdf>.

If these basic processes are guaranteed, technology may or may not be an ally in different areas, although considering the possible risks of it interfering with development:

- Leisure: individual freedom to choose alternatives in childhood must be balanced with the risk that technology may be an alternative that leads to a loss of opportunities for sports and social leisure. It is essential to pay attention to usage profiles, avoiding it at certain ages and reducing it to lessen the impact and avoid patterns of excessive and harmful use of technology.
- Socialisation: relationships with family and peers are necessary for the full development of personality and must be guaranteed and not interfered with by the use of technology. It must also be ensured that the risk of information or content viewed on screens leading to the learning of inappropriate models and children and adolescents being exposed to harmful relationships is avoided.
- Education: technology in the classroom can be a useful tool when its use is duly justified. There must also be scientific evidence from clinical trials to guarantee improved learning, provided that the safety and supervision of content is verified, the recommended hours of exposure for each age group are taken into account according to the scientific evidence available at any given time, and that it does not impair basic instrumental skills and learning such as attention, comprehensive reading or handwriting.
- Autonomy and safety: the necessary acquisition of autonomy throughout a person's development involves receiving information on both the use of technology and alternatives. It also involves learning about the risks to health, neurodevelopment and psycho-affective development, and having sufficient maturity and judgement to understand the consequences of certain choices in relation to various areas of life, psychosexual health and the use of technology. This implies assuming that these abilities are cognitive and are fully developed around the age of 25. It must be ensured that the achievements of autonomy and abilities expected within each age group.

The digital environment has an impact on all areas of health: physical, mental, sexual and reproductive, and psychosocial, as well as on neurodevelopment and psycho-affective development. Advances in technologies related to the interrelation of neural networks pave the way for medical advances, but also for vulnerability in the protection of the information obtained.

Mental health: concept and scope

According to research carried out by the **Cyberguardians** research group in its "*ALTO INTELIGENCIA*" initiative¹⁶⁰, there is a statistical correlation between the increase in mental illness in people under the age of 20 in Spain in recent years and the use of technology. Since 2012, mental disorders have increased exponentially, especially in girls, and following the COVID-19 pandemic in Spain, they have reached historic highs, with a +300% increase compared to 1997.

This study confirms a strong correlation between decreased physical activity and increased mental illness. The evolution of diagnoses of childhood obesity and eating disorders from 1997 to 2021 in children and adolescents aged 0 to 20 shows a steady increase in cases, with a very marked increase since 2011, especially in girls and following COVID-19. There is a strong link between cases of obesity and eating disorders, as well as mental health problems.

From 2011-12 onwards, there has also been a change in the trend in suicide patterns, with an increase. And it is again during the COVID-19 period that the greatest overall increase has been observed. These data clearly show that the problem of mental health in people under the age of 20 is real and is not the result of a greater number of medical diagnoses due to greater social and medical awareness or sensitivity.

Recent research demonstrates the causal relationship between the increased availability of high-speed Internet in Spanish households and the rise in cases of mental illness, with a greater increase in the incidence of anxiety, mood disorders, substance abuse, self-harm and suicide attempts. Analyses carried out by the research group estimate that high-speed Internet access has spread to Spanish households since 2012, with fibre reaching 50% of households. And over the entire period from 2007 to 2021, evidence shows that, especially among girls, there is a predominance of strong correlations in most autonomous communities between high-speed Internet access in the home and mental health problems.

It is well known that the Internet, due to the existence of addictive patterns and various commercial techniques, is no longer neutral, despite the fact that it provides access to information and services that are essential to the functioning of today's society. What **Cyberguardians**¹⁶¹ describes is not that technology itself is positive or negative, but that access to the Internet, and especially to social media, from smart devices such as tablets or smartphones, without restrictions on usage times or types of content, by children and adolescents, can lead to very serious mental health problems.

According to **WHO** data from 2019¹⁶², almost one billion people, including 14% of adolescents worldwide, were affected by a mental disorder. Suicides account for more than one in a hundred, 58% of which are among youth.

¹⁶⁰ ALTO INTELIGENCIA - CYBERGUARDIANS, 2024. Research Briefing 2024 [online]. Available at: https://www.cyber-guardians.org/wp-content/uploads/2024/06/CyberGuardians_Research_Briefing_2024.pdf.

¹⁶¹ Idem.

¹⁶² WORLD HEALTH ORGANIZATION, 2022. WHO highlights urgent need to transform mental health and mental health care. [online], [consulted on: 16 September 2024]. Available at: <https://www.who.int/es/news/item/17-06-2022-who-highlights-urgent-need-to-transform-mental-health-and-mental-health-care>.

Sexual assault in childhood and bullying are significant causes of depression, with the risk increasing when it occurs in digital media because the victim is exposed anywhere and at any time. In its "Action Plan 2013-2030"¹⁶³, the **WHO** recommends reorganising the environments that influence mental health and strengthening care systems for the population, including the digital environment, due to its influence on the mental health of children and adolescents.

Before 2020, mental disorders were the leading causes of global health-related burden, with depressive and anxiety disorders being the largest contributors to this burden. The emergence of the COVID-19 pandemic has created an environment in which many determinants of poor mental health are exacerbated, especially in children, adolescents and vulnerable populations¹⁶⁴.

Mental health problems often manifest themselves at an early age. Fifty per cent of them begin before the age of 15 and 80% before the age of 18, posing a serious problem throughout life. This is why childhood is a key time for health promotion, mental health prevention and the development of life coping skills. The school environment is a fundamental place for developing these interventions that promote mental health in children and adolescents¹⁶⁵.

In recent years, studies on the age of onset of emotional problems in childhood and adolescence have shown a decrease in the age of onset from 14 to 11 years, especially in females¹⁶⁶.

Mental health problems in childhood and adolescence have increased following the pandemic, with a significant rise in anxiety, depression, loneliness, stress and fear, according to major studies. Age, gender, neuropsychological problems and lack of support are considered identified risk factors. In contrast, family support and positive parenting styles are considered protective factors¹⁶⁷.

There is evidence that certain ages are considered therapeutic windows in which preventive interventions are most effective, the most suitable being:

1. The perinatal stage, from conception to birth, providing care during pregnancy and childbirth with emotional support for the mother.

¹⁶³ WORLD HEALTH ORGANIZATION, 2022. Comprehensive Mental Health Action Plan 2013-2030 [online]. Available at: <https://iris.who.int/server/api/core/bitstreams/69921758-6229-49ba-bd3d-c24736e35829/content>.

¹⁶⁴ SANTOMAURO, D.F. *et al.* Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *Lancet* [online], vol. 398, no. 10312, ISSN 0140-6736. DOI 10.1016/s0140-6736(21)02143-7. Available at: [http://dx.doi.org/10.1016/s0140-6736\(21\)02143-7](http://dx.doi.org/10.1016/s0140-6736(21)02143-7).

¹⁶⁵ *Sesión Científica Ordinaria - 23 de enero de 2024*. Ranm.es [online]. [consulted ON: 16 September 2024]. Available at: <https://www.ranm.es/sesiones-y-actos/archivosesiones/2024/5055-sesion-cientifica-ordinaria-23-de-enero-de-2024.html>.

¹⁶⁶ See 163; ARMITAGE, J.M., KWONG, A.S.F., TSELIU, F., SELLERS, R., BLAKEY, R., ANTHONY, R., RICE, F., THAPAR, A. and COLLISHAW, S., 2023. Cross-cohort change in parent-reported emotional problem trajectories across childhood and adolescence in the UK. *The Lancet. Psychiatry* [online], vol. 10, no. 7, ISSN 2215-0366. DOI 10.1016/s2215-0366(23)00175-x. Available at: [http://dx.doi.org/10.1016/s2215-0366\(23\)00175-x](http://dx.doi.org/10.1016/s2215-0366(23)00175-x).

¹⁶⁷ MORENO, C. *et al.* 2020. How mental health care should change as a consequence of the COVID-19 pandemic. *The Lancet. Psychiatry* [online], vol. 7, no. 9, ISSN 2215-0366. DOI 10.1016/s2215-0366(20)30307-2. Available at: [http://dx.doi.org/10.1016/s2215-0366\(20\)30307-2](http://dx.doi.org/10.1016/s2215-0366(20)30307-2); "HEADWAY - Mental Health Index 2.0" Report [online]. Available at: https://eventi.ambrosetti.eu/headway/wp-content/uploads/sites/225/2022/09/220927_Headway_Mental-Health-Index-2.0_Report-1.pdf.

The beginning of the school stage, promoting psychoeducation and a good family environment, with school as a safe and supportive place, promoting socialisation and cognitive stimulation.

At the beginning of adolescence and during puberty, avoiding addictive behaviours that put health at risk, strengthening healthy identity development, and promoting activities that encourage socialisation¹⁶⁸

Expert forums on child and adolescent mental health insist on the importance of implementing preventive measures in schools and highlight that children and adolescents with depression and other psychopathologies, as well as those with neurodevelopmental problems, are particularly vulnerable to cyberbullying¹⁶⁹.

There is an urgent need to strengthen mental health systems for the entire population, as well as primary care services. Measures to promote well-being and focus on the determinants of poor mental health in the population are essential, with priority given to the treatment of people with severe disorders.

Mental health is a priority for the **Spanish National Health System (SNS)** and has also been a priority during the Spanish Presidency of the Council of the EU. For this reason, the "Mental Health Strategy" initiated twelve years ago was revived and, in line with this, the "National Health System Mental Health Strategy 2022-2026"¹⁷⁰ was launched, with actions such as the creation in 2022 of the suicide prevention service, the 024 telephone number, and the approval of the creation in 2023 of the speciality of "Child and Adolescent Psychiatry" in 2023, which, within the strategic line of childhood, will guarantee the rights and health of children and adolescents¹⁷¹.

Strategic line 5 of this programme identifies cyberbullying and non-substance addiction as emerging problems and highlights the importance of perinatal and family planning programmes in the "healthy child programme". It also emphasises the need for early referral to mental health services from early care for the care and training of families in order to promote the emotional well-being of the population.

¹⁶⁸ ARANGO, C, *et al.* 2018. Preventive strategies for mental health. *The Lancet. Psychiatry* [online], vol. 5, no. 7, ISSN 2215-0366. DOI 10.1016/s2215-0366(18)30057-9. Available at: [http://dx.doi.org/10.1016/s2215-0366\(18\)30057-9](http://dx.doi.org/10.1016/s2215-0366(18)30057-9); ARANGO, C. and FUSAR-POLI, P., 2022. Primary prevention in psychiatry is not science fiction. *European neuropsychopharmacology: the journal of the European College of Neuropsychopharmacology* [online], vol. 65, ISSN 0924-977X. DOI 10.1016/j.euroneuro.2022.09.008. Available at: <http://dx.doi.org/10.1016/j.euroneuro.2022.09.008>.

¹⁶⁹ FRAGUAS, D., *et al.*, 2021. Assessment of school anti-bullying interventions: A meta-analysis of randomized clinical trials. *JAMA paediatrics* [online], vol. 175, no. 1, ISSN 2168-6203. DOI 10.1001/jamapediatrics.2020.3541. Available at: <http://dx.doi.org/10.1001/jamapediatrics.2020.3541>.

¹⁷⁰ MINISTERIO DE SANIDAD, 2022. *Estrategia de Salud Mental del Sistema Nacional de Salud Período 2022-2026* [online]. Available at: https://www.sanidad.gob.es/areas/calidadAsistencia/estrategias/saludMental/docs/Ministerio_Sanidad_Estrategia_Salud_Mental_SNS_2022_2026.pdf.

¹⁷¹ BOE 4/3/23 Número 51 sección 1, página 32231 *Orden PCM/205/2023, de 2 de marzo, por la que se aprueban y publican los programas formativos de las especialidades de Psiquiatría y Psiquiatría Infantil y de la Adolescencia, los criterios de evaluación de los especialistas en formación y los requisitos de acreditación de las Unidades Docentes Multiprofesionales de salud mental.*

Strategic line 6, which addresses family care and intervention, highlights the importance of providing educational guidance, sharing personal experiences, and opening up social media by the health system to improve the transmission of health information and prevent isolation. This line highlights the idea of family health and points to the whole family as potential users, as well as the need for care and self-care for close friends and family, and not just for people with mental health problems.

Screen use significantly affects children and adolescents because it has a negative impact on three essential aspects of their growth: neurodevelopment, the healthy lifestyle habits they need, and their socio-emotional development.

Addictions: problematic use of the Internet (PIU), video games and gambling

The term PIU is used in scientific literature to refer to patterns of abuse and addiction. Thirty-three per cent are beginning to develop a real problem with the use of the Internet and social media. The percentage of PIU related to social media is significantly higher among girls and increases from the age of 14 onwards.

The pattern of harmful or excessive use of technology, video games, social media or mobile phones is defined as excessive use for their age, with an impact on socialisation, family environment and academic performance. There may be failed attempts to reduce it, with an increasing need to increase this pattern of leisure consumption and with possible repercussions on overall health (sleep, diet, weight, attention).

In the eleventh version of the International Classification of Diseases (ICD-11)¹⁷², the **WHO** officially includes video game addiction in the category of "substance use or addictive behaviours".

Various studies show that video game addiction in adolescents is associated with social anxiety, depression and loneliness, with boys being more prone to it. It should also be noted that they are a risk factor for sedentary lifestyles¹⁷³.

As for video games, 6 out of 10 adolescents play at least one day a week (26.5% every day or almost every day). In the case of boys, these figures rise to 86.5%. 4.4% spend more than 30 hours a week playing and 4.5% spend more than €30 a month. More than 50% of teenagers regularly play video games not recommended for children under 18, but only 1 in 4 parents pay attention to the recommended age to put some kind of restriction on this.

Regarding gambling addiction, 3.6% of teenagers have gambled online at some point in their lives. 1.6% do so at least once a month. The percentages are higher among boys (4-5 times higher) and in the 3rd or 4th year of secondary school, with sports betting being the most popular form of gambling.

¹⁷² WORLD HEALTH ORGANIZATION, 2022. International Classification of Diseases, 11th Revision (ICD-11) [online]. Available at: https://icd.who.int/es/docs/GuiaReferencia_CIE_11_Feb2023.pdf.

¹⁷³ VALKENBURG PM, MEIER A, BEYENS I. Social media use and its impact on adolescent mental health: An umbrella review of the evidence. *Curr Opin Psychol.* 2022 Apr; 44:58-68. DOI: 10.1016/j.copsyc.2021.08.017. Epub 2021 Aug 18. PMID: 34563980. Available at: <https://pubmed.ncbi.nlm.nih.gov/34563980/>; DANE A, BHATIA K. The social media diet: A scoping review to investigate the association between social media, body image and eating disorders amongst Youth. *PLOS Glob Public Health.* 22 March 2023;3 (3): e0001091. DOI:10.1371/journal.pgph.0001091.

Depression and anxiety

There has been a worrying increase in anxiety and depression among children and adolescents over the last two decades, mainly since 2011, with an acceleration in recent years. Feelings of anxiety and depression have increased by up to 70% among children and adolescents over the last 25 years, along with a decrease in the age of onset of emotional problems, coinciding, among other causes, with the rise of social media¹⁷⁴.

Population studies in the United States have warned of the association between time spent on multiple social media and the onset of depression and anxiety. These studies indicate that each additional hour on social media significantly increases depressive symptoms¹⁷⁵.

There is a clear correlation between high social media use and the onset of depressive disorders, anxiety, stress, internet addiction, fear of missing out (FOMO), learning issues and sleep disorders¹⁷⁶.

Self-harm and suicidal ideation

Social media normalises easy access to harmful information, content about suicide and self-harm, and violent images, especially on the video creation platforms most commonly used by adolescents today¹⁷⁷. In fact, during 2024, 1 in 4 adolescents aged 15 to 19 reported having encountered websites showing ways to self-harm or commit suicide¹⁷⁸.

Self-harm and suicidal ideation are more common in adolescence than at other stages of life and can be associated with different situations and mental health problems. The increase in suicidal ideation in recent years among adolescents and youth in the United Kingdom is worrying, as can be seen in the data from the latest Fad Youth, Health and Well-being Barometer, which shows that in 2023, 4 out of 10 adolescents aged 15 to 19 admit to having experienced suicidal thoughts at some point in their lives.¹⁷⁹ One of the possible factors influencing self-harming behaviour is the transmission of images of self-harm among adolescents through social media and the perception that such behaviour is widespread. This normalises it, making it socially acceptable behaviour as a way of managing emotional distress, with the Internet and social media playing a prominent role in enabling adolescents to feel social cohesion through these behaviours and spreading images of self-harm.

¹⁷⁴ SANDERS, T, *et al* 2023. An umbrella review of the benefits and risks associated with youths' interactions with electronic screens. *Nature human behaviour* [online], vol. 8, no. 1, ISSN 2397-3374. DOI 10.1038/s41562-023-01712-8. Available at: <http://dx.doi.org/10.1038/s41562-023-01712-8>.

¹⁷⁵ WANG, J.-L., SHENG, J.-R. and WANG, H.-Z., 2019. The association between mobile game addiction and depression, social anxiety, and loneliness. *Frontiers in public health* [online], vol. 7, ISSN 2296-2565. DOI 10.3389/fpubh.2019.00247. Available at: <http://dx.doi.org/10.3389/fpubh.2019.00247>.

; GEORGE, M.J., RUSSELL, M.A., PIONTAK, J.R. and ODGERS, C.L., 2018. Concurrent and subsequent associations between daily digital technology use and high-risk adolescents' mental health symptoms. *Child development* [online], vol. 89, no. 1, ISSN 0009-3920. DOI 10.1111/cdev.12819. Available at: <http://dx.doi.org/10.1111/cdev.12819>.

¹⁷⁶ See 179; SANTOS, R.M.S., MENDES, C.G., SEN BRESSANI, G.Y., DE ALCANTARA VENTURA, S., DE ALMEIDA NOGUEIRA, Y.J., DE MIRANDA, D.M. and ROMANO-SILVA, M.A., 2023. The associations between screen time and mental health in adolescents: a systematic review. *BMC psychology* [online], vol. 11, no. 1, ISSN 2050-7283. DOI 10.1186/s40359-023-01166-7. Available at: <http://dx.doi.org/10.1186/s40359-023-01166-7>.

¹⁷⁷ HAWTON, K., HILL, N.T.M., GOULD, M., JOHN, A., LASCELLES, K. and ROBINSON, J., 2020. Clustering of suicides in children and adolescents. *The Lancet. Child & adolescent health* [online], vol. 4, no. 1, ISSN 2352-4642. DOI 10.1016/s2352-4642(19)30335-9. Available at: [http://dx.doi.org/10.1016/s2352-4642\(19\)30335-9](http://dx.doi.org/10.1016/s2352-4642(19)30335-9).

¹⁷⁸ Kuric, S., Sanmartín, A., Ballesteros, J. C. and Gómez Miguel, A. (2023). *Barómetro Juventud, Salud y Bienestar 2023*. Madrid: Centro Reina Sofía de Fad Juventud.

¹⁷⁹ See 193.

Cyberbullying is a risk factor for self-harm and suicide in patients with mental health problems¹⁸⁰.

Enduring digital harassment can lead to behavioural changes, anxiety or depression, unexcused absences from school, physical ailments with no clinical correlation, nightmares, irritability, verbalisation of difficulties and requests for help. It increases the risk of depressive symptoms, anxiety and suicide¹⁸¹.

The latter is the leading cause of unnatural death among children and adolescents, and bullying at school is the main factor that triggers it. In recent years, bullying has taken on new forms through screens, meaning that children no longer feel safe even in their own homes. In addition, bullying increasingly has a sexual component (especially due to the influence of pornography on screens).

Mental health and social media

Excessive use of social media can contribute to mental health problems such as anxiety and depression, self-esteem issues and body image perception exacerbated by social comparison and pressure to maintain an idealised image¹⁸². Studies conducted on youth show that a two-week break from social media leads to greater well-being and improves anxiety and depressive symptoms in people without a previously detected mental disorder¹⁸³.

It has also been documented that, in youth, overall and mental health indicators are worse over time in those who check their social media several times a day, compared to those who do not use social media or check it occasionally¹⁸⁴.

Influence on body image and eating disorders

Social media and other digital platforms can have a significant impact on how adolescents perceive their own bodies. Constant exposure to idealised and edited images can lead to insecurities and a distorted perception of reality. This can negatively affect youth's self-esteem and self-image, leading them to compare themselves unfavourably with these unrealistic representations¹⁸⁵.

¹⁸⁰ FINEBERG, N.A. *et al.*, 2022. Advances in problematic usage of the internet research – A narrative review by experts from the European network for problematic usage of the internet. *Comprehensive psychiatry* [online], vol. 118, no. 152346, [consulted on: 16 September 2024]. ISSN 0010-440X. DOI 10.1016/j.comppsy.2022.152346. Available at: <https://pubmed.ncbi.nlm.nih.gov/36029549/>; SEONG, E., NOH, G., LEE, K.H., LEE, J.-S., KIM, S., SEO, D.G., YOO, J.H., HWANG, H., CHOI, C.-H., HAN, D.H., HONG, S.-B. and KIM, J.-W., 2021. Relationship of social and behavioural characteristics to suicidality in community adolescents with self-harm: Considering contagion and connection on social media. *Frontiers in psychology* [online], vol. 12, ISSN 1664-1078. DOI 10.3389/fpsyg.2021.691438. Available at: <http://dx.doi.org/10.3389/fpsyg.2021.691438>; NESI, J. *et al.*, 2021. Social media use and self-injurious thoughts and behaviors: A systematic review and meta-analysis. *Clinical Psychology Review* [online], vol. 87, no. 102038, ISSN 0272-7358. DOI 10.1016/j.cpr.2021.102038. Available at: <http://dx.doi.org/10.1016/j.cpr.2021.102038>.

¹⁸¹ LI, C., WANG, P., MARTIN-MORATINOS, M., BELLA-FERNÁNDEZ, M., and BLASCO-FONTECILLA, H., 2022. Traditional bullying and cyberbullying in the digital age and its associated mental health problems in children and adolescents: a meta-analysis. *European child & adolescent psychiatry* [online], ISSN 1018-8827. DOI 10.1007/s00787-022-02128-x. Available at: <http://dx.doi.org/10.1007/s00787-022-02128-x>.

¹⁸² See 176 and 182.

¹⁸³ FAULHABER, M.E., LEE, J.E. and GENTILE, D.A., 2023. The effect of self-monitoring limited social media use on psychological well-being. *Technology, mind, and behavior* [online], vol. 4, no. 2, ISSN 2689-0208. DOI 10.1037/tmb0000111. Available at: <http://dx.doi.org/10.1037/tmb0000111>.

¹⁸⁴ SANTOS, R.M.S., MENDES, C.G., SEN BRESSANI, G.Y., DE ALCANTARA VENTURA, S., DE ALMEIDA NOGUEIRA, Y.J., DE MIRANDA, D.M. and ROMANO-SILVA, M.A., 2023. The associations between screen time and mental health in adolescents: a systematic review. *BMC psychology* [online], vol. 11, no. 1, ISSN 2050-7283. DOI 10.1186/s40359-023-01166-7. Available at: <http://dx.doi.org/10.1186/s40359-023-01166-7>.

¹⁸⁵ DANE A, BHATIA K. The social media diet: A scoping review to investigate the association between social media, body image and eating disorders amongst young people. *PLOS Glob Public Health*. 22 March 2023;3 (3): e0001091. DOI: 10.1371/journal.pgph.0001091.

Intensive use of social media has been linked to an increased risk of developing eating disorders, such as anorexia and bulimia. Teenagers, especially girls, may feel pressured to achieve unrealistic beauty standards promoted on these platforms. This pressure can lead to unhealthy eating behaviours, obsession with physical appearance, and an unhealthy focus on weight loss.

Influence on attention and risk in patients with Attention Deficit Hyperactivity Disorder (ADHD)

Excessive use of digital media from childhood affects brain function and cognitive development, including impaired attention and memory processing, as well as impaired impulse control and emotional regulation¹⁸⁶.

In the case of minors diagnosed with ADHD, greater exposure to digital media has been associated with a greater exacerbation of symptoms during this period. In addition, users of video games who are more severely affected may be at greater risk of developing an addiction to them, with its negative consequences, regardless of the type of video game they play. Excessive use of digital devices in minors with ADHD worsens their behaviour and causes anxiety, sleep problems and greater outbursts of frustration or anger when digital devices are taken away¹⁸⁷.

New technologies and Autism Spectrum Disorder (ASD)

People with communication difficulties can use technological tools to improve communication, for example, through visual aids or augmentative communication systems. The functional use of technology in certain autistic individuals, with benefits for communication and learning, such as leisure or as a source of information on areas of interest, does not exempt them from appropriate and supervised use during childhood and adolescence. Cerebral overexcitement from screens can increase impulsivity and behavioural disorders and worsen sleep problems, which are prevalent in this population¹⁸⁸.

¹⁸⁶ SHIH, P., CHIANG, T.-L., LIN, P.-I., LIN, M.-Y. and GUO, Y.L., 2023. Attention-deficit hyperactivity disorder in children is related to maternal screen time during early childhood in Taiwan: a national prospective cohort study. *BMC psychiatry* [online], vol. 23, no. 1, ISSN 1471-244X. DOI 10.1186/s12888-023-05242-5. Available at: <http://dx.doi.org/10.1186/s12888-023-05242-5>.

¹⁸⁷ KARAGOZ TANIGOR, E., OZBEK, A., OZYURT, G. and PEKCANLAR AKAY, A., 2024. Comparisons of clinical subtypes, symptom severity, global functioning, emotional and behavior problems, and CPT test profiles in children and adolescents with ADHD with and without co-occurring internet gaming disorder. *Nordic journal of psychiatry* [online], vol. 78, no. 3, ISSN 0803-9488. DOI 10.1080/08039488.2024.2311705. Available at: <http://dx.doi.org/10.1080/08039488.2024.2311705>. ; STAVROPOULOS V, et al. Erratum regarding missing Declaration of Competing Interest statements in previously published articles. *Addictive behaviors reports* [online], 2021. vol. 13, no. 100333, ISSN 2352-8532. DOI 10.1016/j.abrep.2020.100333. Available at: <http://dx.doi.org/10.1016/j.abrep.2020.100333>. ; SIMONELLI, V., NARZISI, A., SESSO, G., SALVATI, A., MILONE, A., VIGLIONE, V., TOLOMEI, G., MASI, G. and BERLOFFA, S., 2024. Internet gaming disorder in children and adolescents with autism spectrum disorder and attention deficit hyperactivity disorder. *Brain sciences* [online], vol. 14, no. 2, ISSN 2076-3425. DOI 10.3390/brainsci14020154. Available at: <http://dx.doi.org/10.3390/brainsci14020154>.

¹⁸⁸ CHOI, H., et al., 2023. Analysis of the status and future direction for digital therapeutics in children and adolescent psychiatry. *Journal of Korean Academy of Child and Adolescent Psychiatry* [online], vol. 34, no. 4, ISSN 1225-729X. DOI 10.5765/jkacap.230044. Available at: <http://dx.doi.org/10.5765/jkacap.230044>. ; LIMA, J.L., et al., 2020. Exergames for children and adolescents with autism spectrum disorder: An overview. *Clinical practice and epidemiology in mental health: CP & EMH* [online], vol. 16, no. 1, ISSN 1745-0179. DOI 10.2174/1745017902016010001. Available at: <http://dx.doi.org/10.2174/1745017902016010001>. ; <https://www.autism.org.uk/advice-and-guidance/professional-practice/autism-internet>.

In addition, there is a risk due to difficulties in social and communication skills. They are more vulnerable to cyberbullying or committing crimes due to peer pressure. The ease of establishing social relationships online can have a negative impact on the motivation and effort required to establish non-virtual interpersonal relationships¹⁸⁹.

Social determinants

The influence of psychosocial adversity factors, especially if they impact childhood, on vulnerability to developing serious mental disorders and on the worsening of existing ones is indisputable¹⁹⁰. The influence of social determinants on health — and especially on mental health — has been an argument for supporting legislative development and public health surveillance in Spain since the beginning of democracy. However, to date, the influence of social determinants on technology use habits has not been taken into account in public policy-making.

There is a relationship between problem gambling in adolescence and the existence of family dysfunction, with a bidirectional relationship¹⁹¹. Research suggests that adverse external environmental stimuli (such as a dysfunctional family environment) lead to negative emotional and cognitive responses, which in turn result in an intensification of the gambling problem in an attempt to cope with and compensate for these negative changes.

In addition, behavioural problems in adolescence, including problem gambling, can also have an effect on changes in the family environment, particularly in the areas of parenting, relationship quality, and communication with family members.

A supportive family environment and a healthy, cohesive relationship between family members, with high-quality relationships and open communication, help adolescents develop their identity, reducing the risk of developing a serious mental disorder or other health problems. Conversely, a dysfunctional family environment is less likely to provide children and adolescents with opportunities and confidence to explore different facets of their personality, tastes and interests, and may discourage them from discussing issues related to the "self" with family members, thus hindering the formation of clear views of themselves. Screen use interferes with family relationships, especially in situations of psychosocial adversity.

¹⁸⁹ HENARES-MONTIEL, J., BENÍTEZ-HIDALGO, V., RUIZ-PÉREZ, I., PASTOR-MORENO, G. and RODRÍGUEZ-BARRANCO, M., 2022. Cyberbullying and associated factors in member countries of the European Union: A systematic review and meta-analysis of studies with representative population samples. *International Journal of Environmental Research and Public Health* [online], vol. 19, no. 12, ISSN 1661-7827. DOI 10.3390/ijerph19127364. Available at: <http://dx.doi.org/10.3390/ijerph19127364>.

¹⁹⁰ See 168; MCKAY, M.T., KILMARTIN, L., MEAGHER, A., CANNON, M., HEALY, C. and CLARKE, M.C., 2022. A revised and extended systematic review and meta-analysis of the relationship between childhood adversity and adult psychiatric disorder. *Journal of psychiatric research* [online], vol. 156, ISSN 0022-3956. DOI 10.1016/j.jpsychires.2022.10.015. Available at: <http://dx.doi.org/10.1016/j.jpsychires.2022.10.015>.; *DOCUMENTO TÉCNICO DEL GRUPO DE TRABAJO DE VIGILANCIA DE EQUIDAD Y DETERMINANTES SOCIALES DE LA SALUD*, 2021. Ministerio de Salud. Available at: https://www.sanidad.gob.es/areas/promocionPrevencion/promoSaludEquidad/equidadYDesigualdad/estrategia/actividadDeDesarrollo/doc/DocTecnico_GTVigilanciaEquidadyDeterminantesSocialesSalud_2021.pdf.

¹⁹¹ ZHOU, J., ZHAO, H., WANG, L. and ZHU, D., 2023. The vicious cycle of family dysfunction and problematic gaming and the mediating role of self-concept clarity among early adolescents: A within-person analysis using random intercept cross-lagged panel modelling. *Journal of behavioral addictions* [online], vol. 12, no. 4, ISSN 2062-5871. DOI 10.1556/2006.2023.00054. Available at: <http://dx.doi.org/10.1556/2006.2023.00054>.

Limitations on access to harmful content: rating, labelling, age verification systems and parental controls.

Unlike television, film and streaming platforms, the online audiovisual sector lacks criteria aimed at protecting children and adolescents through the rating and labelling of audiovisual content. This prevents the effective identification of content whose dissemination should be restricted because it is considered harmful to the development of children and adolescents, and the enforcement of this obligation. This lack of rating and enforceability means that Internet platforms and social media are unable to effectively control minors' access to harmful and damaging content.

In turn, the industry has been reluctant to develop effective age verification systems that truly minimise the exposure of minors on the Internet and preserve their fundamental rights. This also affects the lack of operability of parental control applications used on devices with Internet access. Similarly, the apparent complexity of using these controls, or even their complete unfamiliarity to parents and guardians, is an added problem.

The exposure of minors to and access to inappropriate content (violence, drugs, pornography, online gambling, among others) without effective limits on the part of the industry has serious consequences for them in terms of their affective-sexual, psychosocial or neural development, the development of addictions, physical and mental health problems, etc., as evidenced by scientific research addressing this issue.

In General Comment No. 25 of 2021¹⁹², paragraph 96 highlights that "States parties should regulate against known harms and proactively consider emerging research and evidence in the public health sector, to prevent the spread of misinformation and materials and services that may damage children's mental or physical health. Measures may also be needed to prevent unhealthy engagement in digital games or social media, such as regulating against digital design that undermines children's development and rights."

Problems arising from insufficient protection of minors' personal data are subject to special protection.

On the other hand, there are shortcomings in the protection of the personal data of children and adolescents and the use made of it for monetisation, especially in the case of biometric data (facial and iris recognition), as well as profiling in the field of marketing and communications and commercial offers, or advertising; impersonation and identity theft, or security and privacy risks associated with the Internet of Things (IoT), and new forms of data collection such as those linked to virtual environments (metaverse), augmented reality and neurodata. Inadequate protection of this data may even jeopardise the physical integrity of individuals in general and children and adolescents in particular, whose data is also subject to special protection.

Digital services are designed to make children's identities, profiles and contact details accessible, which, combined with the overexposure and inappropriate use of personal information by children and adolescents, exposes them to serious risks such as cyberbullying, grooming, sexting and identity theft, the consequences of

¹⁹² See 18.

which can be irreparable. Internet services and others whose business model is based on the monetisation of data – including that of minors – and the acquisition and retention of users, end up taking responsibility for their protection, with initiatives aimed at even greater processing of their data.

Problems arising from the business model generate significant risks for children and adolescents on all levels: physical, mental, social and values.

The design of digital services for children and adolescents must be adapted to their age, but their production in general leads to their very early recruitment and causes a dependency that becomes addictive and generates serious problems that affect various areas of their affective, emotional, educational and maturation development. It also has a significant impact on their physical health (sleep, nutrition, eye health, etc.), mental health (depressive symptoms, anxiety, self-esteem, self-harming behaviour) and sexual health, the latter being a consequence of access to digital content intended for adults. This in turn leads to the concealment of the negative consequences that digitalisation can have, resulting in a lack of attention to cases such as problematic or addictive use.

The business models of service providers in the digital environment are generally based on the 'attention economy', which involves the widespread use of algorithms to cause screen addiction through content.

On the other hand, these same business models promote a society based on the 'creator economy' where everything has a price and everything is for sale, which is transforming the value system.

In addition, the use of generative AI for the creation of illegal content (such as the use of deepfakes in pornography) or fraudulent services, identity theft, the creation of paedophile content, harassment, etc. has recently emerged with force.

The business model, sometimes based on anonymity and the aforementioned attention economy, also facilitates the use of social media for online violence, cyberbullying in schools and cyberstalking in general, as well as other risks such as grooming, paedophile networks and child sexual abuse material, or access to gambling. Furthermore, on another level, there is the manipulation of information, fake news and disinformation strategies, especially when targeting children and adolescents. The industry is responsible for failing to establish effective reporting systems and controls to minimise these risks.

In short, the industry's use of a business model based on retaining attention is primarily aimed at the intensive use of devices, which often leads to excessive or inappropriate use and exposure to various risks. In the case of children and adolescents, this can be particularly harmful as they have not yet reached sufficient maturity to consciously regulate their behaviour. The damage affects basic aspects of their lives, such as attention deficit, school failure, etc.

The 2023 report of the Master Plan for coexistence and improved safety in schools and their surroundings shows a 22.4% increase, compared to 2022, in known criminal offences against school coexistence and safety. Among these, it is worth highlighting those in which ICTs are used as a means of committing the offence: a 27.3% increase in extortion, 35.9% in threats and coercion, 54% in degrading treatment, and 130% in child sexual abuse

material, which, in turn, has led to a 23.4% increase in the victimisation of minors compared to the previous year. With regard to the consumption of pornography, the use of ICTs as a means of committing crimes has increased by 300%.

In the field of education, the abuse of digital devices hinders learning, as demonstrated by the decline in IQ and literacy levels, or the attention deficit in a significant number of students revealed by recent studies and reports:

- The **Ragnar Frisch Centre for Economic Research**, in a study published in the *Journal of Science* in the United States, states that the IQ of the younger generations has been declining since the turn of the millennium by an average of between 2.5 and 4.3 points every ten years.
- Children's literacy levels have been affected by their intensive use of electronic devices, which has been declining since 2016. In Spain, this has led to a drop of 7 points, which is below the EU average.
- The latest PISA report¹⁹³ highlights the decline in students' reading comprehension, 3 points in Spain and 11 points in the OECD area, compared to the 2018 edition, and 8 points in mathematics. Being distracted by mobile phones means losing half of the knowledge of a mathematics course.
- **UNESCO**, in its report "Global Education Monitoring (GEM) 2023"¹⁹⁴ on technology in education, points out that the time children and adolescents spend in front of screens has increased, both for educational and leisure purposes. This can negatively affect self-control and emotional stability, and increase anxiety and depression.

Risks associated with privacy of children and adolescents.

The use of digital services, content and platforms by children and adolescents involves the processing of their personal data in accordance with applicable regulations. As the GDPR points out, they deserve specific protection because they may be less aware of the risks, consequences, safeguards and rights, particularly when processing is carried out for marketing or profiling purposes.

The information provided by studies, reports and surveys carried out by different institutions and organisations shows that minors make intensive use of digital technologies, whose products and services must observe and guarantee the fundamental right to data protection. Thus, as the **Constitutional Court** points out, data subjects must have control over them in order to guarantee their rights and freedoms with regard to the processing of personal data, in particular privacy.

The intensive use of ICTs by minors has revealed that the processing of personal data by controllers and processors does not always comply with regulations, particularly in terms of principles, legitimacy and rights, as evidenced by:

¹⁹³ OECD, 2024. *PISA 2022 Results* [online]. OECD Publishing. Available at: <http://dx.doi.org/10.1787/01820d6d->.

¹⁹⁴ GEM REPORT UNESCO, 2023. *2023 GEM Report: Technology in education: a tool on whose terms?* [Flyer] [online]. 1 January 2023. GEM Report UNESCO. Available at: <http://dx.doi.org/10.54676/idqe8212>.

- Breaches of the principle of minimisation, which requires data to be adequate, relevant and limited to the purpose for which it is collected. The excessive data collected by digital services and platforms leads to greater exposure to risk situations such as digital violence, with the consequent material and immaterial damage to victims.
- Breaches of the principles of fairness and transparency occur, on the one hand, when data is collected and then used for purposes other than those for which it was collected and, on the other hand, when there is a systematic lack of age-appropriate information. Information on the purpose of data collection must be clear, simple, easy to understand and available to guardians and representatives so that they know what type of data is being provided, for what purposes, for how long and, where appropriate, so that they can exercise the rights established in the GDPR.
- Breaches of the principle of data accuracy when processing is based on the provision of consent, which can generally be given by persons over the age of 14, as consent is given and accepted below that age. Similarly, with regard to access to content or services that require legal age or other status without any verification system, access is granted simply on the basis of the interested parties' statement that they are above the corresponding age thresholds.
- Unlawful processing of data by digital services that act as data processors when they exceed their remit and act as data controllers without any basis for legitimacy.
- Profiling without respecting the right not to be profiled. Access to certain websites by children and adolescents allows them to be identified as such, and may lead to profiling of their tastes, behaviours and economic, social or cultural characteristics, which in turn leads to their manipulation.

On the other hand, the lack of awareness by children and adolescents of the value of privacy leads to the overexposure of personal information, which creates situations that put people's rights and freedoms at risk. It also leads to the dissemination of third parties' personal information (images, audio) without the consent of those affected or any other legal basis, which also creates situations of risk and digital violence.

The digital protection of minors in the area of privacy would require:

- The establishment of 16 as the age at which, in general, children and adolescents can give their consent to the processing of their data, as this provides a greater degree of maturity and development to understand the risks and consequences of such processing.
- The definition and inclusion of neurodata as a special category and the prohibition of profiling minors based on its processing by digital systems.

- The control of algorithms and automatic processing systems in relation to the protection of privacy, the absence of discriminatory biases, manipulation and addiction. Likewise, clear and understandable information should be provided to parents and guardians about the service, as with any high-impact product: who it is intended for, who should not use it, what contraindications it has in special cases, how it should be used and with what limits, how to act in the event of problems, who has verified its correct functioning, etc.
- The implementation of effective SVEs, from a comprehensive approach, for protection on the Internet. All stakeholders in the ecosystem of digital services and products must be designed in a joint and harmonised manner to protect the best interests of children and adolescents and ensure that only authorised persons can access the Internet with respect for their fundamental rights.
- Digital literacy for families and those who make up the educational community, particularly in data protection and privacy: protecting personal and third-party data and privacy in digital environments, understanding how to use and share personally identifiable information, and protecting oneself and others from potential harm.
- Design of digital services, systems and products aimed at children and adolescents, taking into account their age, after assessing the impact of data processing on their rights and freedoms, including health and education.
- Monitoring new products or versions of digital services and systems launched on the market by the industry.
- Inclusion of parental controls in digital devices aimed at children and adolescents, allowing parents to monitor and accompany them in the online world.

4.3 Consumption of pornography and its implications: violence and sexual abuse¹⁹⁵

Main risks and contextualisation of the applicable regulatory framework

Various international and European bodies have highlighted the risks to which children and adolescents are exposed in the digital environment, essentially distinguishing between four types of risk: content, contact, behaviour and contract.

This categorisation of the 4 Cs has been used for several years by **United Nations** organisations, such as the **International Telecommunication Union (ITU)**, which already includes it in its 2009 Guidelines¹⁹⁶, the CRC in its Observation No. 25¹⁹⁷ on digital environments in 2021 and, with a slight variation, the **Council of Europe** in

¹⁹⁵ It should be noted that, in this report, the term "child sexual abuse" is used following a consensus among this group of experts that, as the document is not of a legal nature, it was appropriate to retain terminology with an international perspective, notwithstanding the fact that the offence of "sexual abuse" has been removed from the Spanish Criminal Code.

¹⁹⁶ INTERNATIONAL TELECOMMUNICATION UNION (ITU), 2009. Guidelines for Policy Makers on Child Online Protection. [online]. Available at: <https://www.itu.int/en/cop/documents/guidelines-policy%20makers-e.pdf>.

¹⁹⁷ See 15.

its 2018 Guidelines, to respect, protect and fulfil the rights of children and adolescents in the digital environment.

This categorisation has also been used in various research projects, such as that by Livingstone and Stoilova¹⁹⁸ to identify risks, and has served as inspiration for national legislation in this area, such as the revised 2021 German law on the protection of minors, which covers all of these risks¹⁹⁹.

This assessment should not overlook the complexity of the situation due to the multiplicity of channels through which the risks to which digital environments expose children arise, including internet browsing, social media, messaging systems and video games, among others. The main online means of accessing content and contacts that are harmful to minors in the digital space are free child sexual abuse material websites, but also messaging systems such as **WhatsApp** and social media such as **X/Twitter**, **Instagram** and **TikTok**, which also include child sexual abuse material and violent content or content that incites harmful behaviour and are used to persuade, recruit and exploit children and adolescents.

Another form of access is video games, which promote violence in general and violence against women in particular, as well as a sexist view of women, as most women are hypersexualised and in a subordinate position, while men occupy a dominant position²⁰⁰. Youth also point out that one of the defining characteristics of their online experience is the bombardment of child sexual abuse material on the internet and indicate that they are continuously exposed to child sexual abuse material against their will, with **TikTok**, **X/Twitter** and **WhatsApp** being the social media where most content of this type is found²⁰¹.

This complexity therefore poses difficult challenges that extend to the family, social, educational, legal and technological spheres. The protection of children and adolescents is a shared responsibility that requires the collaboration of all stakeholders, especially families in their role of parental mediation and protection of underage children. In this context, it is striking that adolescents themselves point to the lack of parental control and supervision as one of the main reasons why child sexual abuse material consumption is starting at increasingly younger ages²⁰².

Undoubtedly, the digital environment poses highly harmful risks to children and adolescents, which are of great concern to society. Society is demanding that public authorities adopt protective measures from a multidisciplinary perspective, which in many cases requires institutional collaboration not only at the national level but also at the European and international levels. However, these measures have not yet been sufficiently concrete.

¹⁹⁸ LIVINGSTONE, S., MASCHERONI, G. and STOILOVA, M., 2021. The outcomes of gaining digital skills for young people's lives and wellbeing: A systematic evidence review. *New media & society* [online], ISSN 1461-4448. DOI 10.1177/14614448211043189. Available at: <http://dx.doi.org/10.1177/14614448211043189>.

¹⁹⁹ See 71, p. 345.

²⁰⁰ See 71, pp. 41–43 and 413–415.

²⁰¹ See 71, p. 148.

²⁰² See 71, p. 149.

It is true that the European and Spanish regulatory landscape (General Audiovisual Communication Law) has taken important steps in recent years, reflecting a significant commitment to the protection of minors online, promoting age verification, parental control, education, legislation, training and awareness-raising, and shared responsibility among actors. In particular, the Digital Services Act (DSA)²⁰³ is an instrument that recognises the protection of children and adolescents as one of the core values to be guaranteed in the digital world and opens up new opportunities for protective intervention, as it establishes an ambitious regulatory framework with very specific obligations for platforms and other online service providers in terms of protecting children and adolescents from pornography and other harmful content²⁰⁴. However, the implementation of this framework is slow and has not led to changes in the daily experience of children and adolescents in the digital environment. In particular, it has not been reflected in tangible changes involving the application of barriers to free access of children and adolescents to such content and risks in the digital environment, despite the fact that this is required by national and European legislation.

With regard to the possible conflict between measures to protect minors in the online environment and other fundamental rights, such as the right to freedom of expression or the right to privacy, it is important to note that, as indicated in section 2, the best interest of the child, enshrined in the Convention on the Rights of the Child, in European Union law and in our legislation, justifies any measures necessary to preserve their safety, health and dignity. In this regard, Organic Law 1/1996²⁰⁵ provides in article 2 that: "(...) In the event of any other legitimate interest concurring with the best interest of the child, priority shall be given to measures which, while responding to this interest, also respect the other legitimate interests involved. If it is not possible to respect all the legitimate interests involved, the best interest of the child shall take precedence over any other legitimate interests that may be involved."

Having set out these preliminary considerations, we will now examine the main risks referred to above: content, contact and behavioural risks (contractual risks will be examined in the following sections).

Content risks. Consumption of pornography, objectification of women and viewing of sexual violence content

In relation to one of the main content risks, it is significant that, despite widespread access to child sexual abuse material among adolescents, according to a recent study surveying 2,592 parents from 54 schools in the Balearic Islands, only 13.2% of parents think their sons watch pornography and only 6.9% think their daughters do²⁰⁶. However, the vast majority are concerned that child sexual abuse material may have unhealthy effects on their sons' and daughters' sexuality (78.4%) and believe it is important to talk about sexuality before they become

²⁰³ EUROPEAN UNION, 2022. Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act) [online]. OJEU No. 277, 27 October 2022. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R2065>.

²⁰⁴ For a detailed analysis of the regulatory framework, see 71, Part II.

²⁰⁵ See *Ley Orgánica 1/1996, de 15 de enero, de Protección Jurídica del Menor, de modificación parcial del Código Civil y de la Ley de Enjuiciamiento Civil*.

²⁰⁶ See 71, p. 212.

sexually active (89.9%). They also trust the education system to provide affective-sexual education in schools (80.6%) as a preventive measure.

Therefore, there is a demand from families who want this problem to be addressed by the public authorities and who are calling on schools to provide quality affective-sexual education. For their part, only 68.8% of students have received it, with 73.8% of cases involving a total of less than 5 hours of training, and only 33% consider themselves satisfied²⁰⁷.

	13 - 15 años	16 - 18 años	Total
Sí	1136 69,1%	1361 68,5%	2497 68,8%
No	409 24,9%	501 25,2%	910 25,1%
No sabe o no contesta	98 6,0%	124 6,2%	222 6,1%
Total	1643 100,0%	1986 100,0%	3629 100,0%

SOURCE: STUDY ON PORNOGRAPHY IN THE BALEARIC ISLANDS

	13 - 15 años	16 - 18 años	Total
Menos de 5 horas	823 72,4%	1019 74,9%	1842 73,8%
De 5 a 9 horas	82 7,2%	90 6,6%	172 6,9%
10 o más horas	43 3,8%	65 4,8%	108 4,3%
No sabe o no contesta	188 16,5%	187 13,7%	375 15,0%
Total	1136 100,0%	1361 100,0%	2497 100,0%

SOURCE: STUDY ON PORNOGRAPHY IN THE BALEARIC ISLANDS

²⁰⁷ See 71, pp. 67-80.

Tabla 20.b. Si has recibido formación en EAS, ¿respondió a lo que querías conocer, a tu curiosidad? Según grupo de edad

	13 - 15 años	16 - 18 años	Total
Sí, plenamente	374 32,9%	451 33,1%	825 33,0%
Solo en parte	564 49,6%	700 51,4%	1264 50,6%
No	198 17,4%	210 15,4%	408 16,3%
Total	1136 100,0%	1361 100,0%	2497 100,0%

SOURCE: STUDY ON PORNOGRAPHY IN THE BALEARIC ISLANDS

One of the issues that most concerns families and authorities is the indiscriminate access of children and adolescents to pornography. Today's pornography, also known as "new pornography"²⁰⁸, is a far cry from the magazines that were available 20 years ago. It consists of videos depicting crude and violent sex scenes, including rape and other acts of violence, even within the family, which are totally unacceptable against women and adolescents. What is more, these videos are not only realistic but, for the most part, real. The mere existence of this type of material online for all audiences is unacceptable and contrary to national and international legislation. However, when one considers that children and adolescents are accessing it at a time when they have not yet developed their critical faculties and are forming their concept of sexuality, the problem is even more serious, given the impact that this content has on them in various areas (physical and mental health, quality of sexual and emotional relationships, violence – as perpetrators or victims – etc.).

In its Resolution 2429 (2022)²⁰⁹ "For an assessment of the means and provisions to combat children's exposure to pornographic content", adopted by the **Parliamentary Assembly of the Council of Europe** following the report presented by the Rapporteur and French MP Dimitri Houbron on this issue, which called for much more drastic measures to protect minors, states that it is "alarmed by the unprecedented exposure of children to pornographic imagery, which is detrimental to their psychological and physical development. This exposure brings increased risks of harmful gender stereotyping, addiction to pornography, early and unhealthy sexual relationships, as well as difficulties with developing balanced, respectful relationships in future life."

The impact on gender equality and on the right of girls, adolescents and women to a life free of violence, which is one of the core values of our legal system and our democratic system, is undoubtedly one of the most worrying aspects of this free access to material that should legally only be accessible to adults.

²⁰⁸ BALLESTER, L., ORTE, C. and POZO, R., 2019. *Nueva pornografía y cambios en las relaciones interpersonales de adolescentes y jóvenes* [online]. Universitat de les Illes Balears. Available at: <https://conversesacatalunya.cat/wp-content/uploads/2019/06/TF17PORNOGRAFIA.pdf>.

²⁰⁹ PARLIAMENTARY ASSEMBLY - COUNCIL OF EUROPE, 2020. Resolution 2429 (2022) - For an assessment of the means and provisions to combat children's exposure to pornographic content. [online]. Available at: [https://pace.coe.int/pdf/e3523c1f8978f8580b4d80db5d4be3680f01d4ec3779d13f951b2afe7b4fde96?title=Res.%2024 29.pdf](https://pace.coe.int/pdf/e3523c1f8978f8580b4d80db5d4be3680f01d4ec3779d13f951b2afe7b4fde96?title=Res.%2024%2029.pdf).

But is this access really widespread among minors? According to the aforementioned study carried out in the Balearic Islands²¹⁰, in which more than 3,600 adolescents between the ages of 13 and 17 from 76 centres throughout the territory participated:

- 90% of adolescents between the ages of 13 and 18 have seen pornography.
- The average age of first viewing pornography is 11 (10.89 for boys and 10.93 for girls), and 44.5% found it on the Internet without searching for it.
- Most girls access pornography sporadically (65.1%), while 80% of boys consume it once or twice a week (45.1%) or every day (34.3% of cases: considered problematic consumption or addiction). Only 2.6% of girls consume it every day.

Tabla 36.a. ¿Con qué frecuencia miras pornografía? Según sexo

	Mujer	Hombre	Total
Alguna vez, esporádicamente	1022 65,1%	352 20,7%	1374 42,1%
Una o dos veces a la semana	506 32,2%	765 45,1%	1271 38,9%
Una vez cada día	41 2,6%	552 32,5%	593 18,2%
Varias veces al día	0 0,0%	29 1,7%	29 0,9%
Total	1569 100,0%	1698 100,0%	3267 100,0%

SOURCE: STUDY ON PORNOGRAPHY IN THE BALEARIC ISLANDS

As described above, today's pornography is almost entirely violent and misogynistic, portraying women as sexual objects, depicting them as submissive, and normalising and even eroticising violence against them (beatings, strangulation, rape, etc.). Viewing this material at an early age has serious consequences, including:

- An increase in sexism and sexual violence against girls and adolescents (including group violence) by youth, children and young men, due to the normalisation of violent sex towards them. For example, the **Council of Europe's** 2018 "Guidelines to respect, protect and fulfil the rights of the child in the digital environment"²¹¹ warn of various risks, including "the degrading and stereotyped portrayal and over-sexualisation of women and children in particular" as well as "the portrayal and glorification of violence", including self-inflicted violence.

²¹⁰ See 71, pp. 88-102.

²¹¹ COMMITTEE OF MINISTERS, 2018. Recommendation of the Committee of Ministers to member States on Guidelines to respect, protect and fulfil the rights of the child in the digital environment [online]. Available at: https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=090000168091d921.

- Reduced ability to build satisfying sexual and emotional relationships (inability to enjoy a normal sexual relationship without extreme practices, inability to relate sexuality and affection, erectile dysfunction due to premature overexposure to such practices, etc.), healthy (promotes non-use of condoms) and respectful and equal (lacking respect and consideration for the other person, in conditions of equality).
- Problematic consumption or addiction to pornography, with the negative effects that these situations have on social and family life (isolation) and academic performance.

Access to adult, violent, harmful and inappropriate content for minors, in particular access to pornography at a very early age without any control, when their personality is not yet developed, causes significant disorders in their conception of sexual relations and the role of women. Similar to access to gambling and extreme violence websites, viewing this content has a negative impact on their development as individuals.

Risks of contact. Child sexual abuse: grooming, sextortion and trafficking for exploitation in pornography or prostitution

Platforms and social media are used by criminals to deceive and incite children and adolescents to record images and videos of a sexual nature (grooming) and then to coerce them and their families (sextortion) by threatening to disseminate this CSAM. Sexual cyberbullying or grooming is defined in Spanish law as the recruitment and deception of minors under the age of 16 through ICTs to provide pornographic photos or videos. This criminal behaviour, classified in article 183 of the Criminal Code²¹², is spreading uncontrollably and feeding pornography platforms, as well as enabling the extortion of minors and their families.

The **UN Special Rapporteur on child sexual abuse material**²¹³ and the **Internet Watch Foundation** have warned that child sexual abuse material has seen an unprecedented increase on the internet and that most of the material is now self-recorded, mainly by minors between the ages of 11 and 13. In particular, the Rapporteur warns of the mass recruitment of minors for the purpose of obtaining images and that among the forms of exploitation is the commission and live streaming of assaults against them.

The **ANAR** foundation²¹⁴ also indicates that there is a statistically significant association between the involvement of ICTs and cases of grooming, sexting, child sexual abuse material, cyberbullying and psychological abuse. Other studies indicate that adolescents who consume pornography before the age of 16 are more likely to suffer grooming²¹⁵. In some cases, the recruitment and sextortion of adolescents or young women through the most widely used social media, such as **Facebook** or **Instagram**, leads to their victimisation through trafficking for sexual exploitation in the sex industry (pornography or prostitution).

²¹² See 102.

²¹³ HUMAN RIGHTS COUNCIL - UNITED NATIONS GENERAL ASSEMBLY, 2014. Report of the Special Rapporteur on the sale of children, child prostitution and child pornography [online]. Available at: <https://www.acnur.org/fileadmin/Documentos/BDL/2015/9945.pdf>.

²¹⁴ Fundación ANAR (2023): *Estudio: Evolución de la violencia contra las mujeres en la infancia y adolescencia en España*.

²¹⁵ ALONSO-RUIDO, P., ESTÉVEZ, I., VARELA-PORTELA, C. and SOTELINO-LOSADA, A., 2024. *Sextorsión: una estrategia de violencia sexual online en el estudiantado universitario*. *Pedagogía Social Revista Interuniversitaria* [online], no. 45, ISSN 1139-1723. DOI 10.7179/psri_2024.45.02. Available at: http://dx.doi.org/10.7179/psri_2024.45.02.

In this context, the figures on the increase in sexual assault against children and adolescents are overwhelming:

- A study conducted in 2021 revealed that more than 1 in 3 respondents had been asked to do something sexually explicit online during their childhood, and more than half had experienced some form of online sexual assault²¹⁶.
- Children and adolescents with disabilities face an even greater risk of sexual violence: up to 68% of girls and 30% of boys with intellectual or developmental disabilities will experience sexual assault before they turn 18²¹⁷.
- The most recent data provided by the NCMEC²¹⁸ (USA) shows that the number of reports provided by companies reached 36.2 million in 2023, with more than 105 million files. The number of reports of grooming in 2023 (186,819) has more than doubled compared to 2022 (80,524).
- It is estimated that 1 in 5 minors suffers sexual violence before the age of 17²¹⁹.
- The United States prompted the FBI to issue a public safety alert last year after multiple cases of children and adolescents taking their own lives due to sextortion.

According to a research study presented last February and based on surveys of more than 30,000 active online paedophiles²²⁰ :

- Offenders seek contact with minors on E2EE (end-to-end encryption) messaging apps. They also seek contact with them on social media and online games, particularly those with messaging features.
- 40% of the offenders surveyed attempted to contact children and adolescents after viewing CSAM, and most did so online. This demonstrates the strong preventive component of detecting such content. Viewing it not only generates demand for more material, but also leads to seeking physical sexual assault.
- 77% of offenders surveyed found CSAM on the public web, highlighting the easy availability of this content on the internet.

Society is undoubtedly aware of these risks and is calling for much stronger action against the sexual abuse of children that is taking place online, as this is one of the most worrying risks of contact. A recent Eurobarometer survey²²¹ (fieldwork carried out between 28 June and 4 July 2023 with interviews with 26,270 citizens from all Member States) yielded the following results:

²¹⁶ WEPROTECT GLOBAL ALLIANCE, 2023. Global Threat Assessment 2023. Weprotect.org [online]. [consulted on: 13 September 2024]. Available at: <https://www.weprotect.org/wp-content/uploads/Global-Threat-Assessment-2023-English.pdf>.

²¹⁷ Annual report of the Special Representative of the Secretary-General on Violence against Children.

²¹⁸ NCMEC debuts new sextortion videos for Safer Internet Day. National Center for Missing & Exploited Children [online]. [consulted on: 13 September 2024]. Available at: <https://www.missingkids.org/blog/2024/new-sextortion-videos-safer-Internet-day>.

²¹⁹ ALNETIS. Home - ONE in FIVE. Congress-1in5.eu [online] [consulted on: 29 September 2024]. Available at: <https://www.congress-1in5.eu/>.

²²⁰ SAFE ONLINE, 2023. Impact Report 2023 [online]. Available at: https://safeonline.global/wp-content/uploads/2024/08/Annual-report_Safe-Online_2023_V5.pdf.

²²¹ EUROPEAN COMMISSION, 7/2023. Eurobarometer Ref 2656/FL532 [online]. Available at: <https://europa.eu/eurobarometer/surveys/detail/2656>.

- Overall, 92% of respondents strongly agree or somewhat agree that children are increasingly at risk on the internet.
- 96% said that the ability to detect aggression towards children and adolescents was more important or equally important than the right to online privacy.
- 94% agree that the sharing of pornography should be detected and investigated with the aim of rescuing victims, bringing perpetrators to justice and removing the material to prevent victims from being re-traumatised.
- 89% strongly support service providers using tools to automatically detect known images and videos, even if such tools may interfere with users' privacy.
- 87% strongly support service providers detecting child sexual abuse material (CSAM) and grooming in messaging conversations (e.g., email and chat) in cases of significant risk on a platform.
- 83% are strongly in favour of service providers detecting CSAM and grooming in messaging conversations using end-to-end encryption in cases of significant risk on a platform.

Behavioural risks

Sexspreading and increase in sexual violence and assault, online and offline

Minors can become perpetrators of crimes. This is because they can share online material that they have recorded, received or produced using AI, becoming perpetrators of sexual harassment or sexspreading through revenge porn, attack porn, harassment porn or committing sexual assaults not online, but in the physical world.

Child sexual abuse material distribution platforms, as gateways or distributors of sexually explicit content (not only **child sexual abuse material platforms** but also social media such as **Instagram, TikTok, OnlyFans**, etc.), are spaces that provide adolescents with behavioural guidance, as they allow them to explore, observe and consume sexual content of all kinds. Therefore, they are spaces for identity construction, at least sexual identity, which are in turn strongly influenced by patriarchy and oriented towards sexual violence²²².

In fact, according to data extracted from the latest reports produced by the **ANAR** Foundation's Centre for Studies²²³, sexual assaults are not only committed by adults against minors, but also between peers or adolescents or youth who have viewed child sexual abuse material through technologies where different practices encourage the use of women as sexual objects, degrading them as persons and even using physical/emotional violence against them. Indeed, **ANAR** studies indicate a very significant incidence of ICTs in issues of violence and sexual assault.

²²² COBO, R., 2019. *La cuarta ola feminista y la violencia sexual*. Universidad de Málaga and MARWICK, A., 2010. There's a beautiful girl under all of this: Performing hegemonic femininity in reality television. *Critical studies in media communication* [online], vol. 27, no. 3, ISSN 1529-5036. DOI 10.1080/15295030903583515. Available at: <http://dx.doi.org/10.1080/15295030903583515>.

²²³ Fundación ANAR (2019) *Estudio: Abuso sexual en la infancia y la adolescencia según los afectados y su evolución en España (2008-1029)* Madrid: Fundación ANAR, 2019.

Other studies also indicate that:

- The consumption of child sexual abuse material normalises sexual strangulation, making it desirable without consent and creating the belief that all women enjoy it²²⁴.
- The use of child sexual abuse material is associated with online sexual violence, and this association is greater when hostile sexism already exists in the person²²⁵.
- In adolescents, child sexual abuse material consumption was associated with higher rates of victimisation and perpetration of violence in dating relationships, as well as more abusive behaviour by the partner and more verbal conflicts in the current dating relationship²²⁶.

Cyberbullying and other forms of online violence

Another behaviour that has increased exponentially with ICTs is cyberbullying. A recent study by the Complutense University of Madrid indicates in relation to cyberbullying, that 10.7% of students who have access to the Internet without adult supervision and/or have social media accounts responded that they had suffered one of 14 situations of victimisation through digital devices two or three times a month or more frequently, with significant differences between girls (12.7%) and boys (8.7%).

These differences already occur in primary education (10.3% in girls and 8% in boys) and increase in secondary education (13.8% in girls and 9% in boys²²⁷). Likewise, the **ANAR** Foundation indicates that the perception of the incidence of cyberbullying according to students is 7.4% of the total class, in which cases the incidence of technology is 100%²²⁸.

Firstly, the display of violence online can be seen in environments frequented by minors, such as video games (54.7% of adolescents who play online frequently do so with video games containing explicit violence)²²⁹, while previous reports pointed to the incidence of inappropriate and harmful content on the Internet (32% of children say so)²³⁰.

²²⁴ Wright, P. J., Herbenick, D., & Tokunaga, R. S. (2022). Pornography and women's experience of mixed-gender sexual choking/strangulation: Eroticization mediates, perceived similarity moderates. *Journal of Health Communication*.

²²⁵ Morelli, M., Nappa, M. R., Chirumbolo, A., Wright, P. J., Pabian, S., Baiocco, R., Cattelino, E. (2024). Is Adolescents' Cyber Dating Violence Perpetration Related to Problematic Pornography Use? The Moderating Role of Hostile Sexism. *Health Communication*, 1–11.

²²⁶ Huntington, C., Markman, H., and Rhoades, G. (2021). Watching Pornography Alone or Together: Longitudinal Associations With Romantic Relationship Quality. *Journal of Sex & Marital Therapy*, 47 (2), 130-146.

²²⁷ Díaz Aguado, M^a J. (Dir.) (2023), *Acoso escolar y ciberacoso en España en la infancia y en la adolescencia, Informe del estudio realizado por la Unidad de Psicología Preventiva de la Universidad Complutense de Madrid, por impulso de la Fundación ColaCao, en colaboración con las Consejerías de Educación de 15 Comunidades Autónomas*.

²²⁸ Fundación ANAR and Fundación Mutua Madrileña (2022), *La opinión de los y las estudiantes. V Informe de la prevención del acoso escolar en los centros educativos*.

²²⁹ See 64.

²³⁰ <https://www.incibe.es/sites/default/files/contenidos/informe-eukidsonline-2018.pdf>.

In terms of the perception of online aggression, according to the Eurobarometer survey "Discrimination in the European Union 2023"²³¹, 1 in 10 Europeans feel discriminated against or have experienced online harassment, although sexual orientation is a factor with a higher incidence (22%) compared to other vulnerable groups such as the Roma community or people with disabilities. In terms of response, 13% say they have publicly defended someone who was a victim of discrimination online.

Data from the **Ministry of the Interior**, collected in the report by the "State Observatory on Violence against Women", establishes that, among the 16,026 cases of women victimised by crimes against sexual freedom and indemnity in 2022, 400 cases were related to technological contact with minors under the age of 16²³². Likewise, the Ministry's annual data show a 12.7% increase in cybercrimes not related to computer fraud.

For its part, the **Women's Institute** points out that 80% of young women have experienced some form of online harassment²³³. In childhood and adolescence, the figures vary depending on the reports, although there is a consensus on the normalisation of violence in the environments of reference for minors, which makes detection and intervention difficult.

In addition to those already cited by the **ANAR Foundation**²³⁴, other reports addressing phenomena such as cyber control and cyber aggression towards partners among adolescent students show that 4.7% of adolescent boys become jealous of comments, photos or videos that their partners may upload to social media and urge them to delete them²³⁵.

In the area of hate crimes, the **Ministry of the Interior** reported that 42% of these crimes in 2022 were committed through digital media, highlighting the increase in hate speech and threats on social media.

The use of digital devices to carry out harmful behaviour among minors, such as digital violence, violence, cyberbullying, incitement to hatred, sexting, or grooming, conveys a sense of impunity, but nevertheless generates liability in this regard, which can be of various types: administrative, civil, educational, and criminal, as described in section 4.1.1.4.

Risks associated with industry practices

Addictive and retention strategies

It has long been proven that the digital services industry is aware of the addictive and therefore harmful power of the designs and mechanisms used in its business model: content classification algorithms, retention

²³¹ EUROPEAN COMMISSION, 12/2023. Eurobarometer Ref 2972/SP535 [online]. Available at: <https://europa.eu/eurobarometer/surveys/detail/2972>.

²³² MINISTERIO DE IGUALDAD, 2023. *XVI INFORME DEL OBSERVATORIO ESTATAL DE VIOLENCIA SOBRE LA MUJER (Anuario 2022)* [online]. Available at: https://violenciagenero.igualdad.gob.es/wp-content/uploads/XVI_Anuario2022-1.pdf.

²³³ INSTITUTO DE LAS MUJERES, 2022. *Mujeres jóvenes y acoso en redes sociales* [online]. Available at: https://www.inmujeres.gob.es/areasTematicas/AreaEstudiosInvestigacion/docs/Estudios/Mujeres_jovenes_y_acoso_e_n_redes_sociales.pdf.

²³⁴ See 129.

²³⁵ CAVA, M.-J., BUELGA, S. and CARRASCOSA, L., 2021. *Cibercontrol y ciberagresión hacia la pareja en alumnado adolescente: Prevalencia y relaciones con el cyberbullying*. Revista de Educación [online], vol. July-September 2022, no. 397, DOI 10.4438/1988-592X-RE-2022-397-544. Available at: <https://redined.educacion.gob.es/xmlui/bitstream/handle/11162/227365/Cibercontrol.pdf?sequence=1&isAllowed=y>.

strategies, dark patterns, targeted persuasion techniques, monetisation of personal data, satisfaction mechanisms based on "emotional engineering", whose purpose is to manipulate and modify user behaviour without their consent and in an unauthorised manner, and a long list of others.

Specifically, the use of algorithms and their combination with artificial intelligence (AI)-generated retainers, which in turn are based on the creation of lines of desire while browsing the Internet, further hinders users' free choice in selecting content and products. In view of the above, it is necessary to incorporate ethical considerations into products and services intended for minors. The high presence of children and adolescents on the Internet means that they inhabit a new virtual sphere where different types of risks converge. This diagnosis has highlighted some examples derived solely from the business model of service providers in the digital environment. This situation requires the development of civic skills in this sphere, taking into account both the rational and non-compulsive use of the Internet and the development of critical reception of its content, as well as a series of regulatory measures.

However, the action of public authorities cannot be based solely or mainly on regulation. The responsibility for creating safe environments for minors on the Internet must be assumed by national and European regulatory authorities through the establishment of safe and protective environments. However, the participation of civil society (families, educators, associations, and minors themselves) in regulatory frameworks and media and information literacy is also necessary. As far as industry is concerned, although its collaboration is obviously necessary, it should not be left solely to self-regulation, because digital service providers will normally prioritise their business interests and their successful business model over the protection of the rights of minors and adults.

One possible option would be to create safe environments for children and adolescents by default and by design. This requires a holistic and integrated vision, with the cooperation of all stakeholders in designing solutions within a governance framework that allows for the joint identification of new threats that may arise to their safety.

A first step in this direction would be to establish levels and layers of responsibility, bearing in mind that there are generally three types of actors in the digital environment: companies and professionals offering products and services; companies that disseminate these offers and exchange audience for fees; and the audience that receives the offers, whether or not they pay for the service (but who generally register, in a conditional access model). Those who generate content and offers and those who disseminate them should have their activities regulated. As for the audience, the priority mission of the authorities should be to defend them, especially in the case of children and adolescents, and they should therefore require the designers of Internet products and services to give parents or guardians the possibility of protecting their children from the risks to which they are exposed, by providing them with the appropriate tools.

Dark and addictive patterns

Providers offering platforms, applications and services process their users' personal data. In many cases, the business model of these entities leads them to try to lengthen users' sessions when they use their products, or to increase their level of engagement and the amount of personal data collected about them. All these factors would have a positive impact on the return on investment made in the development and maintenance of applications and services that are theoretically offered free of charge or at a very low cost. For this reason, some providers add additional operations to the processing of their users' personal data in order to implement deceptive and addictive design patterns aimed at manipulating users' actions and decisions.

The **European Data Protection Board (EDPB)** has already addressed deceptive patterns in the document "Guidelines 03/2022 on deceptive design patterns in social media platform interfaces: how to recognise and avoid them"²³⁶. The **AEPD** has carried out a systematic review of the existing scientific evidence on addictive patterns in different platforms, applications and services (social media, but also video or music platforms, adult content, games, learning environments, health and well-being applications, etc.), which involves addressing, from a complementary perspective, new use cases in the "Report on the influence of addictive patterns on the Internet"²³⁷, and in particular on children and adolescents in July 2024, completing the **EDPB** guidelines with a unified approach to misleading and addictive patterns.

Addictive patterns have been defined as design characteristics, attributes or practices that determine a specific way of using digital platforms, applications or services and aim to make users spend much more time using them or with a higher degree of engagement than expected, which may not be convenient or healthy for them. The analysis in the referenced document shows how the processing of users' personal data on numerous platforms, applications and services includes specific operations – all of them deceptive – to increase their connection time or level of engagement, thereby influencing their decisions. This allows them to use their personal data for this purpose or to generate new data and perform targeting (which allows for highly refined personalisation of addictive strategies).

All these patterns may require personal data as input, collect or generate new personal data, or influence the user's behaviour and decision-making in the context of data processing. The incorporation of operations that implement addictive patterns into personal data processing has important implications for different aspects of data protection, such as proactive accountability, the effective application of data protection obligations from the design stage and by default, transparency, lawfulness, fairness, purpose limitation, data minimisation, automated decisions that significantly affect users, and the processing of special categories of data.

²³⁶ EUROPEAN DATA PROTECTION BOARD, 2/2023. Guidelines 03/2022 on Deceptive design patterns in social media platform interfaces: how to recognise and avoid them [online]. Available at: https://www.edpb.europa.eu/system/files/2023-02/edpb_03-2022_guidelines_on_deceptive_design_patterns_in_social_media_platform_interfaces_v2_en_0.pdf.

²³⁷ AGENCIA ESPAÑOLA DE PROTECCIÓN DE DATOS, 7/2024. *Patrones adictivos en el tratamiento de datos personales* [online]. Available at: <https://www.aepd.es/guias/patrones-adictivos-en-tratamiento-de-datos-personales.pdf>.

It also poses a risk to the rights and freedoms of all users. In particular, it affects their right to physical and mental integrity, but it can also lead to discrimination, exclusion, manipulation, undermine individual autonomy, influence their thought processes, emotions and behaviour, limit their freedom of information and expression, generate self-censorship and affect their autonomy and development. These consequences can be particularly serious for children and younger users.

4.4 Education

The digital environment has profoundly transformed education, affecting both formal and non-formal learning. In today's deeply digital society, digital technologies offer numerous educational opportunities, from improved access to information to the personalisation of teaching and learning processes. However, their widespread use in all areas of society also poses significant challenges, such as the need for regulation to protect minors from online risks.

The use that children and adolescents make of the internet, social media and digital technologies is one of the great challenges we face as a society. It is essential that children and adolescents develop the necessary digital skills to ensure safe, healthy, critical and responsible use of digital technologies. To this end, it is essential that teachers at all levels of education and families receive adequate training to enable them to support children and adolescents in their education.

The social benefits of acquiring digital skills go beyond the academic sphere. Failure to invest in youth's ability to navigate the complex environment of the internet has consequences for youth themselves and for society in general.²³⁸

Educational centres are currently one of the safest spaces for children and adolescents in terms of training in the responsible use of digital technologies. The large Education group (22 people) within the Committee of Experts has discussed this section at length. While the vast majority of the group views the appropriate use of digital technologies in education positively, a minority of its members disagree with the appropriateness of such uses and highlight undesirable effects in educational practice. In order to present both positions, this section includes not only the consensus reached, but also the disagreements that arise from the divergent results of the academic studies consulted.

Understanding the dynamics of the use of technologies in the educational context always requires taking into account all the voices of the actors involved in the process, especially children and adolescents, who must be at the centre of the system, even more so when the desired transformations require a break with traditional approaches to teaching, a change in roles, and the elimination of authority figures, according to the conclusions of a study by INCIBE.²³⁹

²³⁸ <https://nap.nationalacademies.org/catalog/27396/social-media-and-adolescent-health>

²³⁹ https://www.incibe.es/sites/default/files/contenidos/recursos/informe_el_uso_de_la_tecnologia_en_la_escuela.pdf

For this reason, this assessment has been carried out using a comprehensive approach that addresses the different areas involved in child development, with special attention to those in which technology has a significant effect or penetration. A broad context of application has been considered, including the regulatory dimension, official guidelines and good practices related to the use of technology by minors, as well as their adequate protection. The methodological process has been based on the compilation, review and integration of contributions from experts, ensuring a multidisciplinary perspective. This section examines the impact of technologies on education, as well as the regulations necessary to protect the digital well-being of children and adolescents.

Benefits and potential of the use of digital technologies in education

The Recommendation of the Council of the European Union on key competences for lifelong learning states that "Everyone has the right to inclusive, high-quality education, training and lifelong learning in order to maintain and acquire skills that enable them to participate fully in society and successfully manage future transitions in the labour market." Thus, children and adolescents have the right to acquire key competences (and governments have a duty to ensure their acquisition): literacy; multilingual competence; mathematical competence and competence in science, technology and engineering; digital competence; personal, social and learning to learn competence; citizenship competence; entrepreneurial competence; and cultural awareness and expression competence²⁴⁰. The appropriate use of digital technologies in education enables the development of digital competence. These tools facilitate immediate access to information, allowing students to explore a wide variety of educational resources, from articles and videos to interactive simulations and databases, which enrich learning and stimulate curiosity. In addition, digital technologies allow learning to be personalised according to the individual needs of students, adapting the pace, level of difficulty and content to each student's learning style, promoting a more inclusive and equitable approach.

Digital technologies also foster key 21st-century skills such as critical thinking, problem solving, creativity, and collaboration. Through collaborative learning platforms, students can work online with their class, share ideas, and receive feedback in real time. They also promote the development of digital skills, which are essential for their future entry into an increasingly digitalised world of work.

Finally, these technologies facilitate continuous assessment and monitoring of student progress, enabling teachers to intervene early and effectively if difficulties are detected, adjusting teaching strategies and providing more personalised support. This Recommendation considers that digital competence is essential for "the fulfilment [of all people], their employability, social integration, sustainable lifestyle, success in life in peaceful societies, healthy living and active citizenship". Digital competence (DC) is developed, like the rest, "with a lifelong learning perspective, from early childhood to adulthood, and through formal, non-formal and informal learning in all contexts, including the family, the educational centre, the workplace, the environment and other

²⁴⁰ COUNCIL OF EUROPE. COUNCIL RECOMMENDATION of 22 May 2018 on key competences for lifelong learning [online]. S.l.: s.n. Available at: [https://eur-lex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:32018H0604\(01\)](https://eur-lex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:32018H0604(01))

communities."

The aforementioned Recommendation of the Council of the European Union on key competences for lifelong learning states that "digital competence involves the safe, healthy, sustainable, critical and responsible use of digital technologies for learning, work and participation in society, as well as interaction with them. Its development includes information and data literacy, communication and collaboration, media literacy, digital content creation, security (including digital well-being and cybersecurity skills), issues related to digital citizenship, privacy, intellectual property, problem solving, and computational and critical thinking.

For its part, the European Commission's "Digital Action Plan 2021-2027"²⁴¹ promotes the use of emerging technologies, such as artificial intelligence, to improve teaching and learning processes and ensure equitable access to these tools in educational institutions.

In addition, the "New European Strategy for a Better Internet for Children"²⁴² establishes a framework for the protection of children and adolescents in the digital environment, addressing risks such as cyberbullying, exposure to inappropriate content and the exploitation of personal data.

Formal education plays a key role in developing students' digital skills. Organic Law 3/2020 of 29 December amending Organic Law 2/2006 of 3 May on Education (LOMLOE)²⁴³ establishes that digital competence must be progressively integrated into the curriculum at all stages of education, ensuring that students not only learn to use technologies, but do so critically, ethically and responsibly. According to the Education Act, by the end of basic education, all students must be digitally competent, which implies "the safe, healthy, sustainable, critical and responsible use of digital technologies for learning, work and participation in society, as well as interaction with them". This learning, not necessarily carried out by digital means, must take into account the sufficient maturity of the students and the age group it is aimed at. Education should aim to train students to have a critical view of the validity, reliability and impact of information, and to be aware of the legal and ethical principles involved in the use of digital technologies. In addition, they should be able to use digital technologies to support their active citizenship and social inclusion, given that they are developing in a deeply digitalised society.

The "Reference Framework for Digital Competence in Teaching" (MRCDD)²⁴⁴, on which all non-university teachers who educate children and adolescents are being trained, promotes the continuous improvement of their digital skills, enabling teachers to guide students in the safe use of technologies in the classroom. This framework highlights the importance of continuous training to ensure that teachers are prepared to face the challenges of the digital environment.

²⁴¹ EUROPEAN COMMISSION, 2020. Digital Education Action Plan 2021-2027 [online]. Available at: <https://eurlex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:52020DC0624>.

²⁴² See 8.

²⁴³ JEFATURA DEL ESTADO, 2020. *Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación*. Boletín Oficial del Estado [online], no. 340. Available at: <https://www.boe.es/eli/es/lo/2020/12/29/3>.

²⁴⁴ MINISTERIO DE EDUCACIÓN Y FORMACIÓN PROFESIONAL, 2022. *Resolución de 4 de mayo de 2022, de la Dirección General de Evaluación y Cooperación Territorial, por la que se publica el Acuerdo de la Conferencia Sectorial de Educación, sobre la actualización del marco de referencia de la competencia digital docente*. Boletín Oficial del Estado [online], no. 116. Available at: <https://www.boe.es/eli/es/res/2022/05/04/5>.

Each centre, through a Digital Centre Plan, which forms part of its Educational Project, establishes the regulation and use of its own digital devices, a project shared by all members of the educational community, which provides consistency and guidance on the use of technologies.

As for the direct impact of the use of technologies on the learning of children and adolescents, studies such as the PISA report point to a positive impact on the academic results of students²⁴⁵. Thus, the moderate and regulated use of digital devices in schools is associated with better learning outcomes. The importance of the nature of the content viewed and interactions during screen time is highlighted, concluding that screen time can be positive if supervised and focused on educational content²⁴⁶. In this regard, the PISA 2022 report²⁴⁷ (15-year-olds) indicates that "students who spend up to one hour a day on digital devices for leisure activities scored 20 points higher in mathematics than students who do not spend time on such devices. The difference in performance amounts to 10 points even after taking into account the socio-economic profile of students and schools. This positive relationship is observed in about half of the education systems with available data. However, students who spend more than one hour per day on digital devices for leisure activities scored lower in mathematics. These findings suggest that moderate use of digital devices is not inherently harmful and may even be positively associated with performance. It is the excessive or inappropriate use of digital devices that is negatively associated with performance. The PISA 2022 results confirm the need for better guidelines on how to use digital devices in school."

Many experts see Estonia's excellent results in the PISA 2022 Report as evidence of the positive impact of moderate use of digital technologies in teaching and learning processes.

Specifically, various studies indicate that technological tools, implemented carefully and in context, could be effective for student learning in subjects such as mathematics.²⁴⁸

It is worth mentioning that, in 2023, UNESCO published the report "Technology in education, on what terms?"²⁴⁹, an analysis of the adoption of digital technology in education and the changes that this inclusion has brought about. The report explores three key conditions at the system level: access to technology, governance regulation, and teacher preparation. It concludes that for any technology to reach its full potential in education, these three conditions must be effectively met at the systemic level.

With regard to the educational task, 86% of teachers in compulsory education say that the use of ICT has contributed to improving the quality of their classes²⁵⁰. This high percentage highlights that information, communication and relationship technologies (TRICO) could enable teachers to diversify their teaching

²⁴⁵ OECD, 2023. PISA 2022 - Insights and Interpretations [online]. Available at: https://www.hm.ee/sites/default/files/documents/2023-12/OECD_PISA%202022%20Insights%20and%20Interpretations.pdf.

²⁴⁶ https://www.oecd.org/en/publications/empowering-young-children-in-the-digital-age_50967622-en.html

²⁴⁷ OECD, 2023, PISA 2022 Results. The State of Learning and Equity in Education. Available at: <https://www.oecd-ilibrary.org/docserver/53f23881-en.pdf?expires=1728458968&id=id&accname=guest&checksum=2943AC1F1CABB332860F04468BE36840>

²⁴⁸ <https://www.funcas.es/articulos/el-impacto-del-aprendizaje-asistido-por-tecnologia-en-la-educacion-no-universitaria/>

²⁴⁹ UNESCO, 2023 - Technology in education. A tool on whose terms? [online]. Available at: <https://www.unesco.org/gem-report/es/technology>

²⁵⁰ <https://www.ehu.eus/documents/d/eukidsonline/competencia-digital-docente-ciberseguridad-y-convivencia-digital-del-alumnado-en-educacion-primaria-y-secundaria-1->

methodologies, make classes more interactive and personalised, and offer immediate access to online educational resources.

In relation to science learning in education, the combination of scientific and virtual experiments has proven to be particularly useful for gaining conceptual understanding, rather than using only real experiments or only virtual experiments²⁵¹.

A review conducted by the English organisation Education Endowment Foundation (EEF), dedicated to breaking the link between family income and educational performance, on the impact of digital technologies on learning (Higgins et al., 2012) found positive benefits but pointed out the importance of quality of use²⁵².

The Education Endowment Foundation (EEF) is an independent charity dedicated to breaking the link between family income and educational achievement. The EEF aims to increase the performance of children facing socio-economic disadvantages by generating, synthesising and mobilising evidence on what works to close the performance gap.

A cross-sectional survey of more than 100,000 15-year-olds in 15 countries revealed that, in Western countries, social media use predicts greater ability to read and navigate information online²⁵³.

In a literature review by Haddock et al. (2022) based on a documentary analysis of studies published between 2012 and 2022 on the relationship between increased consumption of digital technologies and learning by adolescents, they concluded that, in general, there are positive outcomes for adolescents who use different types of digital technology, including the internet, social media and video games. The positive effects of ICT on adolescents included improvements in executive control, visuospatial attention, visuomotor integration, problem solving, working memory, strategic planning, and information gathering; increases in social-emotional learning, intrinsic motivation, socialisation, social support, social connection, and creativity; and improvements in autonomy, competence, communication skills, and well-being (p. 11).²⁵⁴ In any case, this study is linked to the video game and gamification sector, so some of its conclusions are controversial.

On the other hand, the role of education as a guarantor of equity in access to the knowledge society and technologies, especially for children and adolescents from vulnerable backgrounds, is undeniable. Education must take into account the existing digital divide, which reflects inequalities in access to technology on the one hand, and the cultural divide between families with the resources and knowledge to limit and manage the appropriate use of screens and those who cannot do so effectively on the other. Differential technological use can constitute a new factor in the reproduction of existing social inequalities, the so-called "third digital divide"²⁵⁵, which particularly affects youth, who will embark on life projects in an increasingly hyperconnected

²⁵¹ <https://journals.sagepub.com/doi/full/10.3102/00346543221079417>

²⁵² <https://files.eric.ed.gov/fulltext/ED612157.pdf>

²⁵³ <https://www.sciencedirect.com/science/article/abs/pii/S0360131521001998>

²⁵⁴ Haddock, A.; Ward, N.; Yu, R.; O'Dea, N. (2022). Positive Effects of Digital Technology Use by Adolescents: A Scoping Review of the Literature. *International Journal of Environmental Research and Public Health*, 19, 14009. Available at: <https://doi.org/10.3390/ijerph192114009>.

²⁵⁵ RAGNEDDA, M., 2018. *The Third Digital Divide: A Weberian approach to digital inequalities*. 1. London, England: Routledge. ISBN

world.

Risks of using digital technologies in education

Alongside the expectations placed on the potential benefits of digital technologies in the education of children and adolescents by European institutions such as the Council of Europe and the subsequent education policies of Member States, it is also essential to reflect the considerations and recommendations that emerge from numerous essays, studies, research, meta-analyses and expert reflections on the undesirable effects of the use of digital devices on basic learning, the true foundations of knowledge construction.

Among the negative and undesirable effects of the introduction of technologies in the development of learning, various studies point to and demonstrate a correlation between the use of these devices and effects on basic learning processes that generate:

- Decreased attention span^{256 257}, concentration²⁵⁸ and working memory^{259 260 261}
- A decline in reading comprehension^{262 263 264 265 266 267} and reading habits²⁶⁸
- Impairment in the ability to interpret texts²⁶⁹ and take comprehensive notes²⁷⁰

9781138346932.

²³⁰ See 224.

²⁵⁶ Abundance of information narrows our collective attention span. Technical University of Denmark: <https://www.eurekalert.org/news-releases/490177>

²⁵⁷ Jourden M, Bucaille A, Ropars J. The Impact of Screen Exposure on Attention Abilities in Young Children: A Systematic Review. *Pediatr Neurol.* 2023 May;142:76-88. Available at: <https://pubmed.ncbi.nlm.nih.gov/37001326/>

²⁵⁸ Institut national de santé publique du Québec (INSPQ). *Méta-analyse sur l'utilisation des écrans et la cognition chez les jeunes* [online] Available at: <https://www.inspq.qc.ca/sites/default/files/2024-02/3434-utilisation-ecrians-contexte-scolaire-sante-jeunes.pdf>

²⁵⁹ Karolinska Institute (Sweden) (2023). *Dictamen sobre la propuesta de la Agencia Nacional Sueca de Educación relativa a una estrategia nacional de digitalización del sistema escolar 2023–2027 para el gobierno sueco* (Spanish version). Available at: <https://escuelasaludable.org/wp-content/uploads/2021/08/Dictamen.Instituto.Karolinska.2023..pdf> Original Swedish version: <https://www.regeringen.se/contentassets/d818e658071b49cbb1a75a6b11fa725d/svenska-barnlakarforeningen.pdf>

²⁶⁰ See 248.

²⁶¹ Zhang Z, Adamo KB, Ogden N, Goldfield GS, Okely AD, Kuzik N, Crozier M, Hunter S, Predy M, Carson V. Associations between screen time and cognitive development in preschoolers. *Paediatrics & Child Health.* 2021 Aug 26;27(2) Available at: <https://academic.oup.com/pch/articleabstract/27/2/105/6358122?login=false>

²⁶² BOON, H. J., BOON, L. and BARTLE, T., 2021. Does iPad use support learning in students aged 9–14 years? A systematic review. *Australian Educational Researcher* [online], vol. 48, pp. 525–541, DOI 10.1007/s13384-020-00400-0. Available at: <https://link.springer.com/article/10.1007/s13384-020-00400-0>.

²⁶³ VAN DER WEEL, F. R. and VAN DER MEER, A. L. H., 2024. Handwriting but not typewriting leads to widespread brain connectivity: A high-density EEG study with implications for the classroom. *Frontiers in Psychology* [online], vol. 14, article 1219945, DOI 10.3389/fpsyg.2023.1219945. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10853352>

²⁶⁴ PISA 2018 Results: <https://www.educacionfpydeportes.gob.es/dam/jcr:0c4d1049-5400-4677-a6a7-e927e1c354ae/pisa2018-reading-spain-es.pdf>

²⁶⁵ MANGEN, A., WALGERMO, B. R. and BRØNNICK, K., 2013. Reading linear texts on paper versus computer screen: Effects on reading comprehension. *International Journal of Educational Research* [online], vol. 58, pp. 61–68. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0883035512001127>

²⁶⁶ Idem.

²⁶⁷ CLINTON, V., 2019. Reading from paper compared to screens: A systematic review and meta-analysis. *Journal of Research in Reading* [online], vol. 42, no. 2, pp. 288–325, DOI 10.1111/1467-9817.12269. Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-9817.12269>.

²⁶⁸ MCARTHUR, B. A., BROWNE, D., MCDONALD, S., TOUGH, S. and MADIGAN, S., 2021. Longitudinal associations between screen use and reading in preschool-aged children. *Pediatrics* [online], vol. 147, no. 6, e2020011429, DOI 10.1542/peds.2020-011429. Available at: <https://pubmed.ncbi.nlm.nih.gov/34031229/>

²⁶⁹ <https://www.uv.es/uvweb/estructura-investigacion-interdisciplinar-lectura/es/estructura-investigacion-interdisciplinar-lectura/-leer-papel-soportes-digitales-1285894556962/GasetaRecerca.html?id=1286068242385>

²⁷⁰ See 255.

- Decline in mathematical reasoning ability using screens or digital programmes²⁷¹ and in mathematical performance²⁷²
- Displacement of handwriting²⁷³ and manual skills^{274 275}
- Delay²⁷⁶ and impoverishment of language (oral comprehension and expression)²⁷⁷ and social interaction.²⁷⁸
- Worsening academic performance.^{279 280 281}

On the other hand, it can be seen that the use of ICT for educational purposes in schools prior to the pandemic has a negative relationship with the variation in performance attributable to COVID-19, i.e. in those countries where, in 2018, students reported greater use of ICT for educational purposes in schools, the drop in performance attributable to COVID-19 has been greater.^{282 283}

²⁷¹ LAURENT, M., CRISCI, R., BRESSOUX, P., CHAACHOUA, H., NURRA, C. and DE VRIES, E., 2022. Impact of programming on primary mathematics learning. *Learning and Instruction* [online], vol. 82, 101667, DOI 10.1016/j.learninstruc.2022.101667. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0959475222000883>

²⁷² BENEITO, P. and VICENTE-CHIRIVELLA, Ó., 2022. Banning mobile phones in schools: Evidence from regional-level policies in Spain. *Applied Economic Analysis* [online], vol. 30, no. 90, pp. 153–175, DOI 10.1108/AEA-05-2021-0112. Available at: <https://www.emerald.com/insight/content/doi/10.1108/AEA-05-2021-0112/full/html>

²⁷³ Mueller, P.A. & Oppenheimer, D.M. (2014) The pen is mightier than the keyboard: advantages of longhand over laptop note taking. *Psychological Science*, 25(6), 1159–1168.

²⁷⁴ See 253.

²⁷⁵ Moser, A., Zimmermann, L., Dickerson, K., Grenell, A., Barr, R., & Gerhardstein, P. (2015). They can interact, but can they learn? Toddlers' transfer learning from touchscreens and television. *Journal of Experimental Child Psychology*, 137, 137–155. <https://pubmed.ncbi.nlm.nih.gov/25978678/>

²⁷⁶ MASSARONI, V., DELLE DONNE, V., MARRA, C., ARCANGELI, V. and CHIEFFO, D. P. R., 2024. The relationship between language and technology: How screen time affects language development in early life — a systematic review. *Brain Sciences* [online], vol. 14, no. 1, article 27, DOI 10.3390/brainsci14010027. Available at: <https://www.mdpi.com/2076-3425/14/1/27>

²⁷⁷ BUS, A. G., TAKACS, Z. K. and KEGEL, C. A. T., 2015. Affordances and limitations of electronic storybooks for young children's emergent literacy. *Developmental Review* [online], vol. 35, pp. 79–97, DOI 10.1016/j.dr.2014.12.004. Available at: <https://www.sciencedirect.com/science/article/pii/S0273229714000501>

²⁷⁸ MUSTONEN, R., TORPPA, R. and STOLT, S., 2022. Screen time of preschool-aged children and their mothers, and children's language development. *Children (Basel)* [online], vol. 9, no. 10, article 1577, DOI 10.3390/children9101577. Available at: <https://www.mdpi.com/2227-9067/9/10/1577>.

²⁷⁹ ISEAK – Fundación COTEC, 2021. *Tecnología en la educación: cómo afecta al rendimiento del alumnado*. Informe basado en el Informe PISA 2018 [online]. Available at: <https://iseak.eu/wp-content/uploads/2021/01/tecnologia-en-la-educacion-como-afecta-al-rendimiento-del-alumnado-2022-10-14-tecnologia-en-la-educacion-como-afecta-al-rendimiento-del-alumnado-1.pdf>. Excerpt (in Spanish): https://drive.google.com/file/d/1jhQRhi7AXshGWgFts3VDLj_i_dWzocI/view?usp=sharing

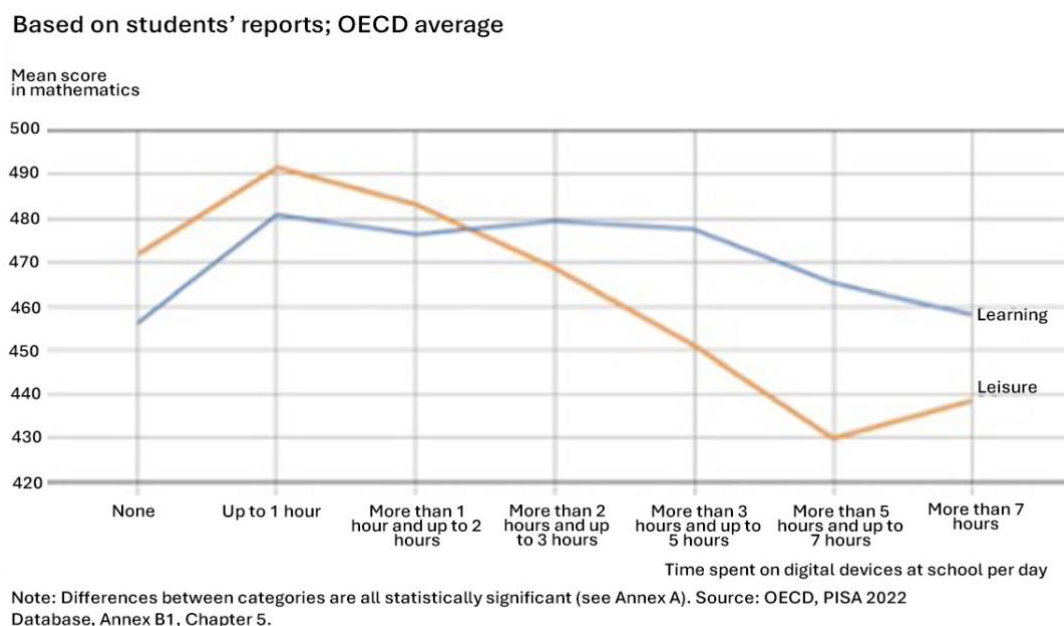
²⁸⁰ PISA 2022 – Insights and Interpretations. OECD 2023: <https://www.oecd.org/pisa/PISA%202022%20Insights%20and%20Interpretations.pdf>

²⁸¹ LEE, S. A., KIM, D. W., CHOI, H., PARK, Y., KIM, J. and OH, J., 2024. Unveiling neurocognitive disparities in encoding: Paper-based versus tablet-based learning. *Journal of Learning and Education* [online], DOI 10.3389/educ.2024.XXXXXX. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10813309/>

²⁸² See 269.

²⁸³ https://www.libreria.educacion.gob.es/libro/pisa-2022-programa-para-la-evaluacion-internacional-de-los-estudiantes-informe-espanol_183950/

Figure 11.5.14. Time spent on digital devices at school and mathematics performance



Greater use of ICT in schools has a negative – and highly significant – impact on mathematics scores **in all of the countries** analysed (22) (page 41 of the ISEAK Statistical Institute report on PISA 2018)²⁸⁴.

Resources invested in ICT for education are not linked to better student performance in reading, mathematics or science. [PISA 2015, p. 146]²⁸⁵

In countries where it is less common for students to use the Internet at school for schoolwork, student performance in reading improved more rapidly than in countries where such use is more common, on average. [PISA 2015, p. 146]²⁸⁶

On the other hand, in addition to the aforementioned risks, the use of personal electronic devices in schools can also affect the privacy and processing of students' personal data. The Spanish Data Protection Agency addresses this issue in its report, published in September 2024, on the responsibilities and obligations in the use of mobile digital devices in education²⁸⁷. The following conclusions from this report are noteworthy.

- The processing of personal data for educational purposes based on the use of digital devices and media must pass the test of suitability, necessity and proportionality.

²⁸⁴ <https://iseak.eu/wp-content/uploads/2021/01/tecnologia-en-la-educacion-como-afecta-al-rendimiento-del-alumnado-2022-10-14-tecnologia-en-la-educacion-como-afecta-al-rendimiento-del-alumnado-1.pdf>

²⁸⁵ https://www.oecd.org/en/publications/students-computers-and-learning_9789264239555-en.html

²⁸⁶ https://www.oecd.org/en/publications/students-computers-and-learning_9789264239555-en.html

²⁸⁷ Agencia Española de Protección de Datos, 2024. *Responsabilidades y obligaciones en la utilización de dispositivos digitales móviles en la enseñanza infantil, primaria y secundaria* [online]. Available at: <https://www.aepd.es/guias/responsabilidades-uso-dispositivos-moviles-centros-docentes.pdf>

- The unlawful processing of personal data in the field of education, which deviates from the purpose for which it is collected, in addition to generating administrative liability for breach of data protection regulations, may give rise to civil compensation for any material and immaterial damages caused, for which educational centres and administrations may be jointly and severally liable.
- This type of personal data processing can seriously affect the fundamental rights and freedoms of students and their overall development as individuals, such as the right to non-discrimination and education, given the digital and socio-economic divide that may exist between families; the fundamental right to privacy, private and family life, in the case of processing personal data beyond what is strictly necessary; the right to the physical integrity of minors, in the event of allowing the location, geolocation or facilitation of contact with minors through the network; the right to mental health of minors and the right to protection of their personal data.
- When educational centres have other resources that are more suitable for achieving the intended educational purpose without compromising privacy, the use of these tools shall be preferred over the use of telephones and other personal mobile digital devices.

The need to prepare for the digital environment beyond educational centres

Non-formal education, recognised for the first time in a law in Spain, the Organic Law on Education²³⁰ (LOMLOE), plays a fundamental role in the development of lifelong learning (LLL) skills. According to article 5 bis of the Law, this type of education covers all educational activities and resources that take place outside the formal sphere, aimed at people of all ages, with a special emphasis on youth and children.

Non-formal education is organised with the aim of achieving objectives in various areas, such as personal development, the promotion of community values, social participation and socio-cultural activities. It also covers areas such as the arts, technology, leisure and sport, thus promoting a comprehensive approach to learning. The law also promotes coordination between formal and non-formal education to ensure the acquisition of skills that contribute to the full development of the personalities of children and adolescents.

It is important to remember that both the Internet and social media are sources of information, socialisation and entertainment, which are a cause of deep social concern due to their negative effects. Both formal and non-formal education must be key tools for fostering critical thinking in people's digital lives, ensuring that they are sufficiently prepared for it.

Informal education, which takes place through everyday experiences, social interactions and self-learning, is an essential component in the acquisition of digital skills. Through participation in social media, surfing the internet and accessing online content, digital knowledge and skills are acquired spontaneously. However, it is crucial that this learning is accompanied by appropriate supervision and support from the family and school environment.

It should be noted that the use of technology of children and adolescents requires education in digital skills, but also shared responsibility among different actors such as families, institutions and the technology industry.

In this regard, the industry must guarantee services and content that promote the digital well-being of children and adolescents. It is also important to recognise the role of internet safety centres, which offer training, help and reporting lines for abuse that may occur online.

Media literacy, not necessarily acquired through digital means, plays a fundamental role in this process and is aimed at acquiring skills, attitudes and

knowledge about the technological aspects associated with information. It enables children and adolescents to critically analyse and evaluate the information to which they are exposed. Families and communities must be prepared to guide and accompany children and adolescents in building a safe and enriching digital experience, helping them to develop critical thinking and manage their digital footprint responsibly.

Critical thinking is essential for children and adolescents to be able to distinguish between truthful information and misinformation in a digital environment saturated with content. It is not just a matter of accessing information, but of questioning, evaluating and contextualising it, a key skill in the digital age. Families, together with the educational community, play a crucial role in fostering critical thinking, promoting conscious and reflective use of technology.

Regulation: constant updates are essential

The rapid evolution of the digital environment requires constant updating of the regulations governing the use of technologies, especially with regard to the protection of children and adolescents. Although laws such as the Organic Law on Personal Data Protection (LOPDGDD)²⁸⁸ exist, the implementation of effective mechanisms remains a challenge, particularly in areas such as age verification on digital platforms and access to mobile devices by minors.

In the case of Spain, the Organic Law on Education²⁸⁹ establishes that educational administrations and school management teams shall promote the use of TRIC in the classroom as an appropriate and valuable teaching tool for carrying out teaching and learning tasks, but without forgetting that conditions must be established to eliminate situations of risk in schools arising from their inappropriate use. Thus, we must conclude that Spanish education law designates the autonomous communities and educational centres as responsible for managing the use of mobile phones in schools.

In most of the country, the autonomous communities have limited the use of personal mobile devices in schools for educational purposes; beyond these purposes, they are prohibited.

²⁸⁸ See 6.

²⁸⁹ JEFATURA DEL ESTADO, 2006. *Ley Orgánica 2/2006, de 3 de mayo, de Educación*. Boletín Oficial del Estado [online], no. 106. Available at: <https://www.boe.es/eli/es/lo/2006/05/03/2/con>.

It is essential that regulations keep pace with technological advances and that policies are developed to protect children and adolescents from the risks associated with the use of technology. Collaboration between different actors — families, educational centres, the technology industry and public administrations — is crucial to guarantee the effectiveness of these regulations and to ensure a safe and enriching digital environment for youth and children, enabling them to acquire the necessary digital skills in safe conditions, protecting their health, privacy and safety.

In short, the aim of education in digital technologies is the full development of digital competence among all citizens, as established in the European Union's "Key Competences for Lifelong Learning"²⁸⁰. Digital competence, which is just as important as the other seven (literacy; multilingualism; mathematics and competence in science, technology and engineering; personal, social and learning to learn; citizenship; entrepreneurship; and cultural awareness and expression), is considered essential for "the fulfilment [of all people], their employability, social integration, sustainable lifestyle, success in life in peaceful societies, healthy lifestyle and active citizenship".

The aforementioned Recommendation, developed in the Education Act²⁸¹, states that "digital competence involves the safe, healthy, sustainable, critical and responsible use of digital technologies for learning, work and participation in society, as well as interaction with them. Its development includes information and data literacy, communication and collaboration, media education, digital content creation, security (including digital well-being and cybersecurity skills), issues related to digital citizenship, privacy, intellectual property, problem solving, and computational and critical thinking.

The use of digital technologies is widespread in educational centres, with the vast majority of them having established internal rules of use on their own initiative or in compliance with regulatory instructions from the respective regional governments. On the other hand, Spanish teachers, who are being trained to improve their digital teaching skills through a specific reference framework, are aware of their role as guides for the proper use and digital well-being of their students.

Of particular relevance in terms of digital technologies is the impact of informal education of children and adolescents through self-learning and social interactions, among other things. It is especially necessary that this learning, focused mainly on the instrumental use of technologies, be complemented by learning from formal education, especially in terms of their safe and critical use, as established by the full development of digital competence.

Media and information literacy (MIL)

One of the most widespread definitions of media literacy is "the ability of citizens to access, analyse and produce information for specific results"²⁹⁰. The **National Association for Media Literacy Education (NAMLE)** in the US

²⁹⁰ AUFDERHEIDE, P., 1993. Media literacy. A report of the National Leadership Conference on Media Literacy. Washington, DC: Aspen Institute, Communications and Society Programme.

reformulates it as "active engagement and critical thinking about the messages we receive and create"²⁹¹.

In the European context, media literacy is understood as the ability to access, analyse and evaluate the power of the images, sounds and messages that citizens encounter on a daily basis and which play a key role in contemporary culture. This includes the individual's ability to communicate competently using the media. Media literacy involves all media, including television, film, radio, music, the press, the Internet and any other form of digital communication. According to the European view, media literacy is a basic skill that supports many others and should therefore not be limited to a specific field of knowledge, nor understood solely as a collective competence or practice. These conceptual frameworks have served as a reference for European and American media policies.

In parallel with media literacy, the importance of information literacy or "news literacy" is highlighted, which emphasises skills related to the critical use of the news media. This has also been addressed by including this aspect in AMI, which is the concept on which **UNESCO's** proposal is based²⁹².

In line with the media convergence that has taken place as a result of digitalisation, experts and international education policy frameworks have highlighted the need to include the characteristics of digital communication in the definition of media literacy²⁹³.

In this reassessment of the concept, we must not forget the context of participatory culture fostered by digital technology. Nor should we forget the global phenomenon of the proliferation of problematic discourses such as information disorders, disinformation²⁹⁴ and "infoxication", against which information literacy is very effective. Other theoretical proposals have pointed to the need to broaden the concept towards "transmedia literacy", which conceives the information user as "an active subject who, in addition to developing increasingly sophisticated interpretative skills to understand new narrative formats, increasingly creates new content, recombines it and shares it on digital networks"²⁹⁵.

In addition to the theoretical development of media literacy, its implementation in different European contexts shows that the acquisition of certain basic skills is considered a desirable outcome: critical thinking, media use, creativity and participation²⁹⁶. There is still room for improvement, as personal and civic skills are not included as part of the outcomes of projects or actions that point to a broader perspective of this literacy²⁹⁷.

²⁹¹ Core Principles of Media Literacy Education. NAMLE [online], 2023. [accessed on: 29 September 2024]. Available at: <https://namle.org/resources/core-principles/>.

²⁹² UNESCO (Ed.) (2013). Media and information literacy: Policy and strategy guidelines. United Nations Educational. <https://bit.ly/2SOpEKb>.

²⁹³ LIVINGSTONE, S. and VAN DER GRAAF, S., 2010. Media Literacy [online]. 21 June 2010. Wiley. ISBN 9781405131995. Available at: <http://dx.doi.org/10.1002/9781405186407.wbiecm039>.

²⁹⁴ SÁDABA, C., SALAVERRÍA, R. and BRINGUÉ-SALA, X., 2023. How to teach the elderly to detect disinformation: a training experiment with WhatsApp. El profesional de la información [online], ISSN 1386-6710. DOI 10.3145/epi.2023.sep.04. Available at: <http://dx.doi.org/10.3145/epi.2023.sep.04>.

²⁹⁵ SCOLARI, C., 2016. *Alfabetismo transmedia: estrategias de aprendizaje informal y competencias mediáticas en la nueva ecología de la comunicación*. Telos: Revista de pensamiento sobre Comunicación, Tecnología y Sociedad, vol. 193, 13,23.

²⁹⁶ INSIGHTS, M., CHAPMAN, M. 2016. Mapping of media literacy practices and actions in EU-28, European Audiovisual Observatory and Council of Europe. <https://ketlib.lib.unipi.gr/xmlui/handle/ket/1185>.

²⁹⁷ KACÍNOVÁ, V. and SÁDABA CHALEZQUER, M.R., 2021. Conceptualization of media competence as an 'augmented competence'. Revista latina de comunicación social [online], no. 80, ISSN 1138-5820. DOI 10.4185/rlcs-2022-1514. Available at: <http://dx.doi.org/10.4185/rlcs-2022-1514>.

Added to this expanding concept is the discrepancy in nomenclature. Concepts such as "media literacy"²⁹⁸, "information literacy"²⁹⁹, "educommunication"³⁰⁰ and "digital literacy"³⁰¹ are used in a similar way, although they refer to different objects. However, they all refer to a common concept: the need to encourage an educated and critical citizenry that not only consumes information but also increasingly creates and shares it on social media. This terminological heterogeneity in the Spanish-speaking world is not as pronounced in the English-speaking world, where there is greater consensus around the term "media literacy".

It is reasonable to assume that the lack of terminological and, consequently, conceptual agreement slows down the adoption of public policies and concrete actions on media literacy in the Spanish-speaking world. This factor is compounded by the lack of sensitivity or awareness on the part of the authorities to promote media literacy initiatives, budgetary constraints, and the need for qualified personnel to lead these initiatives.

Whatever name is used, there is evidence that links greater audience education with better and more positive behaviours and habits in relation to the consumption of information and the media. Some studies indicate that those with greater knowledge and understanding of the news production system tend to be more sceptical and realistic in their expectations of the media³⁰². With a particular focus on the environment in which rumours spread, other studies³⁰³ show that rumours spread much more rapidly among users with lower levels of education.

UNESCO's proposal, as can be seen in the following graph, summarises a starting position that seeks to integrate some of these differences and encourages the adoption of a multidimensional approach that includes media, information and digital literacy.

²⁹⁸ PÉREZ TORNERO, J.M., 2008. *La sociedad multipantallas: retos para la alfabetización mediática*. Comunicar: Revista Científica de Comunicación y Educación, vol. 16, no. 31

²⁹⁹ UNESCO (2011). Media and Information literacy curriculum for teachers. Paris: United Nations Educational, Scientific and Cultural Organization.

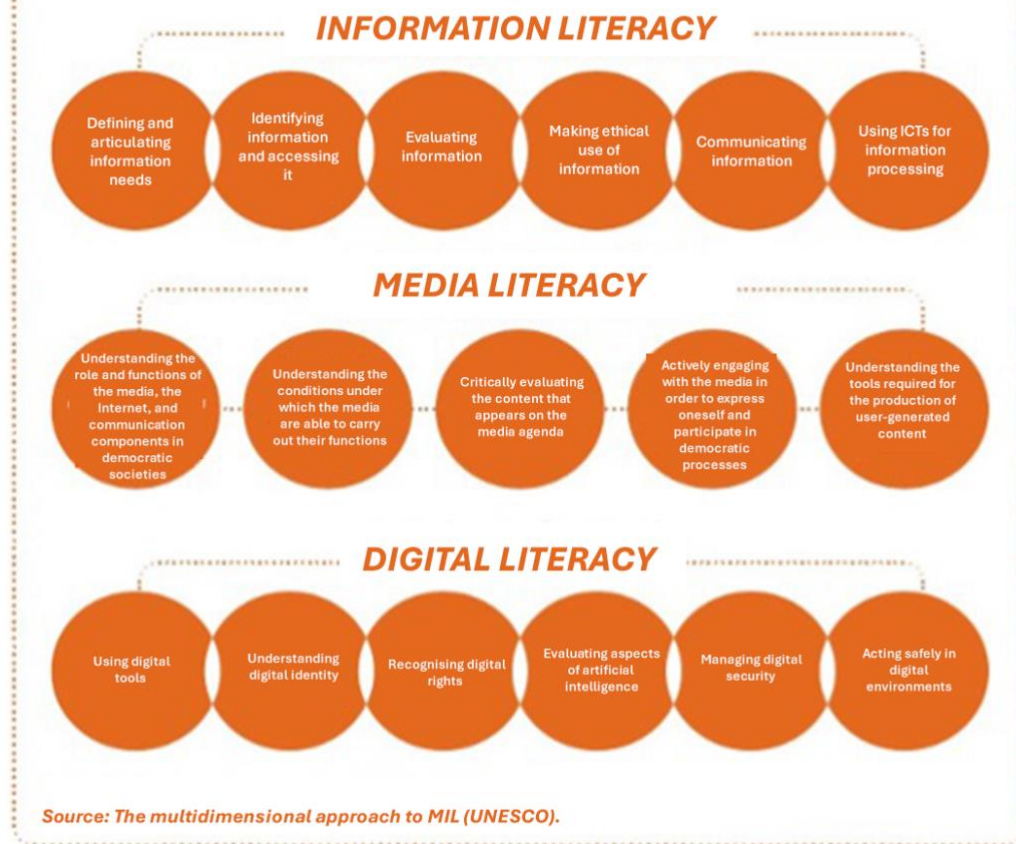
³⁰⁰ AGUADED, I. (2005). *Estrategias de edu-comunicación en la sociedad audiovisual*. Comunicar: Revista científica iberoamericana de comunicación y educación, 12 (24), 25-34.

³⁰¹ AREA MOREIRA, M., GUTIÉRREZ MARTÍN, A., AND VIDAL FERNÁNDEZ, F. (2012). *Alfabetización digital y competencias informacionales*. Madrid: Fundación Telefónica.

³⁰² JEONG, S. H., CHO, H., AND HWANG, Y. (2012). Media literacy interventions: A meta-analytic review.

³⁰³ AFASSINO, K. (2014). Analysis of the impact of education rate on the rumour spreading mechanism. *Physica A: Statistical Mechanics and its Applications*, 414, 43-52.

Key elements of media and information literacy



REVISION OF THE UNESCO PROPOSAL BY THE CATALAN VERIFIER VERIFICAT AND INCLUDED IN ITS GUIDE FOR THE DESFAKE CENTRES PROGRAMME.

This proposal for AMI and digital skills for all seeks to "empower people to use information critically, navigate the online environment safely and responsibly, and ensure trust in our information ecosystem and digital technologies"³⁰⁴.

1. Where we are

Based on data from various studies and fieldwork³⁰⁵ at different educational stages, it can be said that media literacy skills need to be developed at different levels of compulsory and non-compulsory formal education. Back in 2018, the European Commission, among its recommendations set out in the "Action Plan against Disinformation"³⁰⁶, pointed out the need to promote media education from school and that this competence should also be included in the "Programme for International Student Assessment" (PISA). Work on this

³⁰⁴ UNESCO (Ed.) (2013). Media and information literacy: Policy and strategy guidelines. United Nations Educational. <https://bit.ly/2SOpEKb>.

³⁰⁵ HERRERO-CURIEL, E. and LA-ROSA, L., 2022. Secondary education students and media literacy in the age of disinformation. *Comunicar* [online], vol. 30, no. 73, ISSN 1134-3478. DOI 10.3916/c73-2022-08. Available at: <http://dx.doi.org/10.3916/c73-2022-08>; MENDIGUREN, T., PÉREZ DASILVA, J. and MESO AYERDI, K., 2020. *Actitud ante las Fake News: Estudio del caso de los estudiantes de la Universidad del País Vasco*. *Revista de Comunicación* [online], vol. 19, no. 1, ISSN 1684-0933. DOI 10.26441/rc19.1-2020-a10. Available at: <http://dx.doi.org/10.26441/rc19.1-2020-a10>; BRIONES, G. and BERNABEU MORÓN, E., 2011. *Alfabetización Mediática y Competencias básicas*. Ministerio de Educación.

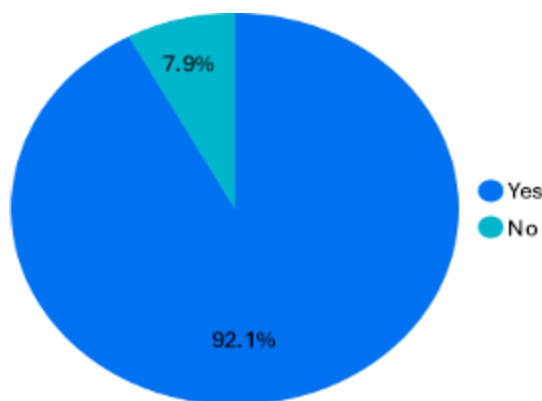
³⁰⁶ Action plan against disinformation. EEAS [online]. [consulted on: 29 September 2024]. Available at: https://www.eeas.europa.eu/node/54866_en.

competence should be part of lifelong learning. The rapid technological revolution and the vast amount of media content that children and adolescents and adults are exposed to on a daily basis make it necessary to stay up to date and be prepared to deal with it.

While it is true that this skill is now more necessary than ever among citizens, the need to start working on it from an early age can ensure a safer environment for future generations, who will have more tools to deal with misinformation and the various risks and dangers that can arise from using the Internet. It will also help them to have a healthier and more sustainable relationship with technology over time, enabling them to take advantage of it in different aspects of their lives.

The media consumption habits of youth and university students mainly involve social media and digital media (90%). Only half of students say they read the entire news article, and 35% read only the headlines. Although they blame the media for their clickbait practices, or bait to click on eye-catching headlines, they recognise that not delving deeper into the news leads them to share fake news. **WhatsApp** is the network through which most fake news arrives, according to students, followed by **Facebook** and **Twitter**. Despite new tools for detecting hoaxes and verification platforms, only 16.50% use them. Twenty-nine per cent say they cannot distinguish real news from fake news³⁰⁷.

According to the study "Media literacy in secondary schools. How are teenagers taught to consume information?"³⁰⁸, 92.1% of secondary school students, from a sample of 1,601, say they are able to distinguish between news and opinion, while 8% of those surveyed say they are unable to differentiate between them. However, when asked to identify whether a text was informative or opinion-based, the results showed that more than half (64.4%) confused an opinion piece with information. Only 35.6% identified it correctly. Therefore, there is a notable difference between students' self-perception of their ability to distinguish between journalistic genres and the reality³⁰⁹.



Students' self-perception of their ability to discriminate between information and opinion Source: Herrero-Curiel and La Rosa 2021³¹⁰

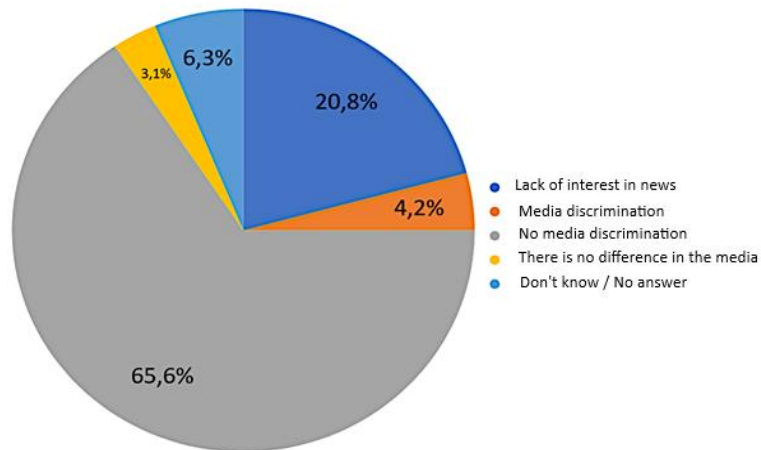
³⁰⁷ HERRERO CURIEL, E. AND GONZÁLEZ ALDEA, P. 2022. *Impacto de las fake news en estudiantes de periodismo y comunicación audiovisual de la universidad Carlos III de Madrid*. Vivat Academia 155 (enero):1-21. <https://doi.org/10.15178/va.2022.155.e1415>.

³⁰⁸ HERRERO-CURIEL, E., & LA-ROSA, L. (2022). Secondary education students and media literacy in the age of disinformation. *Comunicar*, 73, 95-106. <https://doi.org/10.3916/C73-2022-08>

³⁰⁹ Idem.

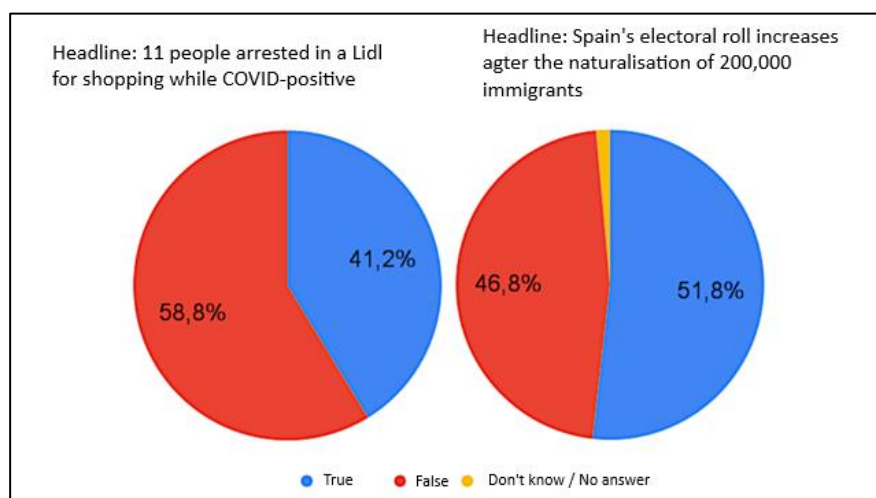
³¹⁰ See 241.

As for the opinion of secondary school teachers, 65.63% (n=63) indicate that secondary school students do not know how to differentiate between news and opinion genres when consuming information in their daily lives. The following graph shows some other deficits that teachers have identified in their students.

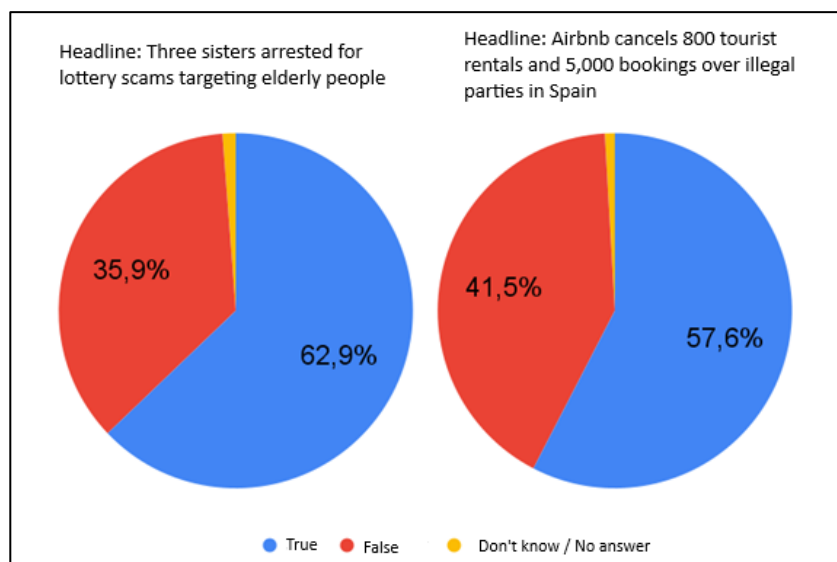


Secondary school teachers' perception of their students' attitudes towards information
Source: Herrero-Curiel and La Rosa 2021

Regarding their self-perception of their ability to discern between fake and real news, more than half (58.8%) consider themselves capable of differentiating between them, compared to 41.2% who admit to being unable to distinguish between them. However, after being shown several true and false headlines, the results show differences from their previous beliefs. Thus, when it came to identifying false headlines, 51.8%, more than half, considered a headline containing a hoax about immigration to be true. The false headline about COVID-19 was identified as a hoax by 58.8% of students.



Real perception of fake headlines. Source: Herrero-Curiel and La Rosa 2021



Real perception of true headlines. Source: Herrero-Curiel and La Rosa 2021

2. Teacher training

Introducing AMI and digital skills into formal education requires adequate teacher training. In this regard, the national commitment has been much clearer and more incisive in promoting digital competence (DC), where the adoption of the "Digcompedu" framework³¹¹ and its assessment, developed by **INTEF**, is much more harmonised, widespread and accepted.

In teacher training, AMI and digital competence still have a very limited presence. Neither university degrees nor master's degrees for teacher training have made a firm commitment to this training. There are master's programmes at the **University of Barcelona** and the **University of Huelva-UNIA** that already have proven experience in training future teachers and media professionals in these skills.

The data provided by the study carried out by the **Verificat** verifier³¹² after an intervention by the **Centros Desfake** programme in several Catalan educational centres during the 2023-24 academic year is very relevant: 60% of teachers acknowledged knowing what media and information literacy was after the activities carried out in the centre, compared to 30% who knew it previously. More importantly, the percentage of teachers who felt capable of designing, implementing and evaluating MIL activities rose from 21% to 77%.

3. MIL in the family environment

If media literacy is understood as a basic skill and an extension of literacy, it is not possible to tackle this work without the involvement of families. Parents play an essential role in media literacy before and during their children's formal education. It is therefore important to ensure that there are ways for them to update their training and provide effective and efficient support.

³¹¹ REDECKER, C. 2017. European Framework for the Digital Competence of Educators: DigCompEdu, EUR 28775 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73718-3 (print), 978-92-79-73494-6 (pdf), DOI:10.2760/178382 (print), 10.2760/159770 (online), JRC107466.

³¹² FIGUERAS, C., LESNICHEVSKY BORONAT, M., MARINI L AND TOBELLA, A.: *Esquiva fakes, busca hechos. La educación en la era de la desinformación. Guía de aprendizaje del proyecto Centros Desfake.*

To date, there are few initiatives aimed at this audience, which is difficult to reach systematically. Although there is an opportunity to work together with the formal education system through parent schools, effective involvement is not always possible. In any case, it is important to make progress in this area. There are some other initiatives that target families, such as **Empantallados**³¹³, which is part of the **SIC (Safer Internet Centre) SPAIN** consortium³¹⁴. Promoting this type of project is also vital.

4. The current framework of the MIL in Spain

Law 13/2022³¹⁵ of 7 July, the General Audiovisual Communication Law (LGCA), in its article 10, sets out for the first time who is obliged to adopt measures for the acquisition and development of media literacy skills: the competent audiovisual authority, audiovisual communication service providers, non-profit community audiovisual communication service providers and video-sharing service providers via platforms, in cooperation with all interested parties, including organisations, associations, colleges and professional unions in the field of communication and journalism. Similarly, articles 10.2 and 10.4 define what the law understands to be included in media literacy. Finally, it establishes that the audiovisual authority must produce a report every three years on the measures promoted and their effectiveness.

The introduction to this article is very relevant and, in fact, media literacy is mentioned eleven times throughout the LGCA. However, greater specificity is needed so that the impact of these measures can be measured and they do not remain a mere declaration of intent.

For its part, the Spanish education system has undergone eight reforms or education laws throughout its democratic history, the latest being Organic Law 3/2020 of 29 December, amending Organic Law 2/2006 of 3 May on education, 22³¹⁶ (LOMLOE). It was not until Organic Law 1/2002³¹⁷, of 23 December, on the Quality of Education, 2002 (LOCE) that explicit reference began to be made to "technological" changes and transformations and to the desirable need to incorporate content related to ICTs into the different stages of education. These contributions of the LOCE with regard to media education and ICTs are maintained in subsequent laws, giving increasing importance to the relevant role that digital competences play today, not only for students but also for teachers.

However, the LOMLOE goes a step further than the simple instrumentalisation of technology, as it is based not only on 'doing', but also on 'knowing how to do'. The skills most closely related to AMI that are worked on in the different stages of education go beyond 'the digital' and emphasise the 'creative, critical and safe use' of information and communication technologies.

³¹³ Empantallados. [online], 2024. [consulted on: 29 September 2024]. Available at: <http://www.empantallados.com>

³¹⁴ SIC-SPAIN. Incibe.es [online]. [consulted on: 14 September 2024]. Available at: <https://www.incibe.es/incibe/informacion-corporativa/con-quien-trabajamos/proyectos-europeos/sic-spain>.

³¹⁵ See 65.

³¹⁶ See 224.

³¹⁷ JEFATURA DEL ESTADO, 2002. *Ley Orgánica 10/2002, de 23 de diciembre, de Calidad de la Educación*. Boletín Oficial del Estado [online], no. 307. Available at: <https://www.boe.es/eli/es/lo/2002/12/23/10>.

5. Digital Competence (DC)

DC involves the safe, healthy, sustainable, critical and responsible use of digital technologies for learning, work and participation in society, as well as interaction with them. It includes information and data literacy, communication and collaboration, media education, digital content creation (including programming), safety (including digital well-being and cybersecurity skills), issues related to digital citizenship, privacy, intellectual property, problem solving, and computational and critical thinking. CD is now more necessary than ever among citizens, and starting to work on it from an early age can ensure a safer environment for future generations. However, in order to avoid some of the negative effects of exposure to digital devices, such as those described above, it is important to bear in mind that there are ways of doing this that do not involve the use of technology.

6. Linguistic Communication Competence (LCC)

Competence in linguistic communication involves interacting orally, in writing, through sign language or multimodally in a coherent and appropriate manner in different settings and contexts and for different communicative purposes. It involves consciously mobilising the set of knowledge, skills and attitudes that enable us to understand, interpret and critically evaluate oral messages written, signed or multimodal, avoiding the risks of manipulation and misinformation, as well as communicating effectively with others in a cooperative, creative, ethical and respectful manner.

In May 2024, the **CNMC** published the "Report on media literacy measures developed in Spain in the period 2020-2022", which provides a detailed review of the activities and strategies promoted by public administrations, the media and other organisations throughout those years.

The report prepared by Cucarella and Fuster for the **Luca de Tena Observatory**³¹⁸ also offers a good diagnosis of the situation of media literacy in Spain.

As part of the European strategy to combat disinformation, the Commission has created a network of hubs, the European Digital Media Observatory, which covers the whole of Europe and whose functions include media literacy. The Iberian hub, **Iberifier**, has 26 partners, including public and private entities, media outlets, universities and research institutes in Portugal and Spain³¹⁹. Its role in identifying initiatives and providing support through research may also be relevant³²⁰.

³¹⁸ CUCARELLA, LL., FUSTER, P. (2022). *Informe sobre alfabetización mediática: contexto actual, legislación, casos de éxito, herramientas y recursos, y percepción y propuestas de especialistas y profesores*. Laboratorio de Periodismo. Fundación Luca de Tena.

³¹⁹ Iberian Digital Media Observatory. Iberifier [online]. [consulted on: 29 September 2024]. Available at: <http://www.iberifier.eu>.

³²⁰ SÁDABA, C. and SALAVERRÍA, R. (2023) *Combatir la desinformación con alfabetización mediática: análisis de las tendencias en la Unión Europea*. *Revista Latina de Comunicación Social*, (81), 1–17. Available at: <https://doi.org/10.4185/RLCS-2023-1552>

7. Steps towards the future

AMI involves joint action by many parties: legislators, schools, teachers, families, public bodies, the media, technology platforms, etc. The more people and institutions involved in promoting it, the more segments of the population it will be possible to reach.

It seems important to point out some opportunities that are opening up at this time:

1. Work on the harmonisation and conceptual definition of media and information literacy and digital skills. There are European reference frameworks that could be used to lay the foundations for a national strategy.
2. Coordinate the efforts of all stakeholders, starting with the implementation of laws that already include MIL as a basic skill. Engaging the media, fact-checkers and the third sector can help reach more social groups through non-formal education³²¹.
3. Teacher training is also essential if this effort is to have a solid foundation. Reforming undergraduate and postgraduate curricula by introducing this content can help to clarify the need for digital literacy as a cross-cutting and basic skill.
4. Begin integrating MIL into the early childhood and primary school curriculum. The basic nature of this literacy makes it risky to delay its introduction in a highly digitised context.
5. More effort and resources are needed for research that provides evidence to make the path easier and safer.
6. It would be desirable to have greater involvement from the public media, particularly **RTVE**, as its reach, prestige and human and material resources would open up new ways of reaching the general population.
7. Greater effort should be made to educate families, so that AMI reaches the entire population and ensures greater effectiveness in formal education.
8. Currently, the promotion of AMI is largely being carried out by third sector organisations, so it is necessary to provide these organisations with public and private resources so that they can carry out these activities. A good example of these initiatives is the one carried out by **INCIBE**, with the "**SIC SPAIN**" project³²², a public-private partnership that brings together most of the social organisations working in the field of AMI, providing them with resources. This project also makes it possible to find out about most of the actions being carried out, so that these organisations can specialise and cover all their needs.

³²¹ SÁDABA, C., SALAVERRÍA, R. and BRINGUÉ-SALA, X., 2023. How to teach the elderly to detect disinformation: a training experiment with WhatsApp. *El profesional de la información* [online], ISSN 1386-6710. DOI 10.3145/epi.2023.sep.04. Available at: <http://dx.doi.org/10.3145/epi.2023.sep.04>.

³²² See 247.

4.5 Participation

The theoretical approach and framework taken into account for this brief diagnosis is based on the conceptual proposals of Cath Larkins³²³ (**University of Central Lancashire**, United Kingdom) and Ana Novella³²⁴ (**Department of Theory and History of Education, University of Barcelona**). The following concepts constitute its frame of reference:

- Children as subjects of rights for active citizenship
- Training in decision-making: co-governance practices
- Genuine and high-intensity participation in childhood and adolescence
- Recognition of children's leadership
- The construction of local and global citizenship in childhood and adolescence

The UNCRC³²⁵ recognises the right to participation in article 12 and elaborates on its exercise in General Comment No. 12. This right is also considered one of the four interpretative principles of the Convention. Furthermore, article 24 of the Charter of Fundamental Rights of the EU stipulates that "Children [...] shall be allowed to express their views freely. Such views shall be taken into consideration on matters which concern them in accordance with their age and maturity."

With reference to the **Council of Europe** Recommendation on the participation of children and young people under the age of 18³²⁶, several issues related to their protection are highlighted in the guide "Child participation assessment tool"³²⁷.

Firstly, the legal protection in national constitutions and legislation of the right of children and adolescents to participate in decision-making, with an unequivocal commitment to this right, including in the regulations that directly affect them:

1. School and education, with the mandatory establishment of school councils.
2. Decision-making in the family sphere.
3. Healthcare/consent for treatment.
4. Immigration and asylum procedures, and criminal proceedings.

Secondly, the existence of individual complaint procedures adapted to children, which must be required by law and adapted to make them accessible in various contexts (educational centres, health centres, criminal and family rights proceedings, immigration proceedings, etc.).

³²³ LARKINS, C., 2021. *Participação / Participation. Conceitos-chave em Sociologia da Infância. Perspetivas Globais / Key concepts on Sociology of Childhood. Global Perspectives*. S.L.: UMinho Editora, pp. 385-391.

³²⁴ MORELL, I.A., CIFRE-MAS, J., SERRA, M.G., ASUNCIÓN LLENA BERNÉ, M., GARCIA, T.M., PIGEM, E.N., NOVELLA CÁMARA, A.M. and BERNET, J.T., 2014. *Participación infantil y construcción de la ciudadanía*. S.L.: Grao. ISBN 9788499805290.

³²⁵ See 18.

³²⁶ COUNCIL OF EUROPE, 2012. *Council of Europe Recommendation on the participation of children and young people under the age of 18* [online]. Available at: <https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016809485cf>.

³²⁷ Child participation assessment tool. Council of Europe Publishing [online]. [consulted on: 29 September 2024]. Available at: <https://edoc.coe.int/en/youth-in-europe/7152-child-participation-assesment-tool.html>.

A complaint procedure adapted to children is one that meets the following criteria:

1. It is safe and accessible.
2. Children receive information and assistance to enable them to file and process a complaint.
3. Information is provided in formats appropriate to age and disability, and is disseminated in places where it can be found.
4. It includes well-established and effective follow-up, referral and response mechanisms, demonstrating that changes are made in response to legitimate complaints.
5. It provides a direct response to complaints within a reasonable time frame and in language that is friendly and age-appropriate.

Thirdly, children and adolescents will receive information about their right to participate in decision-making. State services and those providing key services to children must produce information about this right, including complaint mechanisms, legal processes and opportunities to participate in their own organisations, as well as decision-making or planning processes that affect them. Education on the rights of children and adolescents, including the right to participate, is a mandatory component of school curricula. In addition, there will be public information and education programmes to raise awareness among the general public, children, adolescents, parents and professionals about the right of children and adolescents to participate, including being part of organisations and associations.

Fourthly, children and adolescents will be represented in forums through their own organisations at different levels: school, local, regional and national. Those who can address the relevant authorities, including the government, will participate, especially through school councils, children's/youth councils, children's/youth parliaments or children's/youth forums. These forums serve as spaces where they can identify issues of concern to them and present them to policy makers at all the levels mentioned above.

Among the recommendations made to Spain in 2018 by the CRC and related to the protection of child participation, the following stand out:

- Listening to their opinions on family decisions that affect their lives and the channels currently available to them or that may become available to them to influence decision-making processes at national and local level.
- Developing awareness-raising programmes and activities to promote meaningful, empowerment-based participation of all children and adolescents, of any age, in the family, community and schools, with a particular focus on disadvantaged or marginalised children and adolescents.
- And the strengthening of pupil councils in schools and children's councils at all levels to ensure that their voices are heard and to facilitate their meaningful participation in legislative and administrative processes relating to issues that affect them.

In view of the above, reference is made to several reports³²⁸ on the participation of children in different autonomous communities in Spain and, above all, to the reports on the "Participation of children in European Union government decisions" by the **Children's Platform** and **Eurochild**, which indicate that the right of children to participate is not guaranteed and is "far from being articulated in practice in a real way". Above all, because there are few specific economic resources allocated, it is not accessible, its effective exercise is difficult to measure as a result of a clear lack of disaggregated data and statistics, and there is an under-representation of children belonging to social minorities.

Chapter 10 of the report "The Situation of Children in Spain"³²⁹ by the **Childhood Platform** and **Eurochild** indicates, in relation to child participation, that content on civic participation is not fully included in the educational curriculum, and there is still a lack of information available on formal channels for student participation. It is striking that less than a third of students feel listened to in their educational centre³³⁰. Although the Spanish constitutional regime considers the right of association of children and adolescents to be fundamental, above all as an instrument for the full development of their personality, according to the aforementioned report, "in practice, children and adolescents encounter obstacles to exercising this right due to the lack of regulation of the way in which they can exercise it. In Spain, there is no national regulatory framework to regulate children's associations and the exercise of their right to association".

Formal structures for the participation of children and adolescents in Spain

The State Council for Child and Adolescent Participation (CEPIA) is a permanent and stable body for consultation, representation and participation of children and adolescents in Spain, attached to **the Ministry of Social Rights and Agenda 2030**, and created by Order DSA/1009/2021³³¹ on 22 September 2021. Its creation follows the recommendations of the CRC and European guidelines aimed at promoting the active citizenship of children and adolescents as full members of democratic societies.

The creation of the State Council for the Participation of Children and Adolescents is included in the seventeenth final provision of Organic Law 8/2021 on comprehensive protection for children and adolescents against

³²⁸ ¿Qué es el CJE? Consejo de la Juventud de España [online]. [consulted on: 29 September 2024]. Available at: <http://www.cje.org/es/que-es-cje>; *Participación Infantil*. Ciudadesamigas.org [online]. [consulted on: 29 September 2024]. Local Children Councils - <https://ciudadesamigas.org/municipio-amigo-infancia/participacion-infantil/>; Children's Councils in Catalonia - <https://ciudadesamigas.org/consejos-de-infancia-cataluna/>; Information about the meeting in the Castilla y León regional children's parliament: <https://ciudadesamigas.org/ods-participacion-infantil-parlamento-castilla-y-leon-desigualdad-sostenibilidad/>; Information about the meeting in the Castilla-La Mancha region: <https://ciudadesamigas.org/la-infancia-castilla-la-mancha-se-moviliza-planeta/>; Information about the meeting in the Canary Islands region: <https://ciudadesamigas.org/no-estan-solos-los-ninos-y-ninas-de-canarias-buscan-hacer-viral-un-video-de-apoyo-a-la-infancia-refugiada/>; Information about the meeting in the Andalusia region: <https://ciudadesamigas.org/usa-poder-tus-derechos-encuentro-andaluz-consejos-de-infancia/>; Regional children's parliament: <https://ciudadesamigas.org/derechos-infancia-dia-universal-del-nino/>; Information about the meeting in the Valencia region: <https://ciudadesamigas.org/torrent-consejos-de-infancia-comunidad-valenciana/>; Information about the meeting in the Extremadura region: <https://ciudadesamigas.org/infancia-de-extremadura-ciudades-amigas/>; Information about the meeting in the Murcia region: <https://ciudadesamigas.org/los-consejos-sirven-para-expresar-libremente-nuestras-opiniones-sobre-las-cosas-que-nos-afectan-directamente/>; Information about the regional children's parliament in the Balearic Islands: <https://ciudadesamigas.org/es-hora-de-rendir-cuentas-agenda-2030-parlament-infantil-baleares/>; A guide how to hold an online children's parliament: <https://ciudadesamigas.org/wp-content/uploads/2012/01/guia-parlamento.pdf>.

³²⁹ PLATAFORMA DE INFANCIA ESPAÑA, 2022. *La situación de la Infancia en España 2022* [online]. Available at: <https://eurochild.org/uploads/2022/11/informe-situacion-infancia-en-espana-2022.pdf>.

³³⁰ SANZ, A.A., 2021. *Salud mental para estudiantes, una prioridad en tiempos de pandemia*. CANAE [online]. [consulted on: 29 September 2024]. Available at: <https://canae.org/salud-mental-para-estudiantes-una-prioridad-en-tiempos-de-pandemia>.

³³¹ See 58.

violence (LOPIVI), with this mandate being implemented through the aforementioned Order.

The CEPIA is made up of 34 children and adolescents between the ages of 10 and 18 and is organised into an Assembly, in which all members participate, and which elects a Steering Group of five people to coordinate actions, committees and working groups, as well as to develop the approved work plan. It also has Working Committees, which are formed according to the different interests expressed by the councillors themselves on issues proposed by the Assembly or the Steering Group.

UNICEF's Child-Friendly Cities programme consolidates the existence of more than 450 councils and child participation groups at local and community level, linked, for the most part, to the awarding of the Child-Friendly City seal of recognition to municipalities. According to **UNICEF**, local participation councils "are also a school of democracy: they allow youth to learn that their voices are taken into account and to become participatory citizens, as well as to hold their representatives accountable, representing all children and adolescents in the territory," as stated in the UNICEF Manual for Child-Friendly Communities and Cities³³².

There are also other participation groups, such as those promoted by the **Childhood Platform** and children's organisations, including initiatives such as the "Cibercorresponsales" programme. This consists of a social network created by young journalists, which aims to give youth a voice and allow them to share their interests and opinions on various topics and contribute to society through their perspectives. In addition, it promotes child participation and the safe use of information and communication technologies (ICT) accompanied by educators specialised in children's rights through the "La Pinza" programme.

In any case, there is a notable difference between formal participation, which is often directed and symbolic, and the limitations (outlined above) on informal participation through associative movements.

The capacity of children and adolescents to exercise citizenship

The philosopher of childhood Gareth Matthews³³³ points out the need to take into account the following issues in relation to children's thinking:

1. Understanding what it means to be a child
2. Understanding the value of being a child
3. Conceiving what cognitive interests are appropriate in childhood
4. Assessing their moral capacities
5. Identifying a framework for understanding, on the one hand, their rights and, on the other, the rights of parents with regard to their children.

³³² UNICEF, 2018. *Manual de UNICEF para las Comunidades y Ciudades Amigas de la Infancia* [online]. S.l.: s.n. Available at: <https://www.unicef.org/childfriendlycities/media/1466/file/Manuel%20para%20las%20Comunidades%20y%20Ciudades%20Amigas%20de%20la%20Infancia.pdf>.

³³³ MATTHEWS, G., 1990. *Philosophy and the young child*. London, England: Harvard University Press. ISBN 9780674666061.

Existing prejudices about children limit their ability to make sense of the world, preventing them from living their own experiences³³⁴.

Childhood is considered a transitional period, a time of preparation and learning to participate in the future³³⁵. Thus, according to Alanen³³⁶, "childhood was — and in its modern versions is — the result of decisions and actions by certain historical social actors."

Thus, a negative view of childhood is cultivated, labelling children as dependent, vulnerable and amoral individuals who are isolated from the world until adulthood³³⁷. By denying the moral agency

of children and limiting their capacity for self-governance, paternalism towards them is legitimised³³⁸.

Underlying these ideas are assumptions about the non-social nature of childhood, the family as the appropriate social space, and a process of socialisation that makes childhood and adolescence "both culturally and structurally irrelevant for most children in the world"³³⁹.

The absence of formal citizenship status in childhood reinforces the asymmetry of power with adults (thus reproducing a generational order), which in turn converges in guardianship and the assignment of limited roles attributed to children and adolescents. However, if we understand digital citizenship as the exercise of citizenship in a digital ecosystem, it can be an opportunity for their civic participation in the new knowledge economy, as it allows them to overcome the status of citizenship conferred by the state (*de jure*) for a *de facto* citizenship based on the free relationships they can experience in the digital environment, where social norms and roles do not present that dichotomy between adult/ward.

However, although the full development of digital citizenship potentially offers the opportunity for people of all ages to participate and have a voice, this will only be possible if people are first given access to the information and services provided by the network, as well as the skills necessary for its proper use.

Access to the digital society

Accessing digital technologies in a meaningful and safe way can help children and adolescents to effectively exercise the full range of their civil, political, cultural, economic and social rights. However, if digital inclusion is not achieved, existing inequalities are likely to increase and new ones are likely to emerge.

The right to non-discrimination requires us to ensure equitable, effective and secure access to the digital environment. Every effort must be made to adopt measures to prevent digital exclusion and to ensure that children's experience in this environment is protected from any risks. This includes providing free and secure

³³⁴ MURRIS, K., 2013. The epistemic challenge of hearing child's voice. *Studies in philosophy and education* [online], vol. 32, no. 3, ISSN 0039-3746. DOI 10.1007/s11217-012-9349-9. Available at: <http://dx.doi.org/10.1007/s11217-012-9349-9>.

³³⁵ CASSIDY, C. *et al.* Being children: Children's voices on childhood. *The International Journal of Children's Rights* [online], vol. 25, no. 3-4, ISSN 0927-5568. DOI 10.1163/15718182-02503006. Available at: <http://dx.doi.org/10.1163/15718182-02503006>.

³³⁶ ALANEN, L., 1988. Rethinking childhood. *Acta sociologica* [online], vol. 31, no. 1, ISSN 0001-6993. DOI 10.1177/000169938803100105. Available at: <http://dx.doi.org/10.1177/000169938803100105>.

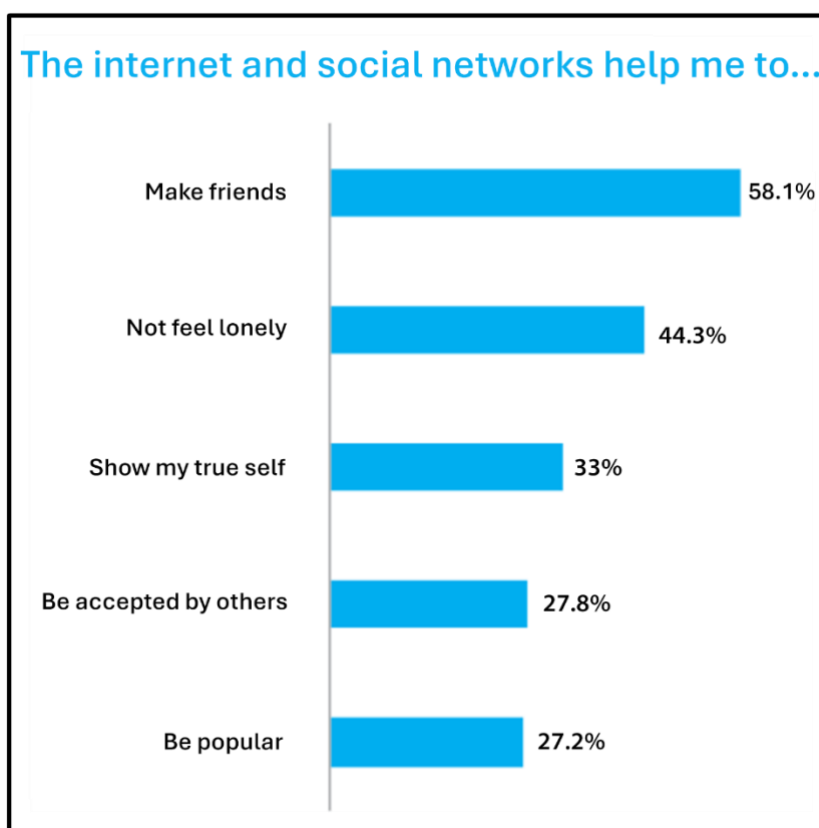
³³⁷ KENNEDY, D., 2010. *Philosophical Dialogue with Children: Essays on Theory and Practice*. The Edwin Mellen Press.

³³⁸ GHEAUS, A., 2017. Unfinished adults and defective children: On the nature and value of childhood. *Journal of Ethics and Social Philosophy* [online], vol. 9, no. 1, ISSN 1559-3061. DOI 10.26556/jesp.v9i1.85. Available at: <http://dx.doi.org/10.26556/jesp.v9i1.85>.

³³⁹ See 272.

access in specific public places, investing in policies and programmes that support affordable access to digital technologies and their use with due safeguards for children's health and dignity in educational settings, communities and homes. In this regard, it is necessary to emphasise that the use of digital technologies should not replace direct and reactive interactions between children and adolescents themselves or between them and their families or carers.

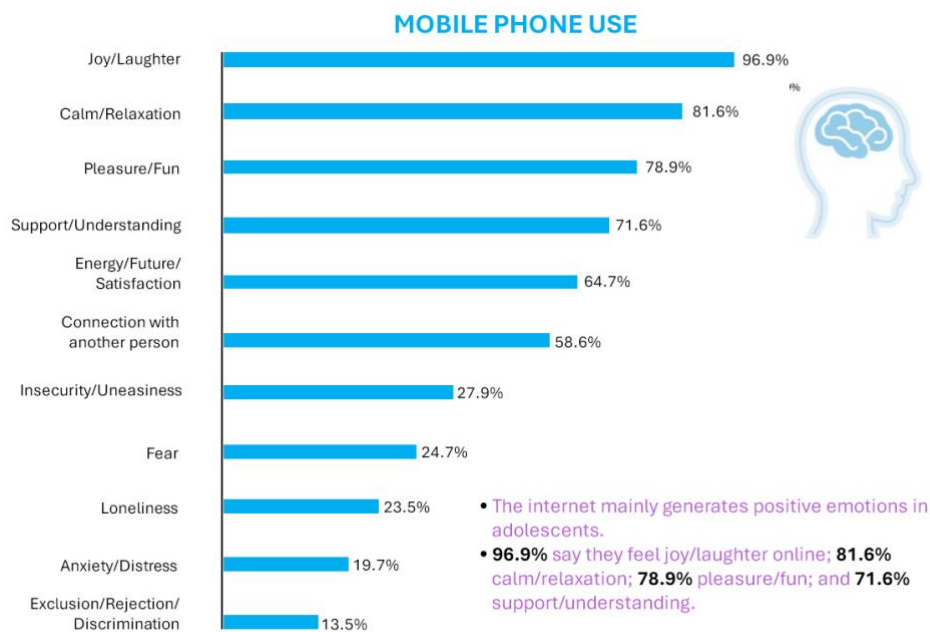
According to data from **UNICEF Spain**³⁴⁰, in our country 94.8% of adolescents have their first mobile phone with an Internet connection for personal use at an average age of 10.96 years, usually as part of their First Communion gifts or when they start secondary school. Therefore, understanding the motivations that drive them to access the Internet should guide us when designing policies and lines of action.



SOURCE: UNICEF SPAIN - STUDY ON THE IMPACT OF TECHNOLOGY ON ADOLESCENTS

Similarly, we must be aware of the huge emotional impact that their digital experience has today. Although it mainly provokes positive emotions, we cannot minimise those that are harmful:

³⁴⁰ See 55.



SOURCE: UNICEF SPAIN - STUDY ON THE IMPACT OF TECHNOLOGY ON ADOLESCENTS

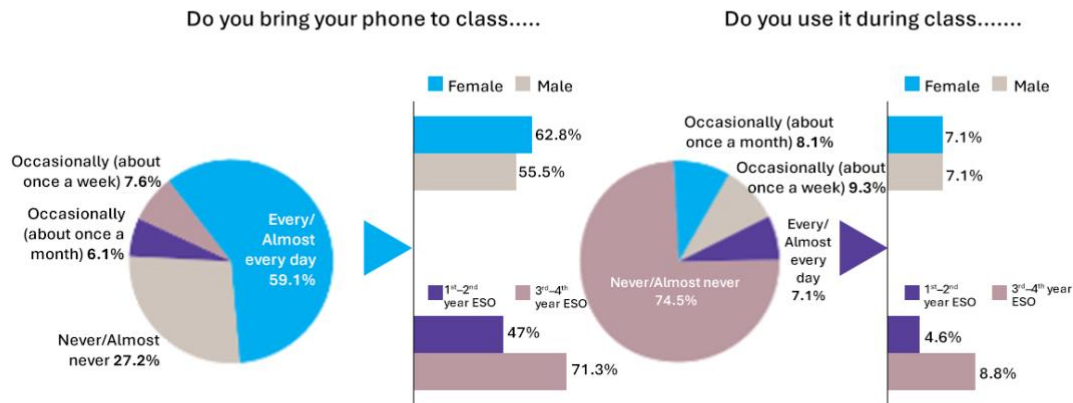
Digital inclusion and gaps

Three barriers or gaps can be identified that can exclude children and adolescents from the digital society or make their participation so limited that they are only exposed to its harmful aspects.

The first is the access gap which, although it affects a minority and is addressed by the compensatory role of schools, makes it particularly difficult for older age groups to participate as citizens.

The second is the experience gap, understood as a minimum quality of access to all services and content.

Mobile phone use

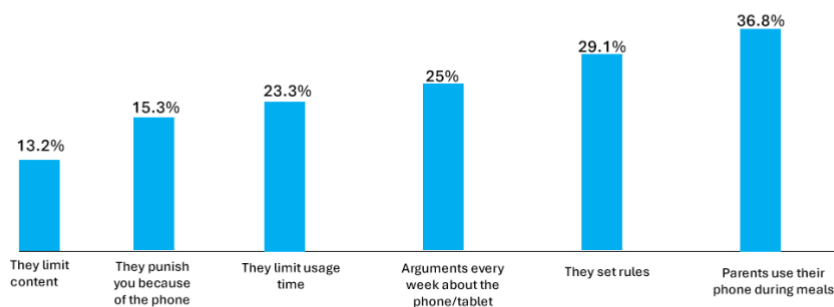


- **59.1%** of ESO students usually go to school with their mobile phone, a figure that rises to **71.3%** in 3rd and 4th year.
- Only **7.1%** admit to using it regularly during class for non-educational purposes.

SOURCE: UNICEF SPAIN - STUDY ON THE IMPACT OF TECHNOLOGY ON ADOLESCENTS

The third refers to the support gap, when the adults responsible for their care or the guarantors of their rights do not exercise their responsibilities due to a lack of knowledge, availability or willingness to make the digital environment safe.

Parents and TRIC



- Only **29.1%** report that their parents set rules about the use of TRIC; **24%** say their parents limit their time of use; and **13.2%** say they limit the content they can access
- **1 in 4** have arguments at home every week about the use of the phone or TRIC.
- Paradoxically, **36.8%** report that their parents usually use their phone during meals.

SOURCE: UNICEF SPAIN - STUDY ON THE IMPACT OF TECHNOLOGY ON ADOLESCENTS

Children and adolescents may suffer discrimination if they are excluded from the use of digital technologies and services. But also if they receive communications that convey hatred or unfair treatment when using these technologies. Other forms of discrimination may arise when automated processes that result in information filtering, profiling or decision-making are based on biased, partial or misleadingly obtained data about them.

With regard to the use and handling of devices, only 7.8% report difficulties in using some of them and only 6.3% have problems surfing the Internet or connecting to social media. However, a low level of education among parents and a larger number of members in the family unit can double the rate of difficulties among adolescents, as can low-performance connectivity services.

Childhood and disability

Adequate access to digital technology can help children and adolescents with disabilities live more independently and participate fully in all aspects of life. Both they and their carers should have access to information related to their situation so that they can be properly informed about the disability, including its causes, care and prognosis. This knowledge is extremely valuable, as it not only allows them to adjust and live better with their disability, but also gives them the opportunity to participate more in their own care and make decisions based on the information they receive.

It also opens up new avenues for them to socialise with their peers, access information and participate in public decision-making processes, without replacing those that take place outside the digital environment.

Different types of disability – physical, intellectual, psychosocial, auditory or visual – pose different barriers to accessing the digital environment, such as content in inaccessible formats, limited access to affordable assistive technologies at home, school and in the community, or restrictions on the use of digital devices in certain environments. Investing in universal access designs for services and products and seeking the direct opinion of children and adolescents with disabilities are objectives to be pursued.

5. MEASURES

The effectiveness of the strategy requires that the following four premises be met: 1) that there be political consensus on regulatory measures, transferring those that should be regulated at European level to Europe; 2) that the approach be systemic and that all proposed measures be coordinated between the various ministries and, in turn, with the different regional ministries and local authorities; 3) there must be honest political momentum, beyond media and political cycles; and, finally, 4) there must be monitoring to enable continuous evaluation and a plan for the constant improvement of these measures, by and for children and adolescents.

Short-term measures

Industry regulation measures

Measure number 1
Title. Age verification systems (AVS) following the Decalogue of the Spanish Data Protection Agency Data Protection Agency.
Description: imposing on all actors in the digital environment the obligation to effectively integrate effective systems to verify authorisation to access content that could be harmful to vulnerable groups, specifically minors, in accordance with the principles published by the AEPD to guarantee the best interest of the child and fundamental rights in relation to the processing of personal data of all Internet users.
Actors in the digital environment are understood to be: <ul style="list-style-type: none">• content producers, search engines, browsers and social media;• application acquisition sites (<i>stores</i>);• <i>streaming</i> or audiovisual content sharing services (as consumers and also as creators);• video-on-demand services;• video game consoles and video games;• messaging services (in particular, in relation to the administration of whitelists of persons authorised to contact minors);• e-commerce with products for all audiences and for adults; and• in general, applications that perform geolocation, applications that expose users to addictive patterns, or applications that allow contact with or the collection of information about minors.
These systems must respect the data protection of all network users, ensuring that it is not possible to identify, track or locate them via the Internet and ensuring that accreditation for access to inappropriate content is anonymous for Internet service providers and third parties. Likewise, the

system must guarantee that a person's activity cannot be linked between different services and, furthermore, that individuals cannot be profiled based on their browsing.

Promote the alignment of age verification systems with the models being developed at European level and avoid barriers to entry in the evolution of technical standards that may be established.

Develop a procedure for the continuous evaluation of the technical requirements of AVS and parental control mechanisms to ensure their effectiveness over time.

Measure number 2
Title. Default configuration of digital safe spaces.
<p>Description: configuration from the design stage and by default of protective measures for minors by software manufacturers and developers, digital service providers (platforms, social media, messaging), device manufacturers and telecommunications operators.</p> <p>Ensure that the default mode is maximum security, avoiding profiling, behavioural advertising, online tracking and automatic notifications when the consent required by the regulations has not been given.</p> <p>Incorporate specific interfaces for filtering specific content or sites through the application of age verification systems. Implement filtering of such content or sites in the browser itself, <i>app stores</i> and instant messaging systems.</p> <p>Promote the work of developers to adopt measures for safe environments for minors in standard Internet browsers.</p> <p>Standard implementation, among other measures, of applications with navigation and usage time alerts, <i>standby mode</i> and automatic shutdown if a preset period is exceeded, to ensure moderate and rational use of devices.</p> <p>Non-inclusion of activated applications and interactions that require the express authorisation of the responsible adult and may pose a threat to the safety of children and adolescents. Options such as geolocation, microphone and camera should be disabled by default and, if used, disabled after each session. In any case, it should be possible to disconnect/block them, preferably manually.</p> <p>All types of devices that allow access to electronic communications and have audio and image sensors (mobile phones, tablets, computers, video game consoles). Facilitate the configuration of DNS servers that allow the filtering of adult content on all types of connected devices that can be used to access content on the Internet.</p> <p>In all cases, this configuration will take into account the age stages for access to content related to the information, development and education of children and adolescents. Promoting the phases of control, supervision, accompaniment and autonomy linked to the different age groups.</p> <p>Promote awareness and use of easy-to-use parental control and content filtering tools in the family environment and other public spaces where minors may have access to online content that is harmful to their development. Mandatory application in educational settings (schools). Provide information on helplines that offer information and guidance on parental control options and</p>

settings.

Encourage importers, distributors and retailers of second-hand devices, taking into account technological possibilities, to offer such devices with parental control and content filtering tools activated.

Measure number 3
Title. Labelling on digital devices and applications.
Description: digital devices marketed in Spain must include labelling warning of the main health risks associated with their use, as well as access to content that is inappropriate for the development of children and adolescents.
These warnings must also appear on screens when accessing a specific application or online platform, indicating the health risks and the maximum recommended time of use. On devices where parental controls are activated, the application will close when this time has elapsed.
All communication or notifications aimed at children and adolescents shall be made in clear and accessible language (QR codes or pictograms may be included).

Measure number 4
Title. Impact report on children and adolescents.
Description: prior to the launch of digital products and services that may be accessed by minors.
For products intended for minors, whether or not they are aimed at children and adolescents, manufacturers and producers must carry out an impact assessment with possible recommendations by age group and with the participation of children and/or adolescents (with special attention to the preservation of their health), applying the concepts of safety from the design stage and adapting this information so that it is understandable to users of different ages.

Measure number 5
Title. Regulation of online applications and platforms.
Description: ensure truly informed consent by children and adolescents by requiring the use of adapted language, including the use of standardised icons to comply with the duty to provide information.
Compliance with the principle of transparency, as well as privacy by default and by design in practice.
Promoting online industry codes of conduct to protect youth and children.

Measure number 6
Title. Prohibition of access to loot boxes and other mechanisms of immediate gratification for minors.
Description: minors will be prohibited from accessing video games and online games, both public and private, that use loot boxes or other mechanisms of immediate gratification, or other mechanisms that generate addictive behaviour.

Measures related to training and education

Measure number 7
Title. Strengthening elements of the educational curriculum that promote life skills, promote the well-being and health of children, adolescents and youth, and respond to social concerns that affect them: safe digital environments, media and information literacy, affective-sexual education, and health education.
Description: reinforce the actions envisaged for the full development of digital competence and affective-sexual education and health education through the following actions: <ul style="list-style-type: none"> • Training programmes (curriculum intensification, workshops, talks, tutorials, etc.) in educational centres for children and adolescents, including aspects such as digital liability; online communication and collaboration skills and cyber coexistence; digital prevention; digital rights and duties; virtual content that is harmful or detrimental to physical, mental and emotional health, including hate messages; child sexual abuse material, grooming, sexually exploitative content and harassing behaviour; potential criminal liability for illegal actions in the virtual world, as well as the scope of the responsibilities that may arise from their online behaviour (administrative, civil and disciplinary in the educational sphere), which may affect their parents, guardians, foster parents and legal or de facto guardians. • Specific programmes on media and information literacy (MIL) that train children and adolescents, adapted by age group, to understand and critically analyse information, evaluate its importance and credibility, and discern its veracity. • Promote the full development of affective-sexual education through a comprehensive model that provides children and adolescents with a complete and balanced education on human sexuality, paying special attention to the influence of digital technologies. • Promote health education on the effects of digital device use, with a special focus on mental, physical and social health. Offline activities will be encouraged for pre-school children (aged 0 to 6) and analogue teaching will be prioritised in primary school (aged 6 to 12).

Measure number 8

Title. Reinforce content related to affective-sexual education.

Description: reinforce the presence of affective-sexual education content in the education system, taking into account, in addition to general content on this subject, the risks associated with digital environments, in particular the risks and effects on emotional and sexual relationships due to the misuse of digital devices or the consumption of content that is inappropriate for the development of children and adolescents. It will also include content related to the fight against online sexual violence from a rights-based approach, providing children and adolescents with tools for the prevention and reporting of inappropriate content.

Given the difficulties involved in including an EAS subject in the curriculum and the desire to reinforce this content, the following recommendations are made, which are more easily integrated into our current education system:

- The development by the educational authorities of a funded programme to reinforce affective-sexual education (ASE) to be carried out through courses and workshops at all educational stages, taught by accredited professionals with the appropriate training, with special emphasis on compulsory secondary education.
- Ensuring, on the part of the educational authorities, the provision of ongoing training for teachers on ASE.
- Introduction of ASE into university curricula for professionals working with children and adolescents.
- Assess the inclusion of EAS in the processes for accessing the teaching profession.
- Ensure the evaluation of EAS taught in Spain and its suitability for the specific needs of prevention and protection of children and adolescents.
- As part of the assessment process in education, it is recommended that the content taught within the framework of EAS be updated periodically and include current issues such as the impact of child sexual abuse material on adolescent sexuality, violence and sexual abuse, the hypersexualisation of children and adolescents, and the impact of social media, among other aspects. All of this should be based on scientific evidence.

Measure number 9
Title. Improving the digital competence of professionals working with children and adolescents.
<p>Description:</p> <ul style="list-style-type: none"> • Continue teacher training based on the Reference Framework for Digital Competence in Teaching (MRCDD) and the training needs identified, considering the opportunities and risks for physical and mental health and neurodevelopment posed by the application of digital technologies in the classroom. • Adapt the MRCDD model to non-formal education professionals. • Include content on digital competence and media literacy in the curricula of other professionals working with children and adolescents, as well as the risks to health and neurodevelopment and the opportunities of using digital devices from the perspective of scientific evidence to date.

Measure number 10
Title. Strengthen the role of the well-being and protection coordinator.
<p>Description: train the person responsible for wellbeing and protection specifically in the digital sphere to enable them to detect problems arising from the use of digital technologies and their potential risks, and to propose actions to remedy the situation.</p> <p>Strengthen their role and recognise the time commitment required to carry out their work, as is the case with other roles in educational centres.</p>

Measure number 11

Title. Regulation of the centre's own technological devices through the Digital Plan.

Description: establish appropriate regulations for the use of digital devices in centres, to be reflected in their Digital Plan for the Centre, considering, at least:

- A verified review of the tools and applications used to determine their contribution to improving learning according to scientific criteria.
- The elimination of games from educational applications related to immediate gratification systems.
- The establishment of limits on the digitalisation of teaching according to age (including screen time for tasks performed outside school hours), following the guidelines established by scientific societies and taking into account data protection, security and privacy policies.
 - Early Childhood Education: individual digital devices will not be used, although the use of collective teaching tools will be permitted under the appropriate supervision of teachers. The use of digital devices will be avoided for children aged 0 to 3 years.
 - Primary Education: analogue teaching will be prioritised.
 - Compulsory Secondary Education and Basic Vocational Training: only as a teaching tool, duly justified and supervised, and taking into account the age of the students.

Measure number 12

Title. Regulation of private technological devices in schools.

Description: establish clear rules on the availability and use of private technological devices in order to promote both coexistence and the development of digital competence, taking into account data protection, security and privacy policies.

Differentiation by educational stage:

- Early years and primary education: use of private electronic devices is not permitted, except for duly justified exceptional reasons, special health or personal situations.
- Compulsory Secondary Education: use of private electronic devices is not permitted, except for duly justified exceptional reasons, special health or personal situations. An exception is made for their use as an educational tool, duly supervised, justified and included in the School's Digital Plan.

Measure number 13

Title. Training in the family environment.

Description: design, by the competent bodies, with the participation of families and child and youth organisations, a training plan for families that includes:

- Parental or guardian mediation.
- Safe browsing, access and exposure time limits, as well as appropriate supervision for each age group.
- The risks and health effects that may result from the use (including abusive or inappropriate use) of digital devices, as well as the potential educational benefits of critical and appropriate use.
- Children's rights and the duties of families or legal guardians in the actions of children and adolescents.
- The advisability of agreeing on common rules, taking into account age, whether children and adolescents are part of a single family unit or live in several units.
- Children's rights to protection from risks related to content (child sexual abuse material and other adult and/or harmful content), contact (grooming, self-recording and sexual violence against children, etc.) and behaviour (dissemination of sexual material, deepfakes, etc.) and the duties of families or legal guardians in the actions of children and adolescents. the possible criminal, civil or administrative liability of children and adolescents, as well as their parents and guardians, in relation to illegal behaviour.
- Information on helplines on this subject.
- Mechanisms for family participation in the school community (school council, family associations, family schools, etc.).
- The design of a package of measures, continuously updated and adapted by age group (using the Spanish Paediatric Association's digital family plan, among others, as a reference), which includes resources for families and guidance on the use of digital technologies, in accordance with the recommendations and protocols arising from studies and research and in line with those incorporated in educational centres.

The Plan must be adapted to all types of families, their socioeconomic levels, their availability of time for training and their accessibility to the means that could be used. It should also consider the financial resources that would allow subsidies to be granted to parents' associations and third sector entities to facilitate the implementation and adaptation of the Plan.

In addition, in order to ensure wider dissemination, it is also recommended that information material be distributed information material to all parents and legal guardians, both in written and video format, through the information distribution channels used by educational centres (emails, digital classrooms, etc.), in order to reach all of them.

Measure number 14
Title. Offer non-digital alternatives for leisure time.
<p>Description: organisation by public administrations of an alternative and sufficient range of activities available outside school hours, at weekends, and during school holidays. This should:</p> <ul style="list-style-type: none"> • Have sufficient funding and resources. Make the most of or supplement local resources, both in terms of infrastructure (cultural centres, libraries, sports fields, etc.) and personnel (volunteers, associations, etc.). • Promote experiences in the physical world as an alternative to the use of digital technologies in leisure time. • Widely publicise the healthy leisure alternatives proposed through all possible means, including the websites of local councils, schools and collaborating entities. Use digital platforms and information points to ensure that a wide audience is reached.

Measures in the social and health sphere

Measure number 15
Title. Information in the field of health.
<p>Description: inclusion of psychoeducation and preventive recommendations on the impact of digital technology on neurodevelopment from the beginning of pregnancy and in perinatal and well-child care programmes.</p> <p>Systematic inclusion of screening questions on technology consumption habits, problematic behaviours and inappropriate uses, and other technology-related health risks in all health consultations for all ages, including adults with minors in their care.</p> <p>Integrate the use of digital devices into the mental health surveillance analysis provided for in the general public health law.</p>

Measure number 16
Title. Mental health action programmes.
<p>Description: include screening for depression, anxiety and technology use in primary care check-ups for adolescents, with preferential referral to mental health services if a risk of pathology is detected, and monitor the results in a structured manner and in a research context to verify their usefulness and review long-term actions.</p> <p>Establish structural liaison programmes between mental health and educational centres. Develop protocols for screening, early detection and referral related to the use of ICTs in both paediatricians and school guidance.</p> <p>Implement a framework of suicide prevention programmes including youth and children, to be applied in all autonomous communities, with a preferential consultation agenda in mental health in response to self-harm in adolescents.</p>

Measure number 17
Title. Mainstreaming mental health and linking it to digital devices.
Description: enable spaces for mutual support among adolescents, as well as family groups of families, to address these issues and combat the stigma associated with mental health problems. Establish and train groups of families and adolescents involved in awareness programmes on the consequences of using digital devices, including people with and without mental health problems (more vulnerable) to combat stigma.

Measure number 18
Title. Define non-substance-related disorders and addictions resulting from the impact of technology on children and adolescents as a public health problem.
Description: consider the impact of technology on children and adolescents as a public health problem, defining the characteristics to be taken into account for intervention, facilitating the implementation of necessary government measures to protect the most vulnerable people from a preventable problem. This allows for the implementation of primary, secondary and tertiary prevention measures, given that some effects of technology on health may be reversible, such as the impact on sleep and concentration, according to studies in adolescent populations. Develop early detection and referral systems in the health and education systems.

Measure number 19
Title. Public information on the social and health risks of using digital devices.
Description: development of awareness campaigns by public administrations on the social and health risks of using digital devices and accessing content that is inappropriate for child and adolescent development. Children and adolescents should participate in the design and development of these campaigns, which will be disseminated through educational, social and health centres and other public spaces. These campaigns will be designed with clear and measurable objectives, based on scientific evidence, and should address factors such as: <ul style="list-style-type: none"> • Existing international recommendations on the use of digital devices for different age groups. • Risks related to the use of digital devices, addictions and possible related disorders. • Mainstreaming and specific attention to vulnerable groups. Digital and health education, and guidance for children and adolescents on the amount of time they spend using digital technology and the type of consumption they are engaging in. Based on the development of these awareness campaigns, monitoring will be promoted the evolution of digital device use and the conduct of studies that will yield results in the most efficient and comparable manner.

Measure number 20
Title. Affective-sexual education aimed at families.
Description: provide affective-sexual education aimed at families as the primary agents of socialisation and involve them in the affective-sexual education programmes of their children. In addition, in order to ensure wider dissemination, it is also recommended that information material be distributed to all parents, legal guardians, carers, adoptive parents and foster parents, in both written and video format, through the distribution channels available information channels in order to reach all of them.

Measure number 21
Title. Neuro-rights.
Description: expansion of the current set of digital rights (LOPDDD, Digital Bill of Rights), especially in relation to neuro-rights, with particular emphasis on those relating to the protection of minors.

Measures to promote safety in digital environments.

Measure number 22
Title. General recommendations regarding the progressive access of children and adolescents to digital devices by age group.
Description: to protect children and adolescents from the risks posed by the digital environment to their well-being and overall development, the following recommendations are made, aimed primarily at families, for the appropriate use of devices through gradual access that is as safe, respectful of their rights to privacy and intimacy, and educational as possible, and adapted to the level of maturity and progressive capacity of children and adolescents. This recommendation aims to accompany children and adolescents from a situation in which they must be strongly protected from exposure to the digital environment from the earliest stages of life until they reach sufficient autonomy to allow them safe, responsible and positive access to and use of digital environments. Recommendations:
<ul style="list-style-type: none"> • Do not expose children aged 0 to 3 to digital devices. • Discourage the use of digital devices for children aged 3 to 6. As an exception, in cases of necessity and on an occasional basis, under adult supervision, it may be permitted for the purpose of maintaining social or family contact, or when determined by court order. • It is advisable to limit the use of digital devices by adults in the presence of children under the age of 6. • Between the ages of 6 and 12, limit the use of devices with Internet access and prioritise experiential activities, sports, contact with nature and the physical and physical environment. If it is decided that a device should be used, it should be under adult supervision and for occasional access, with pre-set limits, only to

content appropriate to their age and ability.

- From the ages of 12 to 16, if you decide to allow access to digital devices, it is essential to take protective measures for children and adolescents - without falling into the trap of thinking that this is the only measure that should be taken - to install parental control tools that, within the limits of this technology, prevent access to inappropriate content and manage exposure time and access through family contracts on device use to limit spaces, usage times, etc., ensuring the adoption of security measures and privacy settings that all digital devices have.
- Between the ages of 12 and 16, prioritise the use of analogue (call-only) phones without internet access, if deemed necessary. Delay the age of the first smartphone (with internet connection) as long as possible. If families decide to give their children a smartphone before the age of 16, use parental controls to limit and monitor access to content and usage time, without access to social media and with an agreement on the time and type of use, placing special emphasis on practical and up-to-date digital education for children, adolescents and adults. Training on issues of privacy, cybersecurity, legal responsibility for actions committed on the Internet, as well as tools such as the priority channel, the 017 helpline and other resources, as well as training to make the most of time spent on the Internet (learning languages, perfecting gifts/talents through tutorials, etc.).

Measure number 23
Title. Legal responsibility of the industry
<p>Description: consider the implementation of measures to ensure civil liability for the industry and the criminal liability of those responsible, in the digital environment, in relation to the damage that digital services and AI may cause to the physical, moral and mental health of minors. Such damage may arise, among other things, from the use/consumption of inappropriate content or the existence of forms of abuse. It also proposes reversing the burden of proof so that it is up to companies to demonstrate the legality and safety of their practices.</p> <p>Include specific liability for the use of algorithms that are not transparent, that generate bias or that violate the privacy of users and, in particular, minors.</p> <p>Regulation and promotion of class actions, currently being debated in Parliament, to address the harm caused to minors by applications, search engines, platforms and social media.</p> <p>Inclusion of a provision in the Civil Procedure Act granting legal standing to the legal representatives of minors to exercise their rights as users and consumers in the digital environment, in accordance with article 11 of said Act, and also granting such legal standing to the public administrations responsible for the protection of children and adolescents.</p>

Measure number 24
Title. Blocking mechanisms.
<p>Description: implementation of a blocking mechanism, through cease and desist orders activity, which allows, with prior judicial authorisation, the blocking of harmful content accessible on a video-sharing platform established in third countries when it has been sanctioned for non-compliance with obligations regarding the protection of minors. In this regard, a summary procedure is also proposed for judicial authorisation of requests from the CNMC for telecommunications operators to interrupt or block access to the service of a video-sharing platform that has been sanctioned.</p> <p>This measure is currently being debated at European level (CSAM Regulation).</p>

Measure number 25

Title. Strengthening and disseminating reporting and complaint channels.

Description: in the context of child protection on the Internet, it is crucial to understand the differences between reporting (informing about inappropriate or illegal behaviour or content through the reporting channels of online platforms) and denouncing (notifying illegal activities to the State Security Forces and Corps (FCSE) or competent authorities). In addition to these two functions, there is also the function of requesting help (seeking guidance and support on Internet problems through public and social helplines).

It is proposed that reporting and complaint channels be strengthened through several measures:

- Strengthening the investigative and corrective powers of the Spanish Data Protection Agency, particularly with regard to identifying the person responsible for the events that have occurred and adopting measures to effectively remove content.
- Strengthening the role of the Spanish Data Protection Agency in promoting public awareness and understanding of the risks, rules, guarantees and rights relating to the processing of personal data.
- Dissemination of the Spanish Data Protection Agency's priority channel in schools and families.
- Improving understanding of public and social reporting and complaint channels, adequately highlighting the role of each one and those responsible for them through communication, awareness-raising and dissemination actions, both in general and specifically in schools and families.
- Imposing on platforms and social media the obligation to report to the FCSE any notifications they receive from users related to the protection of minors and the measures they have taken in this regard, where applicable.
- Supervision of the obligation of social media platforms and networks to report to the FCSE and the Public Prosecutor's Office any notifications they receive from users related to the protection of minors and any measures they may have taken in this regard.

Measure number 26

Title. Prohibition of digital tools that generate "deep nudes" or "deep fakes".

Description: there are hundreds of pornographic "deep nudes" or "deep fakes" tools that are easily accessible and unregulated on the internet, allowing users to create fake nude images. The problem is exacerbated when the victims are minors and the images are realistic, because in that case we would be talking about (virtual) child sexual abuse material.

Applications that allow minors to be stripped naked using AI and/or images without the consent of the person concerned should be prohibited by law with the revision of articles 197 and 189 of the Criminal Code.

This measure is in line with the new article 173 bis of the Criminal Code, as set out in the second final provision, section eleven, of the Draft Organic Law for the protection of minors in digital environments.

Measure number 27

Title. Legal requirement for a certificate of no criminal record for sexual offences for any person who carries out activities with minors or particularly vulnerable persons, including online activities.

Measure number 28

Title. Strengthen helplines for prevention, guidance, early detection and intervention in situations of risk for minors and their families.

Description: child and adolescent helplines in Spain are care services designed to protect and assist children and adolescents who are at risk or who need guidance and support. These lines are managed by public entities and non-governmental organisations and their aim is to provide a secure and confidential means of communication for minors and their families.

More funding and collaboration agreements with helplines are needed, as increasingly more cases of children and adolescents at risk are being detected. Thanks to these helplines, they are able to report their situation and receive the necessary support and assistance, with their cases being referred to the competent authorities.

Measure number 29
Title. Creation of coordination systems for safe digital environments by public administrations.
<p>Description: establish a group of public administrations to be called the "Council on Environments". safe digital environments for children and adolescents" that allows the relevant agencies and offices (Ministry of Youth and Childhood, Ministry of the Interior, Ministry of Education, Vocational Training and Sports, Ministry of Equality, Ministry for Digital Transformation and Public Administration, Delegation Against Gender Violence, CNMC, AEPD, INCIBE, etc.) meet regularly and work together to identify the need for intervention, collaboration and improvement.</p> <p>Assess the creation of a "State Observatory on Digital Violence against Children and Adolescents" that can receive complaints, promote studies and facilitate other government activities in this area, optimising existing official channels and those that are enabled in the deployment of the DSA in Spain.</p>

Measure number 30
Title. Involve regional audiovisual councils in monitoring compliance with audiovisual regulations on content unsuitable for minors.

Measure number 31
Title. Regulation of commercial communications.
<p>Description: ensuring compliance in the digital environment with prohibitions or restrictions on commercial communications that are harmful and detrimental to the health, safety and developmental progress of children and adolescents (gambling and betting, alcoholic beverages, etc.), in line with the provisions of audiovisual legislation.</p> <p>Promoting an active role for platforms and social media in identifying such content and preventing access by minors.</p> <p>All of this is linked to a push for the implementation of the DSA in Spain, with the aim of enforcing the regulations already contained in European legislation in this area. Raising awareness of the notification mechanisms provided for in the Regulation itself and improving accessibility to these mechanisms in relation to digital products and services.</p>

Measure number 32
Title. Authorisation for the CNMC to act as the DSC of the DSA and allocation of resources.
<p>Description: regulatory authorisation of the CNMC by amending the Law on the Creation and Statutes of the Commission and/or, where applicable, the Law on Information Society Services and Electronic Commerce, so that it can exercise its functions as Digital Services Coordinator within the framework of the DSA with the necessary allocation of resources. Development of the penalty system provided for in this Regulation for its application by the CNMC.</p> <p>Provide sufficient material and human resources and agile powers and procedures to public administrations that can support the reporting activities of the AEPD and the CNMC (Equality, Government Delegation for Gender Violence).</p> <p>Strengthen the work of trusted flaggers to be appointed by the CNMC within the framework of the DSA, which will facilitate both early detection and the establishment of a communication system with digital content providers and the platforms that provide this content, in order to resolve the modification, removal or restriction of access for minors to this type of inappropriate legal content.</p>

Measure number 33
Title. Effective implementation of the DSA in Spain.
<p>Description: monitoring and control by the National Commission for Markets and Competition (CNMC), in collaboration with other related agents, of the obligations set out in the Digital Services Act (DSA) for all digital service providers concerned (not only for very large platforms and search engines), especially those that target minors or are predominantly used by them.</p> <p>For example, the obligation to provide adequate and understandable information to help minors report abuse and obtain help; measures to protect privacy and security (prohibition of commercial profiling); measures to control material depicting sexual violence; measures on transparency and avoiding bias in the use of algorithms and recommendations; measures on the design of recommendation and algorithmic systems, as well as content moderation; age verification and parental control tools (where appropriate). Designation of reliable whistleblowers.</p>

Measure number 34

Title. Promotion of the codes of conduct provided for in the DSA.

Description: promotion of the codes of conduct provided for in the DSA, requiring that risk assessments and mitigation measures emphasise the impact on the rights of minors.

In the case of these codes of conduct, establishing a system of sanctions when:

- A privacy and security approach, particularly aimed at protecting minors, is not included in the design, development, implementation and operation of products and services.
- Default protection modes are not included in the design of products and services which, under the control of parents or adult guardians, limit exposure to unauthorised content and contacts.
- Minors should not be provided with alerts or concise, intelligible, easily accessible information formulated in clear language appropriate for children and adolescents about their rights as users and the implications of their browsing decisions, including access to content or services. Such information may include non-textual messages such as cartoons, videos, images and/or icons.
- No warnings are given about the risks of certain actions that may jeopardise the privacy or well-being of minors. For example, by requiring such a warning to be included in a pop-up window or video when they upload a photo.
- The platform does not comply with the instructions of the APP provider that it cannot be marketed to minors (by breaking down ages and providing justification).
- The privacy of minors' personal data is not guaranteed by default, as such data is transferred, disclosed or communicated for commercial or advertising purposes.
- Scientific evidence or recommendations from official bodies to avoid practices harmful to minors are not taken into account.
- The user's freedom of choice is hindered by making certain options that offer greater protection more complicated or time-consuming, or by making it difficult to change the default settings to a higher security profile.
- Use techniques that unduly encourage continued use or time spent using the service.
- Recommendation systems for minors (including content or friend/follower recommendations) are not disabled by default.

- Exposing minors to undue or inappropriate commercial pressure through targeted advertising, *influencers*, in-app purchases, or advertisements disguised as user/entertainment content or games, or not properly labelled.
- Parental controls should not provide a clear warning signal in the event that location is tracked.
- Accessible and age-appropriate resources that are easy to understand and use in relation to internal complaint handling, notification and action mechanisms are not made available to minors. These notification mechanisms must be addressed to a natural person (content moderator) who is obliged to respond within 48 hours.

Measure number 35

Title. Implementation of the self-regulation and co-regulation model and labelling requirements labelling.

Description: compliance with the LGCA in relation to the implementation of the self-regulation and co-regulation model provided for in that law for its application. Such compliance must apply both to audiovisual media service providers (linear and on-demand), including users of special relevance (USRs), and to video-sharing platforms. According to the LGCA, SRUs must rate their content and inform the public without prejudice to what video-sharing platforms do, and when platforms make tools available to content generators, they are obliged to use them.

To extend the scope of protection, it is proposed that the digital service providers concerned should ensure compliance with the rating and labelling obligation by making tools available to all content-generating users to label the content they upload to their platforms (age rating and thematic descriptors), in order to enable the application of age verification systems and the use of parental controls.

The labelling obligation must be included in the terms of use, so that content-generating users are forced to declare whether or not such content is harmful to minors, as a necessary precondition for uploading it to platforms and networks.

Extension of the commitment of platforms and networks to adopt measures to ensure compliance with other self-regulation and co-regulation codes in the field of commercial communications.

In the case of delay of the obligation to subscribe to said codes and agreements, modification/development of the LGCA in order to establish a deadline for their adoption or attributing sanctioning powers to the CNMC.

Measure number 36
Title. Promotion of regulation at European level.
<p>Description: promote European regulation aimed at protecting children and adolescents in online environments, and its rapid adaptation to domestic law, including the development and implementation of the Digital Services Act (DSA) and the Audiovisual Media Services Directive (AVSMD), as well as the Directive on combating the sexual abuse and sexual exploitation of children and child pornography, and Directive (EU) 2024/1385 of 14 May 2024 on combating violence against women and domestic violence. Promote the conversion of the Regulation to prevent and combat online sexual exploitation (CSAM) into a truly comprehensive regulation for the protection of minors in the Union, expanding and harmonising the measures initially envisaged.</p> <p>Adopt criteria aligned with the Spanish Data Protection Agency for compliance with data protection legislation by age verification systems in the European Data Protection Board and the European Commission's Age Verification Working Group.</p> <p>Promotion with the European Commission of a list of criteria for the age rating of online sites, content and video games.</p> <p>Promotion of the Protection of Minors Working Group in the European Board for Digital Services provided for in the DSA.</p> <p>Promote the development of European Commission guidelines for online platforms to comply with their obligation to establish appropriate and proportionate measures to ensure a high level of privacy, security and protection of minors in their service (Art. 28 DSA).</p> <p>Accelerate the development of the Code of Conduct on Age-Appropriate Design.</p>

Measure number 37

Title. Protection of children and adolescents from digital messaging applications.

Description: minors are receiving a large part of harmful content via the Internet through digital or instant messaging, both in point-to-point and multipoint (group) communications. Such messaging is also used to encourage harmful behaviour.

This is particularly the case due to the free access available to any user through instant messaging. Instant messaging services are currently protected by the fundamental right to secrecy of communications. However, without violating the secrecy of communications, it is possible to implement a default protection system regarding the contacts of minors, both those requested by the minor themselves and those not requested by them. In other words, who can access the child or adolescent, or who the child or adolescent can access. This is possible if the configuration of contacts that can access and be accessed by a user (any user, whether adult or minor) requires the use of an age verification system. In this way, those who have parental authority or guardianship could, under their responsibility, establish the functionality of the instant messaging application in relation to free access by and to third parties: either completely open, restriction on anyone being able to contact them, restriction on them being able to contact people outside the contact list, restriction on the contact list and its configuration.

Measure number 38

Title. Parental control tool on digital devices in public spaces.

Description: the need to prevent children and adolescents from being exposed to inappropriate content and risks arising from unsupervised use of the Internet on digital devices in public cultural, leisure and similar spaces.

Ensure that parental control tools that block access to pornographic and violent material and other illegal content, as well as legal content that is inappropriate for children and adolescents, are always enabled on digital devices available in public spaces such as schools, libraries, civic and cultural centres, youth associations, toy libraries, children's and youth leisure centres, etc.

Measures to develop better public policies

Measure number 39
Title. Informing citizens about legal, security, privacy and health risks.
Description: development of awareness campaigns by public administrations on the legal, security, privacy and health risks for children and adolescents in the digital environment. Promotion and reinforcement of campaigns against cyberbullying, grooming, access to pornography, cyber control and identity theft. Advice to families of minors on these issues, on the legal responsibilities arising from such behaviour and on any legal changes that may occur in this regard. Children and adolescents should participate in the design and development of these campaigns, which will be disseminated through educational, social, health and other public spaces. These campaigns should be aimed at the entire population by age group and carried out through: <ul style="list-style-type: none">- Media- Social media- Bus shelters and street furniture, billboards- Schools- Health centres- Leisure and recreation centres- Sports stadiums- Events: Olympics, World Cups, concerts, etc.

Measure number 40
Title. Creating safe spaces where people can ask for help.
Description: the implementation of public policies in other areas has shown that vulnerable or at-risk individuals who are vulnerable or at risk need direct telephone, digital or physical support, which in some cases includes the provision of resources such as housing or safe meeting spaces. These types of policies should provide lessons learned that can be transferred to childhood and adolescence.

Measure number 41
Title. Policy evaluation mechanisms.
Description: continue government initiatives that bring together professionals from different areas to monitor the policies being promoted. Encourage child and youth participation and promote existing participatory bodies so that enable children and adolescents themselves to monitor and evaluate policies.

Measure number 42

Title. Research studies on the use of digital technologies: potential benefits and opportunities, problematic uses, risks, effects and abuses.

Description: promotion and encouragement of multidisciplinary studies on the use of digital technologies, including:

Studies in the field of health:

- - *Ad hoc* studies to map the current situation regarding both the use of digital technologies and their consequences, in order to assess their real effect on health and the factors that modify that effect.
- - Analysis of the prevalence of non-substance addictions in childhood and adolescence by the Spanish Observatory on Drugs and Addictions.

Studies in the field of education:

- Analysis of the possible relationship between the use of personal mobile phones and coexistence in educational centres. Assess the possibility of adding questions about the use of personal mobile phones to the School Coexistence Observatory survey to assess the effect they may have on coexistence, as well as propose reducing the age ranges of the ESTUDES survey sample to 12 years.
- Assess the effects on learning of the use of digital devices during school hours, taking into account the opinions of children and adolescents, through multisectoral research in different fields of knowledge, including the effects on health and the teaching-learning process. The report should enable the establishment of a strategy that includes recommendations and protocols that can be incorporated by educational centres into their digital plans for implementation, as well as their continuous evaluation in order to measure their impact and adjust the strategy.

Research: Develop adequately funded lines of research on this subject in public institutions such as universities, the CSIC and others.

Measure number 43
Title. Study on the emotional and sexual needs of children and adolescents.
<p>Description: studies conducted to date do not include the opinions or needs of children and adolescents in terms of affectivity and sexuality, so it is necessary to develop an assessment of the needs of children and adolescents.</p> <p>Develop a data collection protocol to identify these needs, coordinated with the development of affective-sexual education. Taking into account not only children and adolescents themselves, but also other groups involved, such as families and teachers.</p>

Measure number 44
Title. State Pact against Hate Speech towards Vulnerable Groups
<p>Description: hate speech is the cause of violence towards vulnerable groups and must also be analysed from the perspective of their spread in digital environments. Hate crimes are their consequences.</p> <p>Resources are needed to prevent hate speech and to include measures to prevent and eradicate hatred on social media, which also affects minors. A plenary debate is required in the Congress of Deputies, or any other parliamentary body such as special committees, to promote consensus among parliamentary groups.</p>

Measure number 45

Title: Action plan to combat violence linked to pornography.

Description: certain child sexual abuse material poses a direct threat to the right of girls and adolescents to live free from sexual violence, physical violence, symbolic violence, and cruel, inhuman, and degrading treatment. Studies indicate that viewing child sexual abuse material increases sexism and sexual violence against women and girls. Also of great concern is the increase in the trafficking of children and their sexual exploitation through platforms and social media that are used for grooming, exploitation and then sextortion (contact risks), with an increase in self-recorded material, especially of children aged 11 to 13. The online recruitment and exploitation of children and adolescents violates their rights not to be subjected to human trafficking and sexual exploitation. Furthermore, the exposure of minors to certain pornographic content has led to new crimes such as the creation or dissemination of sexual images and a potential increase in perpetrators of violence.

We recommend that the Delegation against Gender Violence and the Ministry of Equality prioritise the fight against violence linked to pornography as a form of gender violence that predominantly affects girls, adolescents and young women. In this regard, we propose a national action plan to combat violence in the field of child sexual abuse material, including activities to raise awareness among children, adolescents and families from a gender perspective (production of videos, comics, books, short films, film funding, etc.).

Medium-term measures

Industry regulation measures

Measure number 46
Title. Regulation on the protection of minors' data online.
Description: development of regulations for protective measures on platforms and digital tools that prevent the direct identification of minors by third parties.

Measure number 47
Title. Regulation of persuasive designs and tools and dark patterns to guarantee freedom of interaction in the digital environment.
Description: application and enforcement of measures prohibiting persuasive and addictive designs and tools in the digital environment industry that are aimed at or accessible to minors. Effective prohibition of the use of dark patterns and other deceptive practices that mislead minors in their online interactions. Adopting specific measures to guarantee users' freedom over what they see and share, prioritising that freedom over the constraints of algorithms. For example, disabling profiling by default; optimising values other than engagement, associated with commercial and business interests; promoting responsible user choice, which means that platforms must create new features that facilitate conscious and authentic feed personalisation and protect user well-being; the introduction by platforms of positive frictions to slow down users' posting and interactions, giving them the opportunity to think before sharing; disabling recommendation systems based on people's intimate profiles and other changes to such systems as a commitment to safe design. The aim would be to promote a shift in the business model, moving away from addiction and the dissemination of harmful content to the promotion of positive and healthy content.

Measure number 48
Title. Regulation of content removal
Description: regulate the urgent removal of illegal content with a direct impact on childhood and adolescence on the Internet, as well as the circumstances under which such removal would be required and the liability of companies that allow the publication of such content. In this regard, in the case of platforms, articles 9 and 10 of the DSA harmonise the elements that must be included in content removal orders and standardise certain procedural aspects thereof.

Measure number 49
Title. Regulation of the video game sector.
Description: regulation of the video game market, both online and offline, beyond the thematic and age ratings established by the PEGI Code, in line with initiatives being developed within the EU (European Parliament, Commission). In the case of online video games, a modification of the current LGCA is proposed to include video games as audiovisual content and video game manufacturers as audiovisual service providers, applying age verification systems and granting the CNMC the function of supervising and controlling their legal obligations. In the case of offline distribution, establish powers for consumer authorities so that the purchase of video games and applications at points of sale is subject to the same restrictions in terms of thematic and age ratings.

Measure number 50
Title. Regulation in the field of artificial intelligence.
Description: application of regulatory obligations in the field of artificial intelligence (AI) following following the adoption of the Artificial Intelligence Regulation (AIA). This includes providing adequate information to users; expressly identifying its use in the content disseminated; prohibiting certain manipulation techniques, such as restrictions on anthropomorphised models, especially when potential users are vulnerable groups and, in particular, when minors are involved.

Measure number 51
Title. Regulation of content creators.
<p>Description: regulation through a new legislative initiative of the activity and obligations of content creators, whether or not they are considered users of special relevance within the framework of the LGCA. With special attention to the rights of children and with the promotion of an express prohibition on exposing minors in the content that is the subject of their activity on the internet, regardless of whether this activity generates direct or indirect economic income. Particular attention is paid to the practice of <i>sharenting</i> by content creators or influencers.</p> <p>This regulation could serve as a complementary framework for matters such as the express identification of commercial communications; the non-dissemination by content creators of messages about tobacco, electronic cigarettes, combustible tobacco and similar products, as well as counterfeit products; the non-dissemination or limitation of messages about alcoholic beverages, energy drinks, cryptocurrencies, pets, cosmetic surgery, products with health claims, games and gambling, sports betting and other consumer products for adults; the obligation to identify messages subject to restriction as adult content, so that age verification and parental control can be applied; the responsibility of content creators and their legal representatives to users for their messages; the identification through captions of retouched and virtual images, underage influencers (kids influencers) and their protection from an economic, labour and educational point of view; the regulation of the activity of influencers in general from a professional, labour and tax point of view.</p>

Measure number 52
Title. Strengthen technical requirements and their evaluation in the safe development of parental control mechanisms, as well as any additional requirements that may be identified to protect the privacy of minors.
<p>Description: parental control applications are not immune to security threats and breaches have occurred that have exposed sensitive data of minors and their families, raising concerns about security and privacy in the use of these applications.</p> <p>Companies that develop parental control solutions must comply with current regulations, such as the GDPR and the LOPDGDD, and apply best security practices to protect this sensitive information. With regard to the security of digital devices, the future implementation of the European Cyber Resilience Act (CRA) will establish the benchmark security framework. Parental control applications must allow for the possibility of revoking consent for any downloaded application.</p>

Measure number 53
Title. Corporate social responsibility and measures in the field of digital companies
<p>Description: using the concepts of reputational damage and corporate social responsibility of digital companies to encourage them to fulfil their child protection commitments.</p> <p>Establish a system of incentives and penalties. Create a blacklist of digital companies that violate the obligation to protect minors from child sexual abuse material or are under investigation, and a whitelist for those that have accredited age verification systems.</p> <p>Reach collaboration agreements with the main search engines so that they do not give priority visibility and relegate to a secondary position (shadowband) those pages with adult content that do not use age verification systems.</p> <p>Promote corporate social responsibility initiatives aimed at protecting children and adolescents from content-, contact-, and conduct-related risks associated with pornography.</p>

Measure number 54
Title. Promote a white paper on online advertising that integrates the industry (Online Trust Seal)
<p>Description: contextual advertising is a risk generator. It can encourage consumption by immature individuals, allows for manipulation, and may involve the offering of advertising that is not age-appropriate (sports betting, tobacco, alcohol, etc.). This measure is justified by the need to engage the sector in the deployment of good practices, including through self-regulation.</p>

Public policies on training, health and social issues and the empowerment of children and adolescents

Measure number 55
Title. Detection and intervention in educational centres.
<p>Description: design a detection and intervention plan that incorporates proposals for action risks arising from the use of digital technologies, with interdisciplinary teams working to improve mental health care for children and adolescents.</p> <p>The Plan will include:</p> <ul style="list-style-type: none"> • Training of interdisciplinary teams. • Preventive and intervention measures. • Implementation of intervention protocols. • Actions with the families of children and adolescents who use digital devices in a problematic way. <p>Developing the role of "student mediator in the digital sphere".</p>

Measure number 56
Title. Access to digital resources in educational centres.
Description: determine the digital equipment requirements for educational centres after studying the needs declared by the teaching teams at each centre within the framework of regional competences in this area. The specific characteristics of each stage of education and administrative recommendations must be taken into account, paying particular attention to rural areas and centres with a significant percentage of students who are disadvantaged or at risk of social or digital exclusion. Regulate, through legislation, the necessary measures to ensure the protection of children and adolescents when accessing the internet in educational centres, through the mandatory activation of browsing filters and content filtering settings on digital devices used for educational purposes.

Measure number 57
Title. Observatory of educational digital applications and tools.
Description: create and promote an observatory to analyse digital educational applications and tools, offering guidance to professionals and families regarding their pedagogical effectiveness, recommended usage time, age ratings, safety, potential risks, etc.

Measure number 58
Title. Implementation of psychoeducation programmes in the health and sociocultural fields.
Description: to set up working groups in healthcare and social centres with a preventive nature and working with society as a whole, with the dual objective of having a direct impact on the groups with which they work and gathering more information and analysis on the phenomenon addressed.

Measure number 59
Title. Use of accessible and understandable language for children and adolescents.
Description: promote legislative reform, focusing primarily on the General Terms and Conditions of Contract, the Law on Information Society Services and Electronic Commerce; and the Data Protection Law to guarantee the right of access to information for children and adolescents. Ensure the use of language adapted to this audience in relation to warnings and privacy policies and the terms of use of the various digital products and digital services (websites, etc.). It should also consider a similar development for policies relating to the use of applications and other digital services.

Measure number 60
Title. Comprehensive implementation of the proposals in the Digital Rights Charter.
Description: examine from an age perspective the set of recommendations or proposals included in the Spanish Government's Digital Rights Charter. This document can, and should, also serve as a reference framework for the protection of minors.

Measure number 61
Title. Child and youth participation.
Description: creation of groups of children and adolescents to maintain and reinforce awareness-raising work and training in this area, creating groups of representatives to promote it in different territories, with whom to work continuously to develop measures for participation and policy monitoring.
These groups can be the basis on which to build a mechanism for effective child and youth participation in all legislation and public policies to be developed in this area. Promote safe spaces by guaranteeing privacy on the internet for the promotion of child and youth participation and the development of deliberative skills and competences.

Measure number 62
Title. Development of community digital culture laboratories for youth.
Description: promote the development of community digital culture laboratories in the field of local. These spaces must go beyond training in technological skills to also develop a critical vision for understanding technology. The use of free digital culture (free and accessible) will be promoted, taking into account training in the active development of free software and hardware.
Municipalities will also be provided with youth spaces to promote their own self-managed programmes on the digital environment, digital rights and digital professionalisation.

Measure number 63
Title. Promote the participation of youth and children through a model ordinance.
Municipal measure to facilitate the creation of new bodies and the rehabilitation of existing ones.
Description: this measure is justified as a method of promoting the participation of children with the dual objective of promoting civic, citizenship and constitutional values and digital training for participation in public and democratic debate, as well as to encourage intergenerational and intersectional dialogue in the case of the Councils.

Measure number 64
Title. Participation of children and adolescents in the different phases of the process of implementation of the measures proposed by the Committee.
Description: inclusion of content related to digital environments in activities of CEPIA to ensure the active participation of children and adolescents in identifying concrete solutions for the prevention of crime and harmful experiences online. Organisation of an annual meeting with children and adolescents facilitated by the public authorities for the presentation of specific proposals. Follow-up on the measures identified by the Committee on Children and Adolescents.

Measures linked to professions related to children and adolescents

Measure number 65
Title. Continuing education for professionals.
Description: development of guides for professionals in fields such as education, social work, health and other fields with direct links and involvement with children and adolescents to deepen multidisciplinary and intersectional training in the field of safe digital environments for children and adolescents. Maintain the continuous and up-to-date training of these professionals, including through online programmes with a special focus on children's rights, potential risks to health and social intervention methods.

Measure number 66
Title. Include in the primary care system specific training for healthcare professionals for the detection and treatment of problems in children and adolescents arising from the use of technologies and potential health risks.
Description: training online in child and adolescent mental health including emerging health risks associated with the use of technology, aimed at health professionals: paediatricians, nurses, family doctors, social workers, social educators, psychiatrists and clinical psychologists, and general health psychologists.

Measure number 67
Title. Developing professional improvements from the perspective of childhood and adolescence and the use of digital technologies.
<p>Description: creation of a specialisation in clinical psychology for children and adolescents.</p> <p>Increase in the number of resident psychologists, assistant psychologists and social and healthcare personnel who deal with issues related to the mental health of children and adolescents and the consequences of the use of digital devices and exposure to inappropriate content, particularly in primary care.</p> <p>Inclusion in university programmes, particularly those professions with greater contact with children and adolescents, as well as in the training plans of MIR, PIR and EIR mental health programmes, of elements related to mental health, protection and the rights of children and adolescents in digital environments.</p> <p>Adequately equip research professionals to develop the necessary reports on the subject and to constantly and systematically monitor the phenomenon of digital environments and their evolution, with special emphasis on expanding information on the impact on neurodevelopment and the impact of the use of new technologies on educational processes. Allocate a percentage of the revenue collected through the digital tax to research on non-substance-related addictions related to the digital environment.</p>

Measure number 68
Title. Training measures in the judicial sector and extension of the definition of violence linked to the digital environment.
<p>Description: expand training and specialisation in the field of childhood and adolescence to different legal operators, including the concept of digital violence and its effects on people, especially minors.</p> <p>Strengthen the study and analysis of different types of violence in courts specialising in violence against children and adolescents, including violence that occurs in digital environments, when the victim is a minor or the violence is perpetrated between peers.</p> <p>Study the legal standing for the filing of collective and individual lawsuits for the protection of children and adolescents in the digital sphere.</p>

Measure number 69
Title. Promote the inclusion of content on the prevention and detection of sexual violence against children in the curricula of medical, psychology, psychiatry, nursing, teaching, social work, and law schools, as well as in schools for judges and prosecutors and in all schools that may require contact with minors.
Description: the necessary prevention of sexual violence against children requires that future professionals who come into contact with minors and particularly vulnerable individuals to be able to detect it and know how to treat a victim who has already been exposed to this violence.

Legislative measures

Measure number 70
Title. Protection of neuro-rights.
Description: inclusion of neuro-rights as an object of protection in the field of all areas affected, including data protection.

Measure number 71
Title. Regulatory development of the LOPIVI.
Description: the LOPIVI must be implemented to ensure proper treatment in the digital environment. The State must guarantee fair treatment in the digital environment, in accordance with article 1 of the LOPIVI, with safe online spaces by strengthening capacities and establishing protocols. The regulatory development of the LOPIVI is required, developing and/or modifying the current regulations in the Autonomous Communities, enhancing the corresponding awareness-raising and training work for its specific application in all social and digital spaces and environments. These regulations must set out the responsibilities of the various agents for ensuring the fair treatment of children, adolescents and youth in the digital environment (families, administrations, educational centres, social professionals, etc.), with the best interest of the child being the undisputed guiding principle over any other interest (e.g. sharing images of children and adolescents, daughters and sons, advertising, etc.).

Measure number 72
Title. Develop the LGTBI+ State Law to its fullest extent.
Description: develop at all regulatory and administrative levels and implement the State LGTBI+ Law. It is considered essential to ensure that regional development complies with the provisions of the Organic Law. In particular, it is considered important to ensure training, awareness-raising and education in affective-sexual education, health education and education in diversity and equality for children, adolescents, teachers and families, taking into account particularly the digital sphere.

Measure number 73
Title. Legal authorisation necessary for the full operation of the hotline in Spain in relation to sexual violence against children
Description: develop the necessary legal measures to enable the hotline in Spain or a child sexual exploitation reporting hotline, which allows for the review, processing and, potentially, proactive search for material depicting sexual violence against children, in support of and in direct coordination with the State Security Forces and Corps (FCSE), the Attorney General's Office and judges and courts. As a trusted channel that allows for the anonymous reporting of child sexual exploitation material and prevents revictimisation.

Measure number 74
Title. Verify legislative guarantees in online media advertising, particularly involving profiling.
Description: contextual advertising is a risk generator. It can encourage consumption of products unsuitable for minors, allows manipulation and, depending on age, may involve the offering of inappropriate advertising (sports betting, tobacco, alcohol, etc.). It is necessary to verify the implementation of the conditions and obligations established by the EU Directive on Information Society Services (DSA) and their relationship with Law 34/2002 of 11 July on information society services and electronic commerce, Organic Law 3/2018 of 5 December on the Protection of Personal Data and the General Advertising Law in order to define a clear framework for the protection of minors in the digital world from advertising. If necessary, the regulation should include and, where appropriate, consider as an infringement cases in which the personalisation algorithm is intentionally designed to encourage the consumption of a product, promoting the positive opinions of minors to generate a fashion or emulation effect.

Measure number 75
Title. Use of broader expressions to classify criminal behaviour in digital environments.
Description: legislation is slow and technology is rapidly advancing. This means that the strictness of the regulation of typical conduct in criminal law leaves us unprotected, in some cases, against the rapid advance of crimes committed through new technologies. When classifying criminal conduct relating to the digital sphere, it would be advisable to expressions with broader semantic content should be used to protect future victims. Expressions such as: "and any others with the same purpose..." or "anyone who, by any technological means or procedure".

Measure number 76
Title. Define child sexual abuse material as "material depicting the sexual exploitation of children, sexual violence against children or materials depicting explicit sexual acts involving minors".
Description: it is very necessary to use the same terminology for crimes of exploitation and sexual violence against children worldwide. This facilitates international cooperation, which is so necessary to combat this scourge.
Adoption of the Luxembourg Guidelines, which define so-called child sexual abuse material as "child sexual exploitation material or child sexual abuse material", the relevant amendments to the Criminal Code to incorporate this terminology.

Measure number 77
Title. Article 189 of the Penal Code on <i>Hentai-type child</i> sexual abuse material.
Description: hentai (a genre of pornographic animation) with the subtypes Lolicon and Shotacon escapes any type of censorship because it is cartoons are not considered child sexual abuse material and legal in Spain, although this is not the case in other jurisdictions. These are illustrations that in many cases show images of minors that are highly sexualised. Therefore, it is proposed to:
<ul style="list-style-type: none"> • To analyse whether it is appropriate to adopt the criteria of those countries that consider drawings of minors to be child sexual abuse material. • To review the Public Prosecutor's Office Circular 2/2015 of 19 June on child sexual abuse material offences and the Criminal Code. In particular, to amend our criminal code (article 189) so that any image depicting a minor as a sexual object, regardless of how those images were created (video, photo, drawing, etc.), is considered child sexual abuse material. • Consider the possibility of adding a section e) to article 189 that seeks to include any animated, narrative or audio representation in which a minor is sexually exploited, understood in its fullest sense, regardless of whether the image is realistic or not and regardless of the technique used to produce it.

Measure number 78
Title. Article 189 bis of the Criminal Code on incitement or promotion of paedophilia.
Description: another concern regarding the protection of minors is the existence on the internet of a "Paedophile's Manual" which gives advice on how to lure and sexually assault children and adolescents.
Study the advisability of drafting article 189 bis in a manner analogous to the following: "The creation, possession, distribution or public dissemination via the Internet, telephone or any other information or communication technology of content specifically intended to promote, encourage or incite the commission of the offences provided for in this chapter and in chapters II and IV shall be punishable by a fine of six to twelve months or imprisonment of [...]".

Measure number 79
Title. Amend article 186 of the Criminal Code to reinforce and clarify its applicability to the dissemination of images online by both individuals and platforms and other websites that publish child sexual abuse material.
Description: showing child sexual abuse material to children and adolescents is a crime punishable under article 186 of the Criminal Code, but this content is increasingly being viewed online at younger ages and those responsible are not being punished.
It is considered appropriate to study possible wording for article 186 in order to: <ul style="list-style-type: none"> • add, after "by any direct means", the expression "and through any medium"; • increase the penalty (in France it is up to 3 years); • add that anyone who, being obliged to do so, fails to establish mechanisms to prevent access to such material by minors or persons with disabilities in need of special protection shall also be punished; • include an explicit reference that makes it very clear that it applies to those responsible for platforms and other digital companies that disseminate child sexual abuse material without limiting access to adults through accredited age verification systems, following the example of the corresponding provision in the French Criminal Code.

Measure number 80
Title. Amendment of the Criminal Code to include the term "sexual indemnity" in the heading of Book II, Title VIII.
Description: amendment of the Criminal Code to restore the heading of Book II, Title VIII, "Offences against sexual freedom and indemnity". When dealing with minors or particularly vulnerable individuals, we should not talk about "sexual freedom", because this has not yet been fully established and it is precisely this development that must be protected. We should refer to " sexual indemnity ", which is the right of children to be protected from interference by third parties that could harm their natural development. This is so that, once they reach the age of consent for sexual relations (16 years old in Spain since 2015), they can exercise their sexuality with true freedom. The concept of sexual indemnity reinforces a fundamental concept for protecting the development of minors.

Measure number 81
Title. Classification of child sexual abuse material depicting illegal acts.
Description: there is child sexual abuse material that depicts actions that are illegal in real life (minors, assaults and/or rapes). Feeding fantasies with material that simulates such behaviour, which is classified as a criminal offence in our legal system, is very dangerous. It should be labelled as behaviour that simulates criminal acts. It is proposed to require, by law, that these scenes or their mere descriptive captions appearing at the bottom of the images be clearly labelled; for example, as follows: "What you are about to see constitutes conduct that, in our country, is a crime of X, classified in article Y of the Criminal Code, punishable by a penalty of Z". Given the potential difficulty of comprehensive labelling (for example, in cases where several behaviours classified in the Criminal Code occur in the same scene), a more generic formula could be sought, such as: "The material shown below simulates behaviour punishable by imprisonment in our country." In addition, the corresponding amendment to the Criminal Code could be studied in order to implement penalties in cases where such material is not properly labelled and its immediate removal.

Measure number 82
Title. Criminalisation of violent and extreme child sexual abuse material.
<p>Description: in Spain, the use of physical or sexual violence to obtain pornographic material or the depiction of scenes of physical or sexual violence or of a particularly degrading or humiliating nature is only considered an aggravating factor in the crime of child sexual abuse material, when it should also be a crime in itself given its impact on the development of potential viewers.</p> <p>Criminalise violent and extreme child sexual abuse material, including the production, publication, distribution or possession of, or participation in, child sexual abuse material depicting scenes of this type — including rape, acts that threaten life or result in serious injury, and acts involving sexual interference with a human corpse or an animal — or of a particularly degrading or humiliating nature (see Council of Europe recommendations and provisions in the United Kingdom and Germany). Provision should also be made for the removal of such material.</p> <p>Design a plan for classifying content and prosecuting this type of video, as is done with images of child sexual exploitation. The plan will define and categorise where the limits of representation of situations lie, even if they are "fictional" or supposed sexual fantasies, and will establish a system for categorising suitable and unsuitable content in order to delimit them.</p> <p>It is also advisable to develop a system of sanctions for the industry and creators of this type of content, together with a system for detecting and moderating or removing this type of content on social media and the Internet.</p>

Measure number 83
Title. Creation of courts specialising in violence against children and adolescents, including digital violence.
<p>Description: technological advances and the exercise of the fundamental rights and freedoms of children and adolescents require the specialisation of judicial bodies, the Attorney General's office, the legal profession and all technical teams attached to the courts and tribunals.</p> <p>It is therefore necessary to promote the creation of courts specialising in violence against children and adolescents, as set out in the twenty-second provision of the LOPIVI. Currently, there is only one court of this kind in our country, located in the Canary Islands.</p> <p>The protection of children and adolescents rights and their best interests require that, in order to avoid re-victimisation, pre-trial evidence gathering should be carried out in child-friendly environments, and it is therefore necessary to develop and implement the Barnahus system at the national level.</p>

Measures to develop better public policies

Measure number 84

Title. Promote studies and white papers aimed at promoting standards and normalisation of reliable digital technologies.

Description: create white papers, observatories or online information platforms in relation digital technologies. Promoting quality and trust in the market and preventing the adoption of irresponsible measures and behaviours.

Measure number 85

Title. White paper on Artificial Intelligence in schools.

Description: to ensure that there is a reliable framework for the deployment of this technology, which can serve as the basis for future legislative regulation in this area. The governance of AI as an educational tool and as part of digital skills training is strategic.

Measure number 86

Title. Awareness campaigns.

Description: develop awareness campaigns and/or publish guides and documents in the following areas.

- Rights and responsible digital citizenship aimed at families, children, adolescents and professionals who regularly work with children and adolescents in different fields. Campaigns should aim to promote the protection of children and adolescents rights in the digital environment, paying particular attention to the right to privacy and personal image and the risks associated with posting photographs on social media. These campaigns will also aim to promote healthy habits related to the use of technology in childhood and adolescence, focusing on appropriate physical, psychological and social development.
- Define guidelines and forms of use of mobile phones and digital devices in educational centres, by age group, in order to draw up official guides and guidelines for their application in the autonomous communities. These guidelines must be evidence-based and involve children and adolescents.
- Promote the development of official guidelines and guidance from the Government and the relevant Ministries for the use of digital devices in education, distinguishing between their use with educational purposes and their recreational use, and taking into account research and recommendations on the impact of technologies on learning and health at different ages.

Measure number 87
Title. National Strategic Plan for Media and Information Literacy.
Description: design of a National Strategic Plan for Media and Information Literacy (MIL), linked to the National Digital Competence Plan, to develop competencies, knowledge, skills and attitudes of understanding and critical assessment aimed at the effective and safe use of digital media, with the capacity for critical analysis of information, distinguishing between facts and opinions and recognising fake news and disinformation processes.
This National Strategic Plan must include at least the following aspects: <ul style="list-style-type: none"> • Its integration into the curriculum in the field of education. • Training for parents and guardians to raise awareness of the risks of the digital environment and abuse in the uncontrolled use of digital services. • Raise awareness about the "<i>creator society</i>" that is emerging thanks to influencers and other actors, and the impact it has on the values of the society of the future. • Include MIL content in university programmes, covering aspects such as digital humanism and ethics, both in fields related to education (teaching, master's degrees in teacher training), communication and marketing, and in science fields linked to the design and development of information technology tools and systems.

Measure number 88
Title. Promoting connectivity for children and adolescents
Description: ensuring connectivity for all families to develop digital citizenship considering the risks and benefits at different stages of development, the development of digital and civic skills, and the needs of particularly vulnerable groups. Similarly, measures must be established to support families in the application of digital hygiene measures, including accessible and inclusive family leisure activities outside the digital environment, mainly at the municipal level. These policies are specifically recommended by Title X of Organic Law 3/2018, of 5 December, on the Protection of Personal Data and the Guarantee of Digital Rights, and the Charter of Digital Rights.

Measure number 89
Title. Development of technical certification standards.
Description: develop technical certification standards (such as UNE, ANEC or other bodies' international standards) for the design, development, implementation and operation of digital products and services intended for minors, including AI systems, avoiding the creation of barriers to entry and ensuring the privacy, best interest of the child.

Measure number 90
Title. Deployment of effective digital identity mechanisms under national and European Union legislation that generate anonymous attributes of authorised access to age-restricted content.
Description: identity is a right, not a service. However, although progress has been made to exercise the right to digital identity (such as digital certificates from both the National Identity Card and other providers), the solutions are not as user-friendly as would be desirable and reveal much more data than necessary. It is therefore recommended to explore the technological possibilities offered by the digital wallets enabled by the European eIDAS2 Regulation, such as the new ID card that can be exported to a smartphone to generate anonymous attributes of authorised access to age-restricted content that simultaneously guarantee non-impersonation and user privacy, among other fundamental rights. In addition, they should allow the burden of proof to fall on adults who wish to access age-restricted content, rather than on minors, so that Internet services cannot locate minors through the network.

Measure number 91
Title. Transparency of companies and organisations in their actions related to minors in the digital environment.
Description: regulation of the activities of sponsorship of conferences, meetings, conferences, studies, research and reports, and any other events related to minors and the digital environment, as well as privacy and data protection by technology companies that provide digital services and products to the market, including social media and Internet platforms.
This regulation should require maximum transparency with explicit mention of the amount of the contributions, the identity of the payer and the beneficiary of the same, including both in the media and in the scientific publication of the studies, as well as in the dissemination of their results.
This obligation of transparency must also apply to funding or gifts (including those involving products or services) that companies make to public or private individuals or entities that have direct or indirect decision-making power in the fields of education and health.
On the part of companies, the adoption of transparency measures, complementary to traditional ESG standards, which establish clear and specific indicators of the impact of their activities on minors, for inclusion in CSR reports.
These measures should also be extended to the third sector, with consensus on standards for transparency of their organisations from the perspective of alignment between funding and organisational mission, donation acceptance policies, etc.

Measure number 92
Title. Apply the right to be forgotten on the internet to published images and prosecute abusive clauses for the transfer of images.
Description: individuals who may have their images published online without their consent suffer very serious damage to their image, reputation, private life and mental health. The right to be forgotten on the internet must be mandatory for platforms and service providers.

Measure number 93
Title. Prevention and awareness-raising regarding the behaviour of minors in the digital environment.
Description: children and adolescents must be aware of the legal consequences of their acts in the online and offline environment, in particular under Organic Law 5/2000 of 12 January, regulating the criminal responsibility of children and adolescents, as well as the scope of the responsibilities that may arise from their online behaviour (administrative, civil and disciplinary in the educational sphere), and which may affect their parents, guardians, foster parents and legal or <i>de facto</i> guardians. It is necessary to implement training programmes in educational centres so that minors are aware of their rights in the online and offline environment and the responsibility that derives from their actions.

Measure number 94
Title. Provide the State Security Forces and Corps (FCSE) with more suitable tools to investigate and dismantle networks of online sexual violence against children.
Description: specialised units of the FCSE, taking into account current developments in technological developments, require greater resources in order to effectively investigate this type of crime. It is therefore necessary to: Provide the necessary resources to maximise the development and implementation of preventive, awareness-raising and training measures for the protection of minors in the digital environment, in line with public actions such as the Ministry for Home Affairs' Master Plan. Provide standardised witness protection and shelter resources for children and adolescents in these situations. Encourage the development of tools and services to support the State Security Forces and Corps, the Public Prosecutor's Office and the Judiciary, facilitating criminal investigations into illegal content, taking into account new technological challenges such as generative AI, deep learning variants, and instant messaging tools. Ensure the necessary human and material resources so that the FCSE, Public Prosecutor's Office and Judiciary can investigate these digital crimes effectively and quickly, ensuring that they have the latest technologies available and the necessary training to

be able to use them and/or in order to understand crimes in the digital environment relating to the sexual sphere.

Measure number 95

Title. Establish a proposal for actions aimed at protecting minors from industries that produce products that are potentially addictive and harmful to them.

Description: different industries, including child sexual abuse material, do not have mechanisms for alert, prevention or assistance mechanisms like other industries that promote products that potentially cause health problems or addiction.

Establish systems similar to those existing in other areas:

- The possibility of self-veto on some websites, such as betting sites;
- The possibility of a panic or help button on the pages themselves to connect with psychological support services and allow the situation to be reported (it should be possible to inform the FCSE). This should apply to social media and any service that allows online communication with minors or particularly vulnerable people, and should be very easy to use. The possibility of automatically decrypting harmful content when the panic button is used should also be explored.
- The possibility of warning in audiovisual products that "this content may cause addiction" as is the case in other industries (such as tobacco).

Measure number 96

Title. Demand social and legal responsibility for child protection from the pornography industry.

Description: the pornography industry has high visibility on social media and in niches where minors are present (video games, entertainment social media, places they tend to visit on the internet).

Conduct an analysis of the "loopholes" that the industry exploits to target minors or actions aimed at promoting the use of pornography. Based on this analysis, establish a system for detecting, controlling, and punishing such actions based on this analysis.

Measure number 97
Title. Implement awareness-raising measures in the field of pornography.
<p>Description: greater awareness is needed about pornographic consumption and its potential consequences.</p> <ul style="list-style-type: none"> • Produce or finance the production of comics, books, films, series, short films, documentaries, video games and other materials for adolescents on how pornography can have harmful consequences on sexuality and its close relationship with the sex industry, which profits from exploiting women and children through trafficking and exploitation. Promote these materials through social media and other platforms. • Use these visual materials in schools for student education. • Conduct awareness campaigns that address these same issues. • Establish a calendar with designated days and public and private institutions that can contribute to this cause. Make this issue part of the annual awareness-raising agenda. <p>All of these measures must be designed, adopted and implemented from a gender perspective, making explicit the differential impact of risks, behaviours, social pressure, discrimination, victimisation, exploitation and other factors on girls, adolescents and women, youth, children, and young men.</p>

Measure number 98
Title. Development of specific tools, protocols and training for the detection and action in cases of problems related to the consumption of pornography by minors and violence and sexual violence against minors.
<p>Description: there are no specific tools for detection and action in cases of problems related to pornography or sexual violence in childhood and adolescence and their effects on mental health. Develop a framework for action applicable in all autonomous communities in the event that a problematic situation related to child sexual abuse material consumption or sexual violence and its effects on mental health is detected.</p> <p>Implement the action framework in educational centres, health centres and other spaces where children and adolescents socialise, taking into account the system of competences and the needs of each autonomous community.</p>

Measure number 99
Title. Design new tools and publicise existing ones as free resources for treating problematic consumption of pornography.
Description: need for tools adapted to adolescents. There are effective, freely accessible tools, websites and applications to reduce problematic consumption of pornography, but they are not well known. Raise awareness of programmes among families and youth so that they can access these types of resources. Design our own resources to help people overcome pornography addiction through autonomous communities and local councils, to complement those that already exist.

Measure number 100
Title. Promote research on the impact of pornography on children and adolescents
Description: children and adolescents face unprecedented exposure to explicit sexual material. Up-to-date and reliable data on the impact of this exposure on the development of children and adolescents is needed in order to refine and update interventions. Regular study of the risks associated with internet use for children and adolescents, promoting the conduct of longitudinal research and meta-analyses to analyse the causes, effects and consequences of early exposure to inappropriate content, particularly pornographic or violent material, on the emotional, psychological and social development of minors. It would also seek to identify recommendations and protective factors, as well as preventive strategies and ways of coping with the negative consequences of such exposure. This research must involve the active participation of children, adolescents and families. The study of the impact and quality of affective and sexual education in each autonomous community. This research should involve the active participation of children, adolescents, teachers and families. The study of pornography as a form of violence against women and girls, as it represents a very high percentage of violence against them.

Measure number 101
Title. Suicide prevention
<p>Description: expand and develop the national suicide prevention plan by strengthening support services helplines aimed at children and adolescents. Develop specific actions related to the impact of consuming certain content in digital environments on the developing brain and adolescent personality and emotions. Continue the working group for this plan, which includes child and adolescent mental health professionals.</p> <p>Develop social media campaigns aimed at children and adolescents on existing help and information resources available in relation to suicide.</p>

Measure number 102
Title. Propose the development of initiatives at European and United Nations level on safe digital environments.
<p>Description:</p> <p>to the European Parliament:</p> <ul style="list-style-type: none"> • That the Spanish Committee of Experts present its recommendations to the European Parliament. • Request that the European Parliament establish a unit/entity to monitor the work of all parliamentary committees. • Request that the European Parliament create a committee for the participation of minors. <p>To the European Council: suggest that the Spanish Committee of Experts also present its conclusions and recommendations to the European Council and the other Member States.</p> <p>That Spain propose the creation of a European Special Representative on the Rights of Minors and for the protection of children and adolescents.</p> <p>To the United Nations Commission on Crime Prevention and Criminal Justice (CCPCJ): that Spain proposes a resolution on age verification systems inspired by the experience of the AEPD and other EU countries, within the framework of the next meeting on the adoption of the UN Convention on Cybercrime.</p> <p>Pact on the Future and its annex "Global Digital Compact" (GDC): suggest that Spain propose the introduction of the following points in the GDC:</p> <ul style="list-style-type: none"> • ask the industry to prioritise age verification and parental control systems by default; • provisions requiring companies to develop specific guidelines on reporting systems for any form of online abuse tailored to minors;

- strengthen the legal framework to better protect minors from violations of their privacy and data protection online;
- recognising the specific challenges posed by emerging technologies, AI, deepfakes, among others;
- identifying emerging threats to children and adolescents;
- strengthening the online child protection system;

Consider organising an event on the protection of minors in digital environments during the summit on the future in September in New York and present, among other things, the findings of the committee of experts.

Long-term measures

Legislative measures

Measure number 103
Title. Mechanisms for collaboration, cooperation and coordination within the EU.
Description: strengthening mechanisms for collaboration, cooperation and coordination between EU countries, in order to prevent the weak implementation of these mechanisms in Member States from facilitating certain breaches of applicable regulations. Assessment of the possibility of imposing certain coercive and punitive measures against the managers of companies that fail to comply with the DSA and other applicable regulations. Reflection on the country of origin principle, as currently established by EU regulations on digital services, in line with the debate already underway within the EU in other areas (audiovisual, consumption), so that the location of the provider in a Member State other than that of the user does not adversely affect the latter's rights, beyond the existing mechanisms for collaboration, cooperation and coordination within the EU mentioned above.

Measure number 104
Title. Ensure compliance with the security requirements of the Cyber Resilience Act (CRA), once it comes into force, by suppliers and distributors of devices marketed in the EU.
Description: the European Cyber Resilience Act is a legislative initiative proposed by the European Commission aimed at strengthening the cybersecurity of products with digital elements on the European Union (EU) market. The proposal was presented on 15 September 2022 as part of the EU's ongoing efforts to increase cyber resilience and protect citizens and businesses from cyber threats, and is expected to come into force in 2024.

Measures to develop better public policies

Measure number 105
Title. Observatory on mental health and non-substance-related addictions linked to digital environments
Description: state-level launch of an Observatory on Mental Health and Non-Substance Addictions within the framework of the National Mental Health Plan for monitoring and developing specific recommendations in the field of addiction linked to digital content.

Measure number 106
Title. Accessibility of online resources for inclusion.
Description: progressive adaptation of the obligations currently required of audiovisual services and the information society (accessible websites) to ensure accessibility for persons with disabilities to platforms and social media.

Measure number 107
Title. Monitoring and evaluation of the National Strategy for the Protection of Children and Adolescents in Digital Environments.
Description: implementation of mechanisms to monitor the Strategy, which will serve to develop the various measures outlined in this report that public administrations decide to implement. Participation of civil society and child and youth participation bodies in the monitoring and evaluation of the various measures of the Strategy.

ANNEX 1 - GLOSSARY OF ACRONYMS

AAP	American Academy of Pediatrics
AEPD	Spanish Data Protection Agency
AETD	Spanish Association for Digital Transition
ALV	Lifelong Learning
AMI	Media and Information Literacy
BOE	Official State Gazette
CC	Civil Code
CCL	Competence in Linguistic Communication
CEPIA	State Council for the Participation of Children and Adolescents
CD	Digital Competence
CDFUE	Charter of Fundamental Rights of the European Union
CRC	Convention on the Rights of the Child
CDPD	Convention on the Rights of Persons with Disabilities
EDPS	European Data Protection Board
CIT	Total Intellectual Coefficient
CNMC	National Commission for Markets and Competition
CSAM	Child Sexual Abuse Material
DSA	Digital Services Act
ESIA	Sexual Exploitation of Children and Adolescents
FOMO	Fear of Missing Out
FVD	Digital Vision Fatigue
GEM	Global Education Monitoring
GREVIO	Council of Europe Group of Experts on Action against Violence against Women
R&D	Research and Development
AI	Artificial Intelligence
INCIBE	National Cybersecurity Institute
INJUVE	Youth Institute
INTEF	National Institute of Educational Technologies and Teacher Training
IoT	Internet of Things
LGCA	General Law on Audiovisual Communication
LO	Organic Law
LOCE	Organic Law on the Quality of Education
LOMLOE	Organic Law amending the Organic Law on Education

LOPDGD	Organic Law on Personal Data Protection and Guarantee of Digital Rights
LOPVI	Organic Law on the Protection of Children and Adolescents against Violence
MRCDD	Reference Framework for Digital Competence in Teaching
NCMEC	National Centre for Missing and Exploited Children
OECD	Organisation for Economic Cooperation and Development
WHO	World Health Organisation
ONTSI	National Observatory of Technology and Society
PEGI	Pan European Game Information
PISA	Programme for International Student Assessment
SNS	National Health Service
AVS	Age Verification Systems
ADHD	Attention Deficit Hyperactivity Disorder
ASD	Autism Spectrum Disorders
ICTs	Relationship, Information and Communication Technologies
EU	European Union
ITU	International Telecommunication Union
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
UPI	Problematic Internet Use
UNCRC	United Nations Convention on the Rights of the Child
USPTO	United States Patent and Trademark Office
VOD	Video on Demand

ANNEX 2 - GLOSSARY OF TERMS

Advergaming.

A marketing technique that uses video games to promote products, brands or messages. It incorporates advertising elements into the game to capture the player's attention and encourage interaction with the brand.

App.

A computer application designed to run on smartphones, tablets and other mobile devices.

Bullying.

Any act of physical, psychological or social abuse carried out by one or more pupils against another pupil, in a systematic and prolonged manner. These acts cause the victim to feel helpless, submissive and inferior.

Cyberbullying.

Intentional and repeated harm inflicted by a minor or group of minors on another minor through the use of digital media for the purpose of harassing, threatening, humiliating, embarrassing or abusing him or her.

Clickbait.

Online content that aims to generate advertising revenue by using sensationalist and misleading headlines and thumbnails to attract as many clicks as possible.

Creator economy.

Production, distribution and monetisation of original content through digital channels.

Deepfake.

An artificial intelligence technique that allows videos, images or even a person's voice to be modified in a hyper-realistic way, manipulating their appearance, message or actions. The end result of this technique is highly realistic, albeit fictitious, content, the dissemination of which constitutes deception and a violation of the fundamental rights of the person concerned.

End-to-end encryption.

A communication system in which only the users communicating can read the messages. It ensures that the original sender converts it into an encrypted message and that the final recipient decrypts it.

Fake news.

A hoax consisting of pseudo-journalistic content disseminated through news portals, print media, radio,

television and social media with the aim of misinforming a specific audience.

Grooming.

A process of deception in which an adult attempts to establish contact via the Internet with persons under the age of 16, even posing as another minor, seeking to establish a relationship of trust with the aim of committing a crime against their sexual freedom (convincing them to record sexual content or to attend a sexual encounter).

Hub.

Connection or operations centre.

Influencer.

A person or animal that has become famous through the Internet. These personalities are characterised by having a community of followers on the main social media, who consider them opinion leaders and are willing to follow and share their messages.

Like.

A feature incorporated into social media and other online platforms that allows users to give a positive response to any type of content, thereby connecting with what interests them.

Media literacy.

The ability that allows people to make and express informed judgements as users of information and media, as well as to become skilled creators and producers of information and media messages in their own right.

Netiquette.

A set of rules of courtesy that governs user behaviour and communications on the internet.

News literacy.

Media literacy is an expanded conceptualisation of literacy that includes the ability to access and analyse media messages, as well as to create, reflect and act, using the power of information and communication to make a difference in the world.

Proxy.

In a computer network, a server (programme or device) that acts as an intermediary in requests for resources made by client "A" to another server "C". Depending on the context, the intermediation performed by the proxy may be considered by users, administrators or providers to be legitimate or criminal, and its use is frequently debated.

Sexpreading

The dissemination via the Internet of images, audiovisual recordings or other material without consent and

which seriously undermines the victim's privacy.

Sexting.

The act of sending, via mobile phone or other device with a camera, images or videos produced by oneself with sexual connotations.

Sextortion.

A form of blackmail in which the attacker threatens the victim to perform some specific action in order to prevent sexually suggestive images or videos from being made public.

Sharenting.

The practice of parents posting a large amount of content about their children on Internet platforms that may put minors at risk, both through overexposure and by placing the minor in situations that are dangerous or violate their rights.

Soft skills.

A combination of social skills, communication skills, personality traits, attitudes, professional attributes, social and emotional intelligence, which enable people to navigate their environment, work well with others, perform well and complemented by core skills, achieve their goals. Examples include common sense, interpersonal empathy, flexibility and a positive attitude.

Streaming.

Digital distribution of multimedia content through a computer network, so that the user can use the product while it is being downloaded. It consists of a continuous stream of audio or video that flows without interruption.

Sugar daddies.

A new form of sexual exploitation through online platforms where adults pay money and provide services (dinners, gifts, etc.) to teenagers and young women in need of income, often students, in exchange for companionship and sexual relations.

ANNEX 3 – REFERENCES TO THE FRENCH AND SWEDISH REPORTS ON DIGITAL ENVIRONMENTS

In the context of growing research and analysis on the impact of digital environments on children and adolescents, two neighbouring countries, France and Sweden, have produced two particularly relevant reports that are worth referencing in this annex.

The French report, entitled *Enfants et écrans, à la recherche du temps perdu* (Children and screens, in search of lost time) and led by ten experts from the fields of psychiatry, neurology, psychology and education, was published in April 2024.

This text of more than 150 pages addresses four strategic areas (addictive and restrictive designs of digital services, child protection, recommendations for use by age and training for digital autonomy) for the progressive regulation of the use of digital devices and the protection of the development of children and adolescents.

It can be consulted at the following link:

https://www.elysee.fr/admin/upload/default/0001/16/fbec6abe9d9cc1bff3043d87b9f7951e62779_b09.pdf

In Sweden, the Karolinska Institute, the country's medical university, has conducted an important study addressing the process of digitalisation in classrooms and its consequences following the "Digitalisation Strategy" implemented by the Swedish National Agency for Education.

The Institute's report can be consulted at the following link:

https://www.regeringen.se/contentassets/d818e658071b49cbb1a75a6b11fa725d/karolinskainstit_utet.pdf

ANNEX 4 - WORKING GROUP MEMBERS

This report, which has been prepared by 50 experts, social organisations and institutions that have collaborated altruistically and independently, contributing their best judgement, should be considered the heritage of children and placed at the service of defending the best interest of every child.

It aims to lay the foundations for creating a safer online environment for minors. Therefore, by sharing and disseminating this report, you will be helping to spark a debate through which we can achieve the goal of a digital environment in which children and adolescents can develop free from risk or at least in which these threats are minimised.

The list of the fifty people who make up the panel is reproduced below.

Ms Ana Caballero, lawyer specialising in technology, vice-president of the European Association for Digital Transition, president of the Council of Consumers and Users and co-president of the Children's Section of the Madrid Bar Association. Chair of the Committee.

Mr Ricardo Ibarra, director of the Platform of Children's Organisations. Vice-chair of the Committee.

Ms Miriam Al Adib, gynaecologist and obstetrician. CEO of MiriamGine clinics (Madrid, Marbella, Seville and Almendralejo). Lecturer on the Master's Degree in Sexology at the University of Extremadura. Co-author of two SES (*Servicio Extremeño de Salud* - Extremadura Regional Health Service) clinical guidelines: "Strategy for normal childbirth care in the SES" and "Professional care for loss and grief during motherhood". Writer and communicator. PhD candidate in "Molecular and Cellular Biology, Biomedicine and Biotechnology" (Department of Physiology, University of Extremadura).

Mr Julio Albalad Gimeno, Director of the National Institute of Educational Technologies (INTEF). INTEF is the unit of the Ministry of Education and Vocational Training responsible for the integration of ICT and teacher training in non-university education.

Ms Patricia Aramayo Perianes and **Ms Pilar Blasco Climent**, replacing **Ms Laura Báez Benítez** and **Mr Germán Antón Trugeda**, representing the Spanish Youth Council.

Ms Anabel Arias, lawyer specialising in administrative law and human rights, expert in digital rights, representing the Consumers and Local Users Council.

Ms Laura Baena, advertising creative and communicator. Founder of Club de las Malasmadres.

Mr. Benjamín Ballesteros (Technical Director and Spokesperson for Fundación ANAR) and **Ms. Marta Fresnillo Iglesias** (Deputy Director of the Legal Department of Teléfono/Chat ANAR)

Mr. Félix Antonio Barrio Juárez, Director General of INCIBE, and **Ms. Cristina Gutiérrez Borge**, Head of Cybersecurity Awareness for Minors, representing INCIBE, the entity responsible for the development of cybersecurity and digital trust in Spain, under the Ministry for Digital Transformation and Public Administration.

Mr Enrique Benítez Palma, Head of the Public Sector Area at the ODISEIA Observatory for Ethics in Artificial Intelligence. Member of the Advisory Board of the Chair of Digital Transformation at the University of Córdoba (UCO).

Ms Anna Biosca Rubia, acting as representative of FELGTBI.

Mr. Pedro José Caballero, president of CONCAPA (*Confederación Católica Nacional de Padres de Familia y Padres de Alumnos* - National Catholic Confederation of Parents and Parents of Students) and specialist in management information technology. Representing Parents' Associations.

Ms Luisa María Capellán Romero, president of the Spanish Confederation of Parents' Associations (CEAPA).

Mr. Luis Cayo Pérez, president of the Spanish Committee of Representatives of Persons with Disabilities (CERMI).

Mr. Ángel Pedro Conde Gómez, as a liaison with the State Council for the Participation of Children and Adolescents.

Ms Cristina Cordero Castro, paediatrician specialising in neuropaediatrics and coordinator of the Neurodevelopment Working Group of the Spanish Society of Paediatric Neurology.

Ms Encarna Cuenca, president of the State School Council. She holds a Diploma in Teaching, with a specialisation in science, and a Degree in Fine Arts from the Polytechnic University of Valencia. Representing the State School Council.

Ms Laura Cuesta Cano, professor of Cybercommunication and New Media at Camilo José Cela University. Educator on digital well-being and trainer for families and educational centres on the proper use of technology.

Ms Laura Davara, Doctor of Law and lawyer, expert in data protection, social media and minors. ICT trainer.

Mr Francisco Escudero Sánchez, ANPE trade union.

Ms Mar España, Director of the Spanish Data Protection Agency (AEPD), holder of a degree in Law from the Comillas Pontifical University, representing the AEPD.

Ms Cani Fernández, President of the National Commission on Markets and Competition, representing the CNMC.

Ms Karoline Fernández de la Hoz, medical epidemiologist and president of the Spanish Observatory on Racism and Xenophobia. Representing the Spanish Observatory on Racism and Xenophobia.

Mr Ignacio Guadix, Head of Education and Digital Rights for Children at UNICEF Spain.

Ms Abigail Huertas, Child and Adolescent Psychiatrist (specialist in Child and Adolescent Psychiatry by the Ministry of Health). Clinical coordinator of the Complex Diagnosis Programme for Autism Spectrum Disorders and researcher at the Institute of Psychiatry and Mental Health at the Gregorio Marañón University General Hospital. Member of the Board of Directors of the Spanish Association of Child and Adolescent Psychiatry (AEPNYA). Expert in ADHD. Specialist in Clinical Management in Mental Health (University of Deusto and OIME Foundation) and in Forensic Psychiatry (UNED). Lecturer on various training courses. Master's degree in Integrative Psychotherapy (University of Alcalá de Henares).

Ms Beatriz Izquierdo, graduate in Law with a specialisation in Criminal, Penitentiary and Criminological Sciences.

Mr. Telmo Lazkano, teacher, advisor and expert communicator in Education and Digital Health. Awarded by the Basque Government's Department of Health with the prize for best practice in addiction 2022-2024.

Ms Beatriz Martín Padura, Director General of FAD Juventud (a private non-profit foundation).

Mr Ricard Martínez, professor of Constitutional Law at the University of Valencia, where he heads the Chair of Privacy and Digital Transformation. An expert in data protection, he participated as a speaker in the drafting of the Spanish Government's Charter of Digital Rights.

Ms Elena Vanessa Martínez Sánchez, specialist in preventive medicine and public health, representing the Spanish Society of Public Health and Health Administration.

Mr. Antoni Mestre Gascón, representing the UGT (General Union of Workers) trade union.

Ms Joana Miguelenea, Doctor of Education and professor of "Socio-educational Intervention in Family, Childhood and Adolescence" in the Social Education Degree at the Faculty of Education, Philosophy and Anthropology in Donostia.

Ms Valentina Milano, professor of public international law at the University of the Balearic Islands (UIB) and expert in human rights, gender violence and trafficking.

Ms Maitane Ormazabal, psychologist and psychotherapist specialising in Brief Psychotherapy, Psychological Assessment and Psychodiagnosis, and Trauma Intervention with EMDR.

Mr Agapito Págeo, graduate in Law from the University of Granada, consultant with professional experience in companies, public institutions and the third sector.

Ms Isabel Peñalosa, director of institutional relations and legal advice for the Spanish Association of Foundations. Expert in third sector entities.

Mr Alejandro Perales Albert, representing the Association of Communication Users.

Ms Catalina Perazzo, Director of Advocacy at Save the Children.

Ms Encarnación Pizarro Pariente, from the CCOO (The Workers' Commissions) Education Federation.

Mr Emilio Puccio, Secretary of the European Parliament Intergroup on Children.

Mr Antonio Rial Boudeta, Doctor of Psychology and Professor of Social Research Methodology at the University of Santiago de Compostela.

Ms María Salmerón, paediatrician specialising in adolescent medicine. Coordinator and author of the Spanish Paediatrics Association's digital family plan.

Mr Fernando Suárez, President of the General Council of Professional Associations of Computer Engineering.

Ms Pilar Tintoré, lawyer specialising in international family and children's law. Member of the Board of Directors of the Association of National Experts in ICT Law (ENATIC). Former President of the Children's and Adolescents' Rights Section of the Barcelona Bar Association (ICAB).

Ms Ruth Vidriales Fernández, psychologist and technical director of Autismo España. Lecturer at the UNED.

Mr Alejandro Villena, clinical sexologist and general health psychologist. Member of the World Association for Sexual Health. PhD candidate in Clinical Neuroscience. Director of Research at the *Dale Una Vuelta* Association.

Mr Javier Zarzuela Aragón, professor, public school teacher.

The following individuals have participated as **advisors** to the Committee of Experts:

Ms Luisa Allí, secretary general of Fundación Instituto Hermés.

Mr Eduardo Borobio, Chief Inspector of the National Police and Head of the European Union Section of the International Coordination Department.

Ms Maialen Garmendia, sociologist and researcher at the University of the Basque Country.

Ms María Giráldez, lawyer and mediator in family law.

Mr Ignacio González García, engineer and Doctor of Artificial Intelligence, Algoverit.

Mr Guido Guirardi, Executive Vice-President of the Encuentros del Futuro Foundation.

Ms Eva Herrero Curiel, Doctor of Media Research and professor of journalism at the Carlos III University of Madrid.

Mr. Kepa Paul Larrañaga, Vice-President of the Sociology of Childhood and Adolescence Group (GSIA).

Ms María José Olesti, Director General of The Family Watch.

Ms Marta Pellico, Vice-President of iCmedia.

Ms Charo Sádaba, Doctor of Communication and Professor of Advertising at the Faculty of Communication at the University of Navarra.

Mr. Luis de Salvador Carrasco, Director of the Technological Innovation Division at the AEPD.

Ms Vera Sopena, Head of the Office of the President of the CNMC.

The following individuals also acted as **coordinators** of the Committee's working groups:

Ms Miriam Al Adib, co-coordinator of the Health working group.

Ms Abigail Huertas, co-coordinator of the Health working group.

Mr Julio Albalad Gimeno, co-coordinator of the Education working group.

Ms Encarna Cuenca, co-coordinator of the Education working group.

Ms Mar España, co-coordinator of the Privacy working group.

Ms. Pilar Tintoré, co-coordinator of the Privacy working group.

Mr Ignacio Guadix, coordinator of the Rights working group.

Mr Ricardo Ibarra, coordinator of the Children and Adolescent Participation working group.

Ms Beatriz Izquierdo, co-coordinator of the working group on child sexual abuse material, violence and sexual abuse.

Ms Valentina Milano, co-coordinator of the child sexual abuse material, Violence and Sexual Abuse working group.

Mr Ricard Martínez, coordinator of the Rights working group.

Mr Alejandro Perales Albert, co-coordinator of the Industry and Consumption working group.

Ms Cani Fernández, co-coordinator of the Industry and Consumption group

ANNEX 5 – BEST PRACTICES

Below is a series of experiences and best practices contributed by the different members of the Committee and the working groups set up. A series of good practices have been selected that cover different areas and offer examples from different public administrations and civil society, as well as from the national, EU and international spheres.

LOCAL SCOPE

In Villafría, we leave our screens behind and live life to the fullest	
Link	https://edublog.educastur.es/menospantallasmasvida/?s=cp+villafra%C3%ADa
<p>On the initiative of the teaching staff and with the support of the entire educational community, the CP. Villafría de Otero (Oviedo) has implemented strict restrictions that limit the use of screens to very specific educational purposes, promoting alternatives that do not require internet access, both for classroom activities and outside the classroom: debates, reading, traditional games, bike rides and family cultural outings, public speaking and communication, traditional games in the playground, theatre or puppets. The alarming deterioration in reading and oral comprehension and communication skills led the teaching staff to this decision.</p>	

Sexpectives	
Link	https://sexpectativas.com
<p>A programme run by Malaga City Council offering an online game with the slogan "Don't get carried away, real sex isn't like in porn". It also offers guidelines for families, books, etc.</p>	

The Resilience and Social-Emotional Curriculum for Adolescent Students in Bizkaia Project	
Link	https://www.irekia.euskadi.eus/es/news/91932-proyecto-osakidetza-mental-health-for-adolescents-recognition-of-best-practice-in-europe https://www.euskadi.eus/contenidos/informacion/boletin_aten_sociosanitaria/es_def/adjuntos/BASS_n-23_f.pdf
<p>Implemented in 29 educational centres, it has trained more than 2,000 adolescents (aged 13 to 18) and aims to promote mental health among youth. Included in the Basque Country's Mental Health Strategy 2023-28 from the Department of Health, the European Commission recognises this project from the Psychiatry Service of Basurto University Hospital as a Best Practice in mental health. It is one example of several initiatives being carried out at the regional level by mental health services.</p>	

REGIONAL SCOPE

"Manifesto on the digital rights of children and adolescents in Catalonia" (2024).	
Link	https://politiquesdigitals.gencat.cat/web/.content/00-arbre/ciutadania/drets-responsabilitats-digitals/NomesManifest_Final.pdf https://politiquesdigitals.gencat.cat/ca/ciutadania/drets-responsabilitats/carta/ambits-especifics/infants-adolescents/index.html
Development of an analysis and proposal on digital rights by children themselves. This is the result of a participatory process involving 850 children and adolescents as part of the drafting of the "Catalan Charter for Digital Rights and Responsibilities", promoted by the Government of Catalonia.	

Desfake	
Link	https://www.verificat.cat/projecte-desfake/
The Desfake project, managed by Verificat, focuses on combating misinformation through educational interventions aimed at fostering critical thinking and information verification skills among students. Its interventions focus on teachers, students and families.	

NoPhoneChallenge (mobile-free week)	
Link	https://www.euskadi.eus/gobierno-vasco/-/noticia/2023/un-project-to-prevent-mobile-phone-and-digital-platform-abuse-receives-elkar-eginez-award-for-best-practices-in-addiction-prevention-addictions/
This is an educational practice carried out in schools. After in-depth preparatory work to learn about and critically examine the subject, students voluntarily decide to spend a week without their mobile phones and write a diary recording their feelings and experiences. As a result of this project, there has been a considerable increase in young people's awareness, as well as a substantial decrease in usage time. This educational project was awarded the prize for best practice in the field of addiction 2022-2024 by the Basque Government's Department of Health and was carried out by Professor Telmo Lazkano at a public secondary school in San Sebastián, which has been expanded to other centres with similar or better results.	

Consultation for diagnosis and treatment of behavioural addictions in the Autonomous Community of Madrid (CAM), for people aged 12 and over, located at Gregorio Marañón Hospital but serving the entire CAM. Screening can be accessed directly with a health card via an appointment request link, without the need for prior screening.

Link	https://www.comunidad.madrid/servicios/salud/adcom-madrid
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The Community of Madrid has created the Centre for Prevention, Treatment and Research into Gambling Disorder and Other Behavioural Addictions. The **AdCom Madrid Centre, part of the Institute of Psychiatry and Mental Health at Gregorio Marañón Hospital**, is a healthcare facility dedicated to the detection and prevention of AdCom, its treatment and research in this field. It will have a team consisting of an adult psychiatrist, a child and adolescent psychiatrist, a clinical psychologist, a nurse and a social worker. Anyone over the age of 12 with public health insurance in the Community of Madrid will be able to access the SCREENING process. There are two groups: 12 to 17 years old (children and adolescents) and 17 years old and above (adults). This centre provides healthcare and psychosocial support to people who exhibit addictive behaviour in relation to: gambling, including sports betting, poker, casino games, etc.; video games; sex; compulsive shopping; and social media.

Training and Care Programme in Child and Adolescent Mental Health for schools in the Community of Madrid and the Alicia Koplowitz Foundation: (FAK) (Coordinated by the Regional Office of Mental Health Office of the Autonomous Community of Madrid).

Link	https://fundacionaliciakoplowitz.org/programa-de-enlace-clinico-en-salud-mental-para-%20centros-escolares/ https://fundacionaliciakoplowitz.org/programa-de-enlace-clinico-en-mental-health-for-schools/
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The training programme, in the form of videos made by child and adolescent mental health professionals aimed at teachers, available on EDUCAMADRID, a teacher training platform, arose from and is directly linked to FAK's Mental Health and Schools Clinical Liaison Programme. This programme was established two years ago in some hospitals and schools in the Autonomous Community of Madrid and is being extended to the entire Autonomous Community.

NATIONAL LEVEL

Help channels of the Spanish Data Protection Agency (AEPD) – Priority channel

Link	https://www.aepd.es/canalprioritario
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Priority channel for communicating and requesting the removal of photos, videos or audio files of a sexual or violent nature circulating on the Internet without the consent of the persons concerned, and a youth channel that serves as a tool for queries relating to the privacy and data protection of minors.

Report by the Spanish Data Protection Agency (AEPD) on addictive patterns

Link	https://www.aepd.es/guias/patrones-adictivos-en-tratamiento-de-datos-personales.pdf
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Application of the conclusions of the report on the influence of addictive patterns on the Internet in the context of personal data processing

Decalogue of principles for age verification and protection of minors from inappropriate content from the Spanish Data Protection Agency (AEPD).	
Link	https://www.aepd.es/prensa-y-comunicacion/notas-de-prensa/aepd-presents-age-verification-system-to-protect-minors https://www.aepd.es/guias/decalogo-principios-verificacion-edad-proteccion-menores.pdf
<p>The aim of the age verification system presented by the Spanish Data Protection Agency, which also serves to verify that users are at least 14 years old to access social networks, is to protect minors from accessing adult content and to ensure that this content is, in turn, only accessible to those who can prove their age without the need to reveal their identity.</p>	

CIVIL SOCIETY

Consensus measures for a State Pact to protect minors in the digital environment	
Link	https://pactomenoresdigitales.org/
<p>It includes 15 basic measures on which to base regulations and public policies of consensus. The measures arise from social demand channelled through third sector entities.</p> <p>The initiative, promoted by the European Association for Digital Transition together with UNICEF, Save the Children, the ANAR Foundation, Dale Una Vuelta and ICMedia, has more than 210 supporters and has received institutional backing from the Spanish Data Protection Agency, the National Securities Market Commission, the Attorney General's Office and InJuve.</p> <p>The measures were presented to the Congress of Deputies last February with the support of the deputies who are members of the Chamber's Children's Commission.</p> <p>The Digital Minors Pact calls for political consensus and a (courageous and honest) commitment to move the measures forward.</p> <p>Its success has been to bring together all the entities that share concerns related to the protection of minors in the digital environment under the same umbrella.</p> <p>This action has served to put on the political agenda the urgent need to adopt measures (especially regulatory ones) to protect children, but also to create safe digital environments.</p>	

Toolkit 'If it happens, don't let it pass'. Save the Children	
Link	https://www.savethechildren.es/si-pasa-no-pases-caja-de-tools-against-online-violence
<p>It brings together different materials that aim to encourage adolescents between the ages of 14 and 17 who have witnessed an act of online violence to take a proactive stance to stop it and/or prevent it from continuing. These materials have been developed based on behavioural sciences, disciplines that aim to explain how people behave, make decisions and respond to certain stimuli, and which enable us to diagnose the obstacles that prevent certain behaviours from being adopted. This allows us to understand the biases that promote online violence among adolescents, so that we can then develop tools to influence their perceptions and modify behaviours that could harm them or leave them unprotected. This tool is mainly intended for teachers, as a fundamental pillar for them to work on the content in the classroom. In addition, it also aims to involve different public administrations and other entities in the fight against online violence.</p>	

Policy guide on children and digital connectivity, UNICEF	
Link	https://www.unicef.org/esa/media/3141/file/PolicyLab-Guide-DigitalConnectivity-Nov.6.18-lowres.pdf
<p>As an advocate for children, UNICEF is compelled to engage with this issue and work with its partners to support the development of a range of policies and programmes, both to improve children's engagement with the Internet and to help make its use safer. As this policy guide shows, there is a recognisable interconnection between policies addressing access and connectivity, skills, literacy, safety and privacy. UNICEF country offices and National Committees are testing innovative programmes, supporting governments in developing national policies, conducting research on online opportunities and risks, leveraging technology for development, and working with private sector partners to ensure adherence to child rights principles.</p>	

Basic Guide for the Creation of Children and Adolescent Councils at the Local Level with a Gender-Based Focus	
Link	https://ciudadesamigas.org/wp-content/uploads/2015/09/consejos_enfoque_genero.pdf
<p>As part of the Child-Friendly Cities programme promoted by UNICEF, this guide provides guidelines for a city in which the local government system is committed to respecting children's rights. A city where the opinions, needs, priorities and rights of children are an integral part of public policies, programmes and decisions, promoting a participatory style of government and urban management capable of guaranteeing young citizens the full enjoyment of their rights</p>	

Cybermanagers for Equality	
Link	https://cibermanagersparalaigualdad.com/
<p>The mission of this programme is to promote positive coexistence and egalitarian behaviour, as well as to help prevent different forms of cyber violence, such as the dissemination of intimate content.</p> <p>This programme is supported by PantallasAmigas so that you can implement it completely independently at your school. Cybermanagers for Equality is a programme aimed at 3rd/4th year secondary school students so that they can subsequently train their peers (younger students).</p>	

Friendly screens: "Healthy sex vs harmful pornography" (2023)	
Link	https://www.pantallasamigas.net/sexovsporno/
<p>To encourage adolescents to reflect on the differences between a healthy sex life and the reproduction of mainstream porn patterns.</p>	

Project Shield. Cyber-informed families	
Link	https://www.campusfad.org/proyecto-shield/
A set of resources specially designed to help families provide their children with appropriate digital education, focused on promoting safety and the proper use of the possibilities offered by these types of environments. The resources are divided into five thematic areas: self-regulation, ethical behaviour, privacy, hate speech and digital responsibility.	

AEPED (Spanish Paediatrics Association) family digital plan	
Link	https://plandigitalfamiliar.aeped.es/
It is a virtual space with infographics, scientific evidence and tools aimed at families, with a document that families can use to manage the digital world at home. The family digital plan aims to reduce the risks of inappropriate use of technology by training parents and setting an example within the family. The digital plan presents a series of proposals based on scientific recommendations that parents can choose from; some will be classified by age and others will be general for the whole family. In addition, families can add those that they consider important for them. It is also designed so that the existence of the AEPED's family digital plan can be discussed at the paediatrician's office and put into practice.	

Internet Safe 4 Kids	
Link	https://www.incibe.es/incibe/informacion-corporativa/con-quien-trabajamos/proyectos-europeos/is4k
It is the Internet Safety Centre for minors in Spain. It is coordinated by SEDIA (Secretariat of State for Digitalisation and Artificial Intelligence) and provides its services through INCIBE (National Cybersecurity Institute). It is also part of the pan-European INSAFE network of Internet Safety Centres and is co-funded by the European Commission. IS4K aims to promote the safe and responsible use of the Internet and ICTs among children and adolescents. Its campaigns, initiatives and resources are aimed at children, youth, families, teachers and professionals. The topics it covers are varied: parental control, teaching materials, games, educational kits, social networks, cyberbullying, literacy, netiquette, etc. It also offers a support service for minors, families, teachers, etc., to help them deal with the risks involved in using the internet and organises Safer Internet Day in Spain, among other activities.	

COMMUNITY SCOPE (European Union)

European Data Protection Board

Adoption, by the European Data Protection Board and the European Commission's Task Force for Age Verification, of criteria aligned with the AEPD for compliance with data protection legislation by age verification systems and application of the principles of safe internet by default for minors, and promotion of European regulation aimed at protecting minors in online environments, including the development and implementation of the Digital Services Regulation and the Audiovisual Directive, the Regulation against child sexual abuse content, as well as the Directive on combating the sexual abuse and sexual exploitation of children and child sexual abuse material.

Better Internet for Kids (BIK)

Link	https://better-internet-for-kids.europa.eu/en
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As a key action under the BIK+ strategy, the Commission will facilitate a comprehensive EU code of conduct on age-appropriate design (BIK Code). The Code will be based on the regulatory framework set out in the Digital Services Act (DSA) and will assist with its implementation. It will be in line with the EU Audiovisual Media Services Directive (AVMSD) and the General Data Protection Regulation (GDPR). The Code aims to strengthen industry involvement in protecting children when they use digital products, with the ultimate goal of ensuring their online privacy and security.

Ireland. "It Takes a Village" project

Link	https://www.ittakesavillagegreystones-delgany.com/
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Led by Rachel Harper, headmistress of St. Patrick's School, which seeks to build a mobile-free community for children up to the age of 12.

Esbrina Group - Educational roadmap for transformative agency / SCU4Change

Link	https://esbrina.eu/es/portfolio/educational-roadmap-for-transformative-agency-2/
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Design of a collaborative and sustainable "roadmap" to highlight and promote school practices aimed at addressing contemporary social issues from the perspective of social and educational change, through collaboration between schools, communities and universities.

INTERNATIONAL SCOPE

Accessible and adapted communication by public administrations.	
Link	https://www.canada.ca/en/treasury-board-secretariat/topics/government-communications/communications-community-oaice/communications-101-boot-camp-canadian-public-servants/plain-language-accessibility-inclusive-communications.html
In this case, the Canadian Government's approach can be extrapolated to other sectors. It guarantees and facilitates access to information in digital environments for children.	

Online Safety Bill (United Kingdom).	
Link	https://www.gov.uk/guidance/a-guide-to-the-online-safety-bill
In the United Kingdom, the Online Safety Bill proposes, among other things, to prevent content that promotes self-harm or other content that is harmful to minors from appearing in prominent positions in search engines in order to prevent access to it, as well as to enforce age limits and age verification measures. It also proposes greater transparency about the risks and dangers children face on platforms and social media, as well as providing parents and children clear and accessible ways to report problems online when they arise.	

Measures adopted by the British audiovisual authority (OfCom) for compliance with the Online Safety Bill.	
Link	https://www.ofcom.org.uk/news-centre/2024/tech-firms-must-tame-toxic-algorithms-to-protect-children-online https://www.ofcom.org.uk/research-and-data/online-research/protection-of-children-online-research
Online safety measures and age verification measures to prevent minors from accessing harmful content. The regulator is calling for algorithms to be reformulated in the same vein, threatening networks and platforms with <i>name-shaming</i> in the event of non-compliance. In line with the implementation of the Online Safety Bill, OfCom has announced a legal amendment relating to pornographic deepfakes, the production of which will now be considered a "criminal offence".	

Toolkit for Digital Safety Design Interventions and Innovations: Typology of Online Harms, published in August 2023 by the World Economic Forum (WEF)	
Link	https://www3.weforum.org/docs/WEF_Typology_of_Online_Harms_2023.pdf
For the categorisation of online threats to minors. The purpose of this document is to serve as a basis for building a common terminology and shared understanding of the diverse range of risks that arise online, including in the production, distribution and consumption of online content, as well as for their assessment.	

United States: The National Centre for Missing & Exploited Children (NCMEC) has the following programmes	
Link	https://noescaperoom.org/ https://www.missingkids.org/NetSmartz/home https://takeitdown.ncmec.org/es/ https://www.dhs.gov/know2protect
<ul style="list-style-type: none"> - "No Escape Room" is an interactive experience that immerses parents and carers in the reality of sextortion. Based on real reports, it follows the story of the online exploitation of a 15-year-old boy. - "NetSmartz" is the online safety education programme - "Take it down" to remove nude or sexual content photos and videos online. - National "Know2Protect" campaign to raise awareness of threats, share strategies to stop future victimisation, empower the public to report suspected abuse, and support survivors. 	



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