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JEAN MONNET
CENTRE OF EXCELLENCE

INFORMATION DISORDERS FROM CHILD RIGHTS PERSPECTIVE: RETHINKING RIGHT TO PARTICIPATION AND PROTECTION IN THE DIGITAL AGE

Policy Paper No 5 | 2026



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Istanbul
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Information Disorders from a Child Rights Perspective: Rethinking Right to Participation and Protection in the Digital Age

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1. Information Disorders in the Digital Ecosystem: A Conceptual Framework

In the era we live in, digitalization has fundamentally altered our practices of accessing and transmitting information. The new media ecosystem allows anyone to produce and publish their own content; in this ecosystem, where the boundaries between news and entertainment, fact and fiction, and truth and rumor have become increasingly blurred (Mihailidis, 2014, p. 1), information flows much more rapidly and easily than in the past. However, alongside this, false and manipulative information is spreading rapidly, restricting individuals' right to access reliable information. This issue has also been addressed in the Global Risks Report, highlighting that information disorders are the most important global risk of the next two years (World Economic Forum, 2024; 2025; 2026).

The concept of “fake news” gained prominence during the 2016 US presidential elections and has continued to attract attention since then (Pennycook & Rand, 2019, p. 2521). Noting that today, as written and visual content is circulated by being manipulated or taken out of context, this concept is open to being used by “those in power” to devalue journalism/discredit the media (Wardle & Derakhshan, 2022, p. 44) and fails to reflect the reality of the era, Wardle and Derakhshan propose the concept of “information disorders” as an umbrella term covering false and misleading information (Wardle & Derakhshan, 2017; Wardle, 2020). In this framework, information is evaluated on two fundamental axes: its conformity with objective reality (in other words, the information being true or false) and whether the person spreading the information carries an intent to harm. With the intersection of these two axes, information disorders are divided into three categories: disinformation (spreading false information intentionally), misinformation (spreading false information unintentionally), and malinformation (spreading genuine information deliberately with the purpose of causing harm). The concept goes beyond text-oriented fake news and has been expanded to include audiovisual manipulations such as images taken out of context, deepfakes, and cheapfakes. In this study, too, the concept of information disorders is used as an umbrella concept covering the types of false information.

The advancements in generative AI technologies are the primary factors accelerating the rapid production of information disorders, enabling them to reach an unprecedentedly convincing level. Deepfake technology has reached the point of producing flawless fake content that is visually and auditorily very difficult to distinguish from reality. This development has taken the issue of information disorders to a whole new dimension by facilitating the highly convincing imitation or alteration of people's faces, bodies, and voices, making them almost indistinguishable from reality (Erdoğan & Uyan Semerci, 2026). While traditional media literacy trainings teach children to question the source of a news story, the context of a photograph, or the consistency of a text; content generated by artificial intelligence requires traditional verification methods to be reconsidered. The

study conducted by Yakubu, Eric, and Idris (2021) also verifies that supporting content with visual evidence (even if they are fake) creates a much more persuasive effect on users and accelerates manipulations. Therefore, highly credible synthetic images and videos like deepfakes can cause children to have difficulty understanding whether these contents are real. As a matter of fact, children also struggle to distinguish deepfake videos from real videos because they are very convincing (Ali et al., 2021).

2. Information Disorders and Child

2.1. Internet and Social Media Practices of Children

The interaction with the digital world among children, who constitute 24.8% of Türkiye's population (TÜİK, 2025)¹ is deepening progressively, similar to their global peers. TÜİK reported internet usage rates for children aged 6-15 in Türkiye as 50.8% in 2013, 82.7% in 2021, and 91.3% in 2024. According to 2024 data, the rate of mobile phone or smartphone usage in the 11-15 age group was stated as 86.2%. Furthermore, 42.8% of children in this age group who use phones regularly check their devices at least once every 30 minutes. In another study covering the 11-18 age group in Türkiye, it was found that 87% of the participating children have regular internet access, while 95% use the internet regularly (Uyan-Semerci et al., 2024).

Children's intensive engagement with technology is a global phenomenon, not limited solely to Türkiye. According to a study conducted among the 9-16 age group in 19 European countries, the frequency of children's online activities has increased considerably compared to ten years ago. Children are generally online all the time and everywhere, and this mostly takes place via smartphones (Smahel et al., 2020). In OECD countries, it is observed that an average of 98% of 15-year-old children have access to an internet-connected smartphone, while 96% have access to a computer or tablet at home. Another striking data point in the same report is that the age of smartphone ownership is falling rapidly worldwide. Approximately 70% of children around age 10 have their own smartphones (OECD, 2025).² The existing literature also supports this finding. In a study, it was seen that participants got their first phones between the ages of 9 and 13, while the most common age range was 10-12 (Esfandiari et al., 2025).

As with digital device ownership and time spent in online environments, there are clear parallels between children in Türkiye and their global peers in terms of platform preferences and information-seeking practices. The most widely used applications by children in Türkiye are YouTube, Instagram, TikTok, and Snapchat (TÜİK, 2024; Uyan-Semerci et al., 2024). The four most commonly used social media applications among 13- to 17-year-old children in the United States are also similar to those in Türkiye (Pew Research Center, 2024). In the February 2025 report titled *Behind the Screen: Transparency Report* by the Australian eSafety Commissioner, it is stated that almost all children aged 13 to 15 (95%) use social media, with YouTube being the most widely used platform. It is noted that two-thirds of the surveyed children in the 13-15 age group use Snapchat (63%) or TikTok (62%), while more than half (56%) use Instagram. It was also observed that the 8-12 age group uses at least one of the social media platforms despite the 13+ age restriction. The prevalence of WhatsApp usage among children and adolescents is also noteworthy (Esfandiari et al., 2025). In addition to this, they

¹ As of December 31, 2025, Türkiye's population stood at 86,092,168, with children accounting for 21,375,930 of this total: <https://veriportali.tuik.gov.tr/tr/press/58149>

² These data in the OECD's 2025 report titled *How's Life for Children in the Digital Age?* are based on the results of PISA 2022 and PIRLS 2021.

are rapidly incorporating generative artificial intelligence tools into their daily practices for purposes such as searching for information on topics they are curious about, doing their homework, or carrying out some basic tasks. Children use generative AI tools like ChatGPT and Gemini, and AI-supported voice assistants, for various purposes as a part of their daily lives (Andries & Robertson, 2023; Kaberi et al., 2025). They can even consider these tools as a fundamental information source to replace search engines, for example, Google (Kaberi et al., 2025).

2.2. Beyond the Myth of the “Digital Native”

When discussing children's interactions with the digital world, one of the frequently referenced concepts is the approach that classifies the new generation born into technology as “digital natives” and the rest of the adult population as “digital immigrants” (Palfrey & Gasser, 2008; Prensky, 2001a, 2001b). However, does the fact that children are born into technology and have such high levels of interaction mean they automatically evaluate the information they encounter critically? The assumption that this is the case reflects a belief that children defined as digital natives are constantly connected to the internet, are far more competent than adults in using devices, and can easily access any information they need from virtual environments. However, current literature critiques the myth of the “digital native” created by this approach. The fact that children are able to use digital devices and applications intensively and at an advanced level, in other words, their technical competence, does not mean they do not struggle to critically evaluate all the information they encounter (Bennett et al., 2008; Bennett & Maton, 2010; Livingstone, 2011; Selwyn, 2009; Thorne, 2009). In particular, an approach assuming that all children behave in a similar manner carries the risk of obscuring digital inequalities and differences stemming from aspects such as age, cultural context, and socio-economic status.

The change in our interaction with information takes information disorders beyond being merely a technical issue, necessitating its consideration as a “rights issue.” Believing in false information can lead individuals to make wrong decisions for themselves and their families (Lewandowsky et al., 2012, p. 107). In this sense, it is possible to conceptualize information disorders as a societal problem that violates a range of human rights, such as access to information and free elections. However, this situation does not affect everyone equally. Due to their current conditions and needs, certain groups may be affected by information disorders in different ways. Children constitute one of these groups.

So, are information disorders a risk solely for children? In other words, are adults not affected as much as children? It is, of course, not possible to claim that information disorders pose a risk exclusively to children and that adults are unaffected by this situation. However, with reference to the UNCRC (1989), the 0-18 age group, defined as children, represents a non-homogeneous group whose physical, cognitive, and emotional development is ongoing, and who have different needs than adults. Their unique conditions, such as their developmental characteristics, can cause children to be affected by the false and manipulative information they encounter in different ways compared to adults (Sharevski & Vander Loop, 2023; Talukder, 2026). Shtulman (2025) notes that, contrary to popular belief, children are not inherently “naive, gullible, and credulous” beings, and that they possess a natural skepticism towards implausible situations. However, he states that because their cognitive skills are still developing, this skepticism can prove insufficient against the false and manipulative information they encounter. Talukder (2026) also draws attention to a similar point. This situation can lead children to focus solely on surface and formal cues when evaluating news.

Consequently, when false and manipulative information is presented as if coming from an authority or in a professional format, this skepticism can be overridden.

In a study conducted with the 14-24 age group, 76% of participating children and young people stated that they encounter false information at least once a week (Vodafone Stiftung Deutschland, 2020). Children most frequently encounter information disorders on TikTok and YouTube (Esfandiari et al., 2025; Sharevski & Vander Loop, 2023; Siani et al., 2024; Vartiainen et al., 2023). On social media, children usually encounter deepfakes, memes with political context, or celebrity/influencer rumors (Sharevski & Vander Loop, 2023). However, it must be emphasized that today, it is not possible to draw a sharp line between the online and offline worlds. Children and youth are frequently exposed to information disorders not only on digital platforms but also at home, at school, and directly within their own social circles. In a study conducted by Kılıç, Demir, and Koç (2023), it was observed that parents/caregivers deliberately resort to false and manipulated information to control children's behaviors and habits in the home environment, while teachers and school administrators do so for purposes such as increasing success and maintaining discipline at school.

Within the complex structure of the digital world and algorithms, children struggle to detect the false information they encounter in digital environments (Herrero-Diz et al., 2020; Kops et al., 2025; Nygren & Guath, 2019). In particular, deepfakes, which have become increasingly convincing with the advancement of artificial intelligence technologies, make it progressively difficult for children to distinguish between true and false information and to access reliable sources. Children have stated that they find deepfake videos highly interesting and have difficulty distinguishing them from real videos because they are very convincing (Ali et al., 2021).

Research indicates that when evaluating the accuracy of information encountered in digital environments, children generally refer to how the content looks and its formal features. Elements related to appearance and design, such as the use of professional graphics/visuals and journalistic layout, directly affect children's trust in that information (Estigarribia et al., 2022; Shtulman et al., 2025); even if the content is false, materials structured appropriately in a news format in terms of presentation can be perceived as if they were true (Herrero-Diz et al., 2020). In addition to the format, the source of the news can also be a determining factor in whether children trust that information (Faragó et al., 2024; Farooq et al., 2022; Herrero-Diz et al., 2020; Lämmer & Ohl, 2024). For example, while websites having institutional extensions such as ".edu" or ".gov" increases children's trust in the content, a high quantity of ads on the page can undermine this trust (Estigarribia et al., 2022, p. 1604). However, evaluating content solely based on its formal features has become even more problematic with the advancement of generative AI, which can imitate these features almost flawlessly. As Talukder (2026, p. 2) emphasizes, generative AI can produce highly realistic, emotionally resonant, esthetically polished, and linguistically coherent content. These developments can cause the surface cues relied upon when assessing the reliability of information to be easily overridden, thereby elevating the risk in the context of information disorders to another dimension.

Although children and youth frequently trust their own judgments in detecting fake news (Kops et al., 2025) and are familiar with manipulative content or rumors (Capecchi et al., 2024; Vartiainen et al., 2023), they generally prefer to ignore false information when they encounter it, refraining from actions such as verifying or reporting. A study conducted with children in the 13-15 age group indicates that children act hesitantly in criticizing the suspicious content they encounter (Yeles Karaman, 2024, pp. 92–93). One of the reasons for this is that overconfidence prevents children and youth from taking action (Kops et al., 2025).

Children's attitudes towards information disorders cannot be considered independently of adults' perception of children and the asymmetrical relationship they establish with them. In this context, two issues in particular should be highlighted: The first of these is that adults view the media merely as a threat to children and resort to restrictive measures. Adults' anxieties regarding the effects of the digital world have given rise to a protectionist/paternalistic approach aimed at "protecting" children, accompanied by a discourse of "moral panic" (Ercan Bilgiç, 2024). However, rather than viewing children as rights-holders and active agents in the digital environment, which is an extension of the physical world, this approach treats them as "passive victims" susceptible to external influences. This understanding, which reduces the child merely to a fragile object in need of protection, undermines children's digital participation rights and poses a major obstacle to their empowerment to cope with information disorders.

Criticizing the assumptions that children and adolescents are 'digital natives' does not mean that this group is completely defenceless against false and manipulative information. For instance, in the study by Hartwig et al. (2024), although 28.6% of the youth evaluated some content incorrectly, their accurate detection rates were observed to exceed 80%. This indicates that when provided with the right cues and tools, youth can detect information disorders quite successfully. However, interventions aimed at enhancing the digital media literacy of children and youth may be perceived as 'patronizing' by young people when their existing digital skills are overlooked, which creates the risk of these interventions being rejected. A reflection of this can be seen in the study by Hartwig et al. (2024), where the participating youth considered the application designed to detect information disorders to be more beneficial for older or very young people rather than themselves, assuming their own skills were already developed. The literature also indicates that various interventions have been implemented to overcome this issue. For example, in a study conducted with 1,476 high school students in Hungary, participants were given an expert role and were asked to write a letter explaining six strategies to define fake news to their relatives who are less experienced digitally (Orosz et al., 2024). Following this online intervention, an increase was observed in children's ability to detect fake news. However, it should be underlined that there are question marks regarding the enduring effects of this impact in the long term (Orosz et al., 2024).

The online environment does not exclusively harbor risks. It also encompasses numerous opportunities in terms of the realization of children's rights. For instance, during the COVID-19 pandemic, classrooms transitioned to the digital environment (Devrani et al., 2020), and the online environment gained even more significance regarding the realization of the right to education. In the post-pandemic period, there has been an increase in the number of studies focusing particularly on the opportunities offered by the digital environment in terms of education (Buenestado-Fernández et al., 2024, p. 143). For children with disabilities, online platforms facilitate engaging in relationships with peers, participating in decision-making processes, and expressing themselves freely without being hindered by spatial constraints. Children who learn differently can find a personalized learning experience in the online setting. For children with a language barrier, this digital environment can present opportunities. Digital media can remove boundaries for children who cannot access cultural, arts, music, and sports events in the physical world due to economic restrictions or geographical obstacles. A case in point is a child without the chance to join artistic or cultural courses through traditional opportunities learning to play various musical instruments directly over the internet via video platforms. For example, in the *Child Well-Being Research*, it is noted that the digital world is a

space opening up to the outside for children, giving them “the feeling of being outdoors while inside the house,” especially in the case of girls (2024, p. 72).

It should also be noted that although children view digital media as vital for their rights to access information, education, and participation, they identify the risks and challenges in digital media more easily than the rights and opportunities, partly due to the influence of education based on the risk narrative (Third et al., 2014, p. 13). At this point, it must be underlined that systems focusing on overprotection can hinder children from developing the necessary skills for the digital world (Chakrabarti et al., 2025, p. 10), and as a consequence of this situation, they can be disproportionately affected by information disorders. All these examples demonstrate that false information leads to the violation of children's rights.

The second issue to draw attention to in the adult-child relationship is the power imbalance and hierarchy between the child and the adult. The traditional perception, which regards the child as a yet “incomplete, unformed, and partial” being, engenders a power asymmetry in favor of the adult; this hierarchical structure directly influences children's tendencies to acquire and accept information as true. For instance, the fact that digital content appearing professional and thus conveying a sense of “authority and trust” is more readily accepted as true by children can be viewed as a reflection of this hierarchical obedience. Furthermore, when deciding on the accuracy of a piece of information, children developmentally reference the trust they place in adults and authority (Loos et al., 2018). Information originating from trusted figures, particularly parents or teachers, is almost never questioned. Indeed, in their study conducted in the Netherlands, Loos et al. (2018) revealed that only 2 out of 27 children in the 11-12 age group were able to realize that a hoax website titled *Save The Pacific Northwest Tree Octopus*, presented by a teacher in the classroom, was false. They stated that this misconception was closely related to the trust placed in the teacher, alongside the formal environment of the classroom and the emotional involvement with the endangered animal. A similar result was reached in another study replicated in Romania (Dumitru, 2020). At this point, it should also be noted that there are instances where this hierarchy is occasionally reversed, and children, as a result of being immersed in digital technologies, guide their parents/caregivers in this regard. In their study, Hartwig et al. (2024) stated that participants believed the older age group had a higher susceptibility to information disorders, and that they assumed the role of “fact-checkers” for older relatives in their families, such as grandparents, especially regarding video-based content. However, it is observed that this situation negatively affects family relationships. The false information encountered in the digital environment negatively impacts children's relationships with older family members, particularly with relatives who hold different political views on topics such as immigrants (Sharevski & Vander Loop, 2023).

In addition to this trust in authority, it should be added that the “feeling of familiarity” is also highly influential in the evaluation of information. When deciding whether the content they encounter is reliable, children frequently rely on their prior knowledge and familiarity (Lämmer & Ohl, 2024). The study conducted by Lemaire et al., examining the development of the illusory truth effect with age, also supports this situation. According to the research, seeing a news item repeatedly causes that news to be perceived as “true”. In other words, even if an improvement in the ability to discern real from fake news is observed with age, having previously encountered a news item reinforces both children's and adults' perceptions regarding the accuracy of the media content they encounter (Lemaire et al., 2025, p. 6).

2.3. The Role of Artificial Intelligence as a New Dynamic

Artificial intelligence technologies, which play a significant role in the spread of false information, are increasingly determining what information children access, how they access it, and how they maintain their social relationships (Mahomed et al., 2023, p. 10). According to the *Human Development Report* (2025, p. 68), almost half of the students (42%) use AI-supported applications more than once a week. A study conducted by Çat and Huseynova (2025) with middle school students revealed that almost all of the children (98.5%) are familiar with the concept of artificial intelligence. The current landscape has paved the way for a rapid proliferation of studies examining children's perceptions regarding artificial intelligence (Ali et al., 2021; Heeg & Avraamidou, 2024; Mertala et al., 2022; Saçan et al., 2022; Solyst et al., 2024; Yu et al., 2025).

Studies in the literature that examine children's perceptions of artificial intelligence systems within the context of “anthropomorphism” are noteworthy (Mertala et al., 2022; Vahedian Movahed & Martin, 2025). This concept, defined in its simplest terms as the tendency of individuals to attribute human mental states, such as thinking, feeling, and intending, to inanimate or non-human entities (Airenti, 2018; Epley et al., 2007), is frequently referred to when addressing the relationship between artificial intelligence and children. However, it must be underlined that Airenti grounds the anthropomorphization by both children and adults on a functional and psychological basis. In other words, beyond considering this situation merely as people's “lack of understanding of technology or a confusion,” she expresses it as the ability to empathize, the search for relatedness, and the need for creative control over the object. Independent of the object's appearance and physical features, she explains it as humans positioning that object as an interlocutor in a dialogue and a special type of relationship established with it (Airenti, 2018). Similarly, Epley et al. (2007) suggest that people's need to understand their surroundings, their search for predictability, and the need to reduce uncertainty are influential in anthropomorphization.

One of the significant results revealed by studies is the finding that children perceive artificial intelligence as a “hybrid” entity that concurrently harbors characteristics specific to humans and machines (Andries & Robertson, 2023; Chang et al., 2026; Xu & Warschauer, 2020). When defining artificial intelligence, children have attributed entirely animate characteristics to it, such as 'robot, brain, human, intelligence, and child'; while on the other hand, they have associated it with metaphors specific to inanimate entities, such as 'machine, book, miracle, or an information-processing system' (Saçan et al., 2022). When drawing artificial intelligence, children in the younger age group have also frequently depicted it in the form of a 'robot human,' an 'abacus' (Yılmaz, 2024), or a 'brain' (Saçan et al., 2022; Walan, 2025). While a study conducted with 5th and 6th-grade students in Finland observed that children defined AI as an autonomous system capable of making independent decisions yet simultaneously attributed to it certain cognitive processes such as “thinking” and “knowing” (Mertala et al., 2022); in another study conducted with 3rd and 4th-grade students, it was concluded that children assess AI both as a human-like entity having emotional/cognitive characteristics and as a technological tool that is a part of their everyday lives (Vo et al., 2024).

When determining whom to trust in their information acquisition processes, children consider not only the accuracy of the information but also social characteristics such as helpfulness and confidence, in other words, the way the information is presented (Murray, 2021). The human-like and fluent communication skills of chatbots can be a factor influencing children's trust in these systems. For example, in a study conducted by Hartwig et al. (2024), a girl in the 13-14 age group

expresses her belief that computers are smarter than humans: “Yes, so of course we trust because we are on the smartphone a lot and it has everything to do with computers. [...] computers are usually smarter than people.” (p. 12). A 17-year-old participant, while justifying their trust in artificial intelligence mechanisms, stated: “I am not sure how it works, but I usually think of it as a person... And when you type, the question reaches that person... And maybe that person's IQ is very high... And it writes your answer right back.” When children consider artificial intelligence to be an autonomous system capable of 'reasoning and making independent decisions,' they can place great trust in the information coming from these tools. The positioning of these tools by children as an “infallible, all-knowing authority figure” can lead to the generated information going unquestioned (Mertala et al., 2022; Solyst et al., 2024).

In a study conducted with children aged 7-11, it was concluded that children evaluate artificial intelligence as a “helpful and smart” assistant that answers questions quickly (Ikhlaiq, 2025). In their study, Heeg and Avraamidou also revealed that children perceive artificial intelligence as a supportive tool that assists them in their daily lives. For example, beyond viewing AI systems merely as technological software, children define them as a tool that assists with household chores and helps the sick, the elderly, or individuals with disabilities (Heeg & Avraamidou, 2024). Some children use artificial intelligence as a “guide” that explains topics rather than taking shortcut answers (Kaberi et al., 2025). In another study conducted with 6th-grade students, it was determined that children evaluate artificial intelligence not solely as software, but in a multidimensional manner across aspects such as its benefits, potential risks, and responsible and ethical use (Kotsidis et al., 2026).

The fact that children position artificial intelligence tools as guides for socio-emotional support in their daily lives is an issue that must be carefully considered. Children converse with AI-based chatbots to seek advice on matters concerning their friends and/or families, or problems they experience regarding their physical and mental health; they share their secrets with these tools (Vahedian Movahed & Martin, 2025). Likewise, they can resort to these tools when fact-checking the information they encounter. It has been revealed by Sharevski and Vander Loop (2023, p. 12) that to verify the accuracy of suspicious content encountered on social media, children can directly turn to AI assistants like Siri instead of asking their parents or researching on search engines. Particularly concerning health-related issues, for instance, topics that are more difficult to discuss, such as sexual health, the degree of accuracy of the information provided by such tools is a crucial subject of debate. This situation is especially significant for children who cannot receive adequate support from their peer groups or the adults around them. It must not be forgotten that accepting the information coming from these tools as true without subjecting it to critical thinking processes can lay the groundwork for numerous rights violations.

While keeping the severity of all these risk areas in mind, considering children as “vulnerable and passive objects” in the face of digital technologies would be a misleading approach. Current research reveals that children can develop their own strategies in their interactions with artificial intelligence systems, exhibiting highly cautious, questioning, and balanced stances toward these tools. A portion of children are aware that artificial intelligence is a tool programmed by humans and that it can make mistakes (Mao et al., 2025; Ragone et al., 2026). In the study conducted by Ragone et al. (2026), although the majority of children (85%) found artificial intelligence to be “intelligent,” they approach this technology with caution. By emphasizing that artificial intelligence is produced by humans, some children treated it as a “human-made programmed tool” rather than attributing human intelligence to it. Children's trust in systems like ChatGPT, which they predominantly use for

concrete purposes such as homework support, creativity (writing stories/poems), and satisfying curiosity, was measured at an average level of 3.03 out of 5. In the study conducted by Vahedian Movahed and Martin (2025), the interactions of children aged 6–14 with a child-friendly chatbot that responds only to specific topics (astronomy, dinosaurs, sneakers and shoes) were examined, and it was observed that before fully trusting the system, children tested the reliability of the tool by persistently asking questions to which they already knew the answers (e.g., “How big is a T-Rex?”). It is a significant finding that children particularly expressed concerns that such artificial intelligence tools could reproduce racism and biases, and acknowledged that these systems can occasionally make mistakes (Kaberi et al., 2025).

Children are aware that artificial intelligence can reinforce racist and sexist biases with the information it produces (Solyst et al., 2024; Vartiainen et al., 2024; Wolfe et al., 2024). In a workshop analyzing the biases in text-to-image generative AI tools, it was stated that 4th and 7th-grade students could not make sense of the stereotypes produced by these tools at the start of the process but found out that the system would give results depending on how it is trained; in order to solve this problem, children defended that these systems must be trained with data considering diversity (Vartiainen et al., 2024).

Studies have put forward that children are not just “manipulable” entities against these systems; when environments, tools, and interventions suitable for their ages and needs are presented, they can identify the mistakes artificial intelligence can make and the biases it reproduces. Even though children often have difficulty distinguishing the highly convincing synthetic contents (for instance, texts, visuals, or deepfake videos) produced by artificial intelligence tools (Langer et al., 2026); current studies focusing on their skills to detect fabricated information (hallucinations) sourced from artificial intelligence offer very crucial data. In a study in which children in the 10-14 age group developed their own AI chatbots; it was seen that children were able to realize the faulty outputs produced by artificial intelligence with the fact-checking tools integrated into the process; children turned to strategies like trying to verify these outputs through external sources (Tian et al., 2026).

Preventing children from positioning artificial intelligence as a “mysterious and infallible” authority can be achieved by practically demonstrating how these systems learn and operate in the background. Studies have been conducted where children experience artificial intelligence firsthand (Newman et al., 2024; Solyst et al., 2024; Tian et al., 2026; Vartiainen et al., 2024); it has been observed that while children initially exhibit a significant amount of trust in artificial intelligence, they shift toward a more skeptical and critical approach following workshop activities (Druga & Ko, 2021; Solyst et al., 2024; Tian et al., 2026).

While children position artificial intelligence as mysterious and infallible when they merely consume it, they can discover the system's limits, biases, and operational logic when they create something with it. Methods where children experience AI design and development processes, design and train chatbots, or explore the background of the technology by participating in creative processes are frequently utilized in the literature. Workshops where children participate in the design of these systems, and even write the rules themselves, enhance their ability to detect false and manipulative information generated by artificial intelligence (Tian et al., 2026). Similarly, there are innovative intervention models where children train machine learning algorithms (Druga & Ko, 2021), receive support from an empathy-focused AI assistant while designing for the needs of others (e.g., individuals with visual impairments) (Lo et al., 2025), or generate digital stories and visuals by

inputting their own prompts into generative AI (Newman et al., 2024). Through these applications, children experience the underlying mechanisms of the system; thus, rather than perceiving AI as an infallible and mysterious authority, they are able to rethink it as a tool that they can direct, that can make mistakes, and that can reproduce biases (Dangol et al., 2024).

3. A Matter of "Rights": The Impact of Information Disorders on Child Rights

3.1. The Right to Access Information and Freedom of Expression

Articles 13 and 17 of the United Nations Convention on the Rights of the Child (UNCRC) explicitly define children's rights to access information from sources appropriate to their age and development. Freedom of expression (Article 13) entails not merely the ability to convey thoughts, but necessitates a healthy foundation for "forming a view" beforehand. The capacities of children to form autonomous opinions can be undermined when they are continuously exposed to false, incomplete, or manipulative information. Consequently, obstructing access to accurate and reliable information hinders children from developing meaningful views, thereby damaging their freedom of expression. These aforementioned rights are also of vital importance for the realization of the right to participation. In the UN Committee on the Rights of the Child's General Comment No. 12, the connection between Articles 12, 13, and 17³ is expressed as follows: *"Article 13 on freedom of expression and Article 17 on access to information are crucial prerequisites for the effective exercise of the right to be heard. These articles establish that children are subjects of rights and, together with article 12, they assert that the child is entitled to exercise those rights on his or her own behalf, in accordance with his or her evolving capacities."* Therefore, combating information disorders is vital in terms of supporting children's access to accurate information, their ability to express themselves, and their effective participation in decision-making processes.

3.2. The Right to Participation

The right to participation, situated within the scope of Article 12 of the UNCRC and simultaneously one of the four core principles of the Convention, encompasses children expressing their views on all decisions affecting them and these views being taken seriously by decision-makers. Therefore, for a child to be able to form a view on a matter, access to transparent, accurate, and reliable information is not merely a need, but a vital prerequisite for the right to participation.

Laura Lundy (2007), a pioneering figure in the field of child rights known for her participation model, emphasizes that in order to prevent the right to participation from being hollowed out or remaining at a tokenistic level, this process must be addressed with four fundamental elements that continuously follow and complement each other in a cycle: Space, voice, audience, and influence. Information disorders can have a negative impact on these four elements. The fact that safe spaces where children can freely express their views are filled with false and polarizing content prevents children from accessing the accurate and reliable information necessary for them to form a view. Furthermore, children who are continuously exposed to a climate of fear, manipulative content, and

³ Article 13: The child shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice.

Article 17: States Parties recognize the important function performed by the mass media and shall ensure that the child has access to information and material from a diversity of national and international sources, especially those aimed at the promotion of child's social, spiritual and moral well-being and physical and mental health.

See https://cocukhaklari.barobirlik.org.tr/dokuman/mevzuat_uamevzuat/birlesmismilletler.pdf

a distorted perception of reality may struggle to understand the world and develop a critical approach to unfolding events. In addition, they may be silenced due to the ensuing confusion and mistrust.

According to the Lundy model, space and voice alone are not sufficient; there is a need for an Audience, adults, and decision-makers who will respect children's voices and take them seriously. However, in the era of information disorders, there is a tendency among adults and policymakers to continuously label children as “susceptible to manipulation, easily deceived, and passive victims.” These adult-centric and overprotective approaches reinforce the power imbalance and hierarchy between adults and children. Adults labeling children on the grounds that they are “not yet competent” in terms of capacity, and continuously viewing them as being at risk, serves as a pretext for not taking the child's voice seriously and excluding them from the decision-making processes affecting their own lives. These reflexes also undermine the influence element, which is one of the critical pillars of the model and can be explained as children's views having an impact on the decisions made. Consequently, information disorders disrupt the cycle consisting of these four elements. In this sense, information disorders can be evaluated not merely as an individual digital literacy issue, but simultaneously as a violation of the right to participation of children.

3.3. The Right to Health

The child's right to health (Article 24), guaranteed under the UNCRC, can be undermined by information disorders. Information disorders are a multidimensional public health issue that directly threatens children's right to a healthy life and development. The rapid spread of false information in digital environments can cause parents/caregivers to make erroneous decisions regarding their children's health, resulting in children suffering physical and mental harm. Anti-vaccination stands as the most concrete example of information disorders threatening children's right to life. Unfounded claims and conspiracy theories spread on the internet can deter parents/caregivers from vaccinating their children, thereby causing an increase in the risk of disease (Arıcan & Badur, 2022). Unverified, frightening visuals spread through media and social media during disaster periods, such as earthquakes, can cause children to experience feelings of insecurity and feel constantly under threat. Being continuously exposed to a bombardment of false or manipulated information can cause children to perceive the world as much more unsafe and chaotic than it actually is.

With emerging artificial intelligence technologies, a new dimension has been added to the risks concerning children's right to healthy development. Particularly in matters such as general health and sexual health, the false and manipulative information generated by artificial intelligence tools threatens children's physical and psychological well-being, bringing about a significant rights violation. Children have increasingly begun to ask chatbots questions related to sexual, mental, and physical health that they are unable to share with their parents (Kaberi et al., 2025). Youth, especially in adolescence, may turn to artificial intelligence systems rather than humans to discuss their mental health problems, private thoughts, and sensitive topics. For children and youth who feel marginalized or lonely, artificial intelligence can be seen as a refuge (Pinto, 2024). However, the advice and diagnoses provided by these tools can create a significant domain of violation regarding the right to health. Furthermore, perceiving chatbots as a therapist or a compassionate friend can cause children to sideline their skepticism, rendering them vulnerable to manipulative content and potential physical and psychological harms. For instance, in Kenya, a 13-year-old child stated that they view artificial intelligence as a “best friend” because it “wouldn't say something bad” about them, calming them without judgment (Kaberi et al., 2025).

3.4. The Right to Protection From Violence, Abuse, and Discrimination

Articles 2, 19, 34, and 36 of the United Nations Convention on the Rights of the Child (UNCRC) guarantee the protection of children from all forms of physical and psychological violence, sexual abuse, exploitation, and discrimination. Information disorders create a digital ecosystem that lays the groundwork for the violation of these rights. Social polarization, fueled by false information and hate speech spread in digital environments, carries the risk of turning into a practice of direct discrimination (a violation of Article 2) directed toward children by adults or among peers. Furthermore, fake profiles, clickbait, and deceptive content that children encounter in the online environment carry the risk of rendering them more susceptible to cyberbullying, digital violence, and online abuse

3.5. The Right to Privacy and the Protection of Personal Data

Being a type of information disorders, 'malinformation' directly targets the privacy of private life. According to the definition of Wardle and Derakhshan (2017), malinformation is the act of intentionally carrying information that is basically true but needs to stay private to the public sphere in order to give harm to a person or an institution. The disclosure of a child's private messages and photographs is a violation of the right to privacy. Furthermore, the practice of "sharenting," which can be summarized as parents creating accounts on behalf of their children and sharing photographs and information belonging to children without their consent, also causes the formation of children's digital footprints (Yanık, 2025). This permanent data on the internet can fall into the hands of malicious actors within the information disorders ecosystem and be used in the production of harmful content such as fake profiles or deepfakes; consequently, severely damaging children's reputations and private lives.

4. Intervention Models in Combating Information Disorders

In response to the need to empower children and youth regarding information disorders, various materials are being produced. These materials are predominantly developed in formats such as books, games, and news websites. For instance, "Data Detox x Youth,"⁴ which addresses topics such as privacy and digital safety and includes activity suggestions, offers steps to help youth take control of technology and ensure their digital safety. This kit specifically offers suggestions on how digital footprints can be reduced. There are also works produced in more creative formats. One such work, "The Glass Room," is an interactive exhibition project.⁵ Portable exhibition kits titled "Supercharged by AI" (15+ yaş)⁶, "Hello AI!"⁷ and "Everywhere, All the Time"⁸ have also been developed. These exhibitions are tools that primarily target children and youth, addressing the impacts of artificial intelligence tools on our daily lives, as well as the opportunities and risks presented by digital technologies. The books titled *Siber Günlükler: Ekin ile Devrim'in Dijital Medya Kullanma Rehberi* and *Fofo Adam: İnternette Sahte Haberler* are among the other materials designed for children, aiming to guide them in the digital world.

⁴ See <https://datadetoxkit.org/tr/home/>

⁵ See <https://tacticaltech.org/projects/the-glass-room/>

⁶ Websites: tacticaltech.org/supercharged-by-ai-experience/
Portfolio: cdn.ttc.io/s/tacticaltech.org>HelloAI_Portfolio.pdf

⁷ Websites: tacticaltech.org/artificial-intelligence-and-us/
Portfolio: cdn.ttc.io/s/tacticaltech.org>HelloAI_Portfolio.pdf

⁸ Websites: tacticaltech.org/everywhere-all-the-time-experience/
Portfolio: cdn.ttc.io/s/tacticaltech.org/Deck_Everywhere-all-the-time.pdf

Another intervention tool directed at children is news works that support the right to access reliable information suitable for their ages. These tools for children are usually works requiring intense labor and budget, and unfortunately, they are not seen as a basic policy issue (Carter et al., 2021, p. 352). But this kind of work carries critical importance in terms of the realization of children's rights. In crisis situations where information disorders increase, supporting children's right to acquire reliable information related to the topics they wonder about on the agenda is quite important. After the February 6, 2023 Kahramanmaraş earthquakes, a news work titled “Çocuklara Haberler (+10)”⁹ was carried out to support children's right to get information quickly and in a way suitable for their ages. Another example where children get information on the topics they are interested in regarding the agenda occurred in Sweden. The news channel named “Lilla Aktuellt carries the responsibility of transmitting news to children aged 8–12 under the roof of the Swedish national channel SVT. This channel makes daily, short, and child-specific news broadcasts on weekdays. “Six Fact-Checking Lessons For Kids,” however, was designed as a learning material formed through 6 interesting stories for children aged 9–11. “Hector’s World” (ages 5–10)¹⁰ was designed as a learning material targeting to empower children at an early age about safe internet usage through animations, interactive stories, and characters directed at children.

Existing research shows that children need to get support from their families, a trusted adult, or their teachers to make sure of the accuracy of the information they encounter in digital environments (Özaydın & Kumral, 2021, p. 369). Not only children but also teachers and parents need to be empowered in this matter (Alımcı, 2019, p. 56; Koç, 2016, pp. 231–232; Söylemez, 2012, p. 42; Tanrıkulu, 2019, pp. 102–103; Uyar & Asrak Hasdemir, 2023, p. 79). It is seen that the contents targeting teachers to obtain information in order to gain strength in combating information disorders and to be able to guide children are mostly prepared as guides, open-access courses, and curriculums. Guides generally give place to practical application recommendations besides theoretical knowledge. For example, *Eğitimde Dijital Okuryazarlık: Öğretmenden Öğretmene El Kitabı* (2021),¹¹ prepared together by teyit.org and Öğretmen Ağı in Türkiye, presents educators with both theoretical information and activity examples they can apply in class. On the subject of supporting digital literacy skills, the Ministry of National Education (MEB) has prepared a *Dijital Okuryazarlık Öğretmen Kılavuzu* directed at the empowerment of teachers. At the same time, contents related to media literacy are given place on the Educational Informatics Network (EBA) platform. These types of contents mentioned above are very important in that they present basic-level information on digital media literacy.

Some of the contents aimed at teachers are prepared as lesson plans that they can implement in their classrooms. It is observed that contents in various formats are used together in these lesson plans. For instance, the News Literacy Project offers lesson plans comprising infographics, posters, videos, and quizzes, and includes presentation and activity suggestions that teachers can use in the classroom. The content titled “How to spot and fight disinformation?” (2024),¹² prepared by the

⁹ Following the February 6, 2023 Kahramanmaraş earthquakes, this project was conducted by the Istanbul Bilgi University Child Studies Unit between February 6 and March 14, 2023, with the support of experts, aiming to support children's access to news appropriate for their development and needs, particularly during disaster and crisis periods. This news initiative, to which a different illustrator contributed for each issue, can be accessed at <http://cocuk.bilgi.edu.tr/10-cocuklara-haberler/>

¹⁰ See <https://hectorsworld.com>

¹¹ This guide, prepared with the participation of teachers, can be accessed at

https://www.ogretmenagi.org/sites/www.ogretmenagi.org/files/publications/egitimde_elestirel_dijital_okuryazarlik.pdf

¹² This content, designed for the 15–18 age group, can be accessed at <https://school-education.ec.europa.eu/en/discover/publications/toolkit-teachers-how-spot-and-fight-disinformation>

European Commission, includes a handbook and a presentation for teachers. The “Digital Well-Being Lesson Plan,” prepared based on the premise that teachers play a crucial role in supporting digital well-being, was developed in collaboration with teachers. The *Dijital Vatandaşlık ve Güvenlik Ders Programı: İnternet Olmaya Var mısın?* [Digital Citizenship and Safety Curriculum: Be Internet Awesome] (2017),¹³ prepared in collaboration with Google and iKeepSafe, is also designed for teachers working with children in the 7–12 age group. The game “Interland,” developed as part of the program, is also included in the content. “Civic Online Reasoning” has also developed a curriculum aimed at teachers, predominantly consisting of video contents. The “Digital Literacy & Well-Being Curriculum,” developed by Common Sense in a research-based manner and in collaboration with teachers, offers a free platform containing 140+ lessons on topics such as artificial intelligence literacy, safety, digital footprints, information and media literacy, cyberbullying, and screen time. Another example is the intervention model prepared as part of the “Media Literacy Case for Educators” project. One of the most important features of this model is the inclusion of youth and teachers in the process.¹⁴ In the workshops conducted, both children and youth aged 13–19 and teachers were asked which topics regarding media and information literacy would be best to address and how, thereby revealing concrete needs for the educational plan.

UNESCO also offers a curriculum proposal for teachers. In the first module of the curriculum titled *Media and Information Literacy Curriculum for Teachers* (2011), it is stated that freedom of expression and access to information are the foundation of media and information literacy, and that freedom of expression includes the right to seek, receive, and impart information beyond mere speech. This curriculum has been criticized on the grounds that the media is portrayed as a reliable source, whereas false information can be encountered anytime and anywhere, and sometimes false information can also be spread intentionally; thus, the necessity of re-evaluating the curriculum from a more critical perspective has been emphasized (Alcolea-Díaz et al., 2020). In another study, this 2011 curriculum by UNESCO was compared with the 2021 AlfaMed, and it was stated that the UNESCO curriculum needed to be updated (Renés-Arellano et al., 2021). In the comprehensive curriculum titled *Media and Information Literate Citizens: Think Critically, Click Wisely* prepared by UNESCO in 2021, themes such as an introduction to media and information literacy, false information and hate speech, freedom and ethical production processes, and privacy and individual rights were addressed, and a rights-based approach was utilized.

Periods of natural disaster and crisis require re-evaluating the issue of media literacy for both children and adults. With distance education, social distancing, and lockdowns, the time children spend on digital media has increased; however, their digital media literacy has remained at a moderate level (Üstündağ, 2021). Not only children but also teachers struggled with media usage skills during the pandemic process (Çizmeci & Karabağ Köse, 2021). For a sustainable and meaningful learning process, it is important to include not only teachers but also parents in the process. For instance, on the platform developed by Common Sense, there is content intended to guide parents under the title “Parents’ Ultimate Guides.” Intervention tools aimed at parents should also be developed so that parents, together with their children, can recognize the risks and evaluate the opportunities in online environments (Çınar, 2023)

¹³ https://beinternetawesome.withgoogle.com/tr_ALL/kaynaklar

¹⁴ <http://www.eun.org/news/detail?articleId=9675734>

In the approaches used in combating information disorders, the game-based learning approach stands out. For instance, the RESAID Project¹⁵, has utilized gamification and digital games to increase societal and cognitive resilience against information disorders. These games, titled “InfoChief,” “Catch and Match,” “Fanus,” and “Sparkline,” teach players processes such as crisis management, recognizing manipulation actors, confronting one's own echo chamber, and finding the truth in the digital feed by having them experience these through different roles. With this gamification ecosystem, the aim is to equip individuals not merely with a theoretical defense against false information, but with lasting cognitive resilience and a practical 'capability' toward making their own decisions. It is also observed that versions of these types of intervention examples aimed directly at children exist. In addition to digital games such as “Privacy Pirates” (ages 7-9)¹⁶, “Reality Check” (ages 14-18), “Data Defenders” (ages 9-12)¹⁷, “Interland” (ages 7-12)¹⁸, “Cat Park” (ages 15+)¹⁹, “Oktogram” (ages 9+)²⁰, “Disinformation Challenge” (10-18 yaş)²¹, and “Escape Fake” (12-18 yaş)²² it is also seen that interventions played with printable cards, such as “A Game About Algorithms”²³ have been developed. These games generally aim for children to approach the false information they encounter in digital media with skepticism, to encourage data security and verification, to develop awareness against risks such as science denial, and to support critical thinking skills.

Games aim to confer resilience to individuals before they are exposed to false information by familiarizing them with the techniques used to spread it. It is possible to observe this approach, based on inoculation theory, in games. In this approach, the spread of false information in online environments is likened to a virus (Basol et al., 2020). At this point, the aim is for individuals not merely to react when they encounter false information, but to develop resistance prior to exposure. In other words, contrary to debunking approaches that refute false information after the fact, the use of a prebunking approach can serve as an effective method against the spread of false information (Roozenbeek & van der Linden, 2019; Roozenbeek et al., 2020). The game titled “Harmony Square” (ages 15+)²⁴ which aims for experiential learning by having players take on the task of spreading false information in a peaceful neighborhood, utilizes inoculation theory; during the gaming experience, players are exposed to a weakened dose of manipulation tactics such as using emotional language, polarization, spreading conspiracy theories, and increasing interactions and likes through bots and fake accounts. A guide explaining how the game can be used has also been prepared for teachers. The effects of this intervention have been analyzed, and it was concluded that the game is effective as an inoculation tool. However, it should also be noted as a limitation that the persistence of its effect was not evaluated (Roozenbeek & van der Linden, 2020).

¹⁵Supported by the European Commission Jean Monnet Centres of Excellence Programme, 'Creating Societal Cognitive Resilience Against Information Disorders' (RESAID) is implemented by Istanbul Bilgi University. The project designs intervention models for multidimensional resilience against information disorders. Detailed information about the project can be accessed at <https://resaid.bilgi.org.tr>, while the massive online open course and digital games produced within the scope of the project can be accessed at <https://resaidmooc.org/tr>

¹⁶ <https://mediasmarts.ca/digital-media-literacy/educational-games/privacy-pirates>

¹⁷ <https://mediasmarts.ca/digital-media-literacy/educational-games/data-defenders-grades-4-6>

¹⁸ https://beinternetawesome.withgoogle.com/tr_all/interland

¹⁹ <https://www.catpark.game>

²⁰ <https://eng.szkolazklasa.org.pl/materialy/octogram-educational-game/>

²¹ <https://nepasimauk.lt/en>

²² <https://escapefake.org/game/>

²³ <https://mediasmarts.ca/digital-media-literacy/educational-games/for-you-game-about-algorithms>

²⁴ <https://www.harmonysquare.game>

The game “Cranky Uncle,”²⁵ which aims to empower children aged 12 and older against false information regarding climate, has also utilized inoculation theory. Inoculation and humor carry the potential to contribute to users recognizing logical fallacies and gaining resilience against false information (Cook, 2021; Cook et al., 2023). Regarding gaining resilience through inoculation against false information related to climate change, the game “Huysuz Dayı” (this is how the game “Cranky Uncle” is translated into Turkish) was used as an intervention tool with science teachers, and it was concluded that inoculation can make a difference (Çetinkaya, 2024). Consequently, studies in the literature indicate that children, teachers, and parents need to be empowered in combating information disorders, that co-designed interventions have a positive impact, and that the contribution of inoculation theory and game-based approaches should be evaluated.

5. Policy Recommendations for Right-Based, Inclusive, and Participatory Models

In light of the literature and current studies, the intervention recommendations and strategies needed to support children in combating information disorders can be categorized under the following headings:

5.1. Digital Media Literacy Education and the Strengthening of Resilience

Trainings conducted with children in the context of Turkey can contribute to children in terms of gaining critical literacy and using the media effectively and responsibly (Aslan, 2023; Coşan, 2019; Tanrikulu, 2019). Studies in the national literature addressing children's experiences specifically regarding fake news emphasize the positive effects of media literacy in gaining resilience against information disorders. For instance, according to the findings obtained from interviews conducted with 71 children aged 13–18, as the media literacy level increases among children in this age group, their awareness level regarding fake news also increases (Gündoğan, 2019). However, it is a necessity for the topic of fake news to find more place within the scope of the media literacy course and for all students to benefit from it (Yeles Karaman, 2024).

The inclusion of artificial intelligence and algorithm awareness in traditional digital media literacy education has become a critical necessity today. A large portion of the information children encounter in online environments is determined by AI-based systems and algorithms. These algorithms focus on ensuring that users spend more time on the platform rather than the accuracy of the information. Therefore, these systems generally tend to foreground sensational, emotion-triggering, and striking content. This situation accelerates the spread of information disorders among children as well. Consequently, it is of vital importance for children to comprehend the functioning of algorithms in order to develop a critical approach against information disorders. However, when existing tools are examined, it is observed that learning tools co-designed with children, which are appropriate for their age and development to convey this complex functioning of AI and algorithms, are lacking. Children are not a homogeneous group; moreover, their needs and skills continuously transform from infancy to adolescence. For this reason, it is crucial that the interventions to be developed for combating information disorders are also appropriate for children's skills, needs, and development.

Controlled exposure to false and misleading information in a safe environment and children's familiarity with them are important for developing their skepticism. Thus, a contribution can be made

²⁵ <https://app.crankyuncle.info/language>

to the development of children's critical thinking skills. Orticio et al. (2024) state in their research conducted with children aged 4–7 that children previously exposed to false information seek more evidence to reach accurate information. This actually aligns with the method of exposure to a weakened dose of false information that lies at the foundation of inoculation theory. However, Orticio et al. (2024) also point out that traditional inoculation tactics might not be as effective on them as on adults due to differences in children's cognitive decision-making processes; instead, they argue that the focus should be on developing a broad skill set (critical thinking) for evaluating information by exposing children to detectable inaccuracies.

Studies in the literature have examined the implementation and effectiveness of examples involving intervention strategies against false information (Aprin et al., 2024; Capecchi et al., 2024; D'Errico et al., 2024; Hartwig et al., 2024; Heijnen et al., 2021; Johnston, 2020; Koutsikou & Antonopoulos, 2025; Ku et al., 2025; Orosz et al., 2024; Skipper et al., 2023; Tamboer et al., 2024; van Helvoort & Thissen, 2022; Verhalle & Loos, 2025). It is observed that gamified educational applications, in particular, yield positive results. For example, in Slovakia, the card game titled “Follow Me” was played with 130 children in the 15–18 age group, and it was concluded that this game contributed to children's approaching with skepticism the information they encounter (Pomichal & Trnka, 2023). Similarly, another game simulating a social media interface was tested with the 12–15 age group, and it was stated that it yielded positive results in distinguishing fake news (Capecchi et al., 2024). Yet another gamified educational application was implemented with children in the 9–12 age group; it was stated that there were positive developments in distinguishing between true and false information, approaching with skepticism, and cross-checking from different sources (Koutsikou & Antonopoulos, 2025).

The perception of artificial intelligence, which takes the spread of information disorders to a new dimension, as “reasoning and making decisions on its own” and the fluent language it uses can cause children to perceive the information coming from it as an authority and, consequently, to develop overtrust (Heeg & Avraamidou, 2024; Solyst et al., 2024). Children can develop overtrust with a sense of “authority” toward technologies that use fluent and professional language, and they can accept the information coming from them as true without passing it through a critical filter. Mertala et al. (2022) state that demystifying artificial intelligence will provide a vital contribution in terms of digital literacy. Solyst et al. (2024) also emphasize that showing children the limitations of artificial intelligence and the mistakes it can make can break this state of “overtrust” in children. Showing children the mistakes, hallucinations, and biases produced by the system can trigger their natural skepticism, thereby contributing to the strengthening of their critical literacy.

5.2. Child-Centered Design: Participatory and Interdisciplinary Approaches

When the relevant literature is examined, it is observed that comprehensive research on information disorders predominantly focuses on adults and the general population, and very little is still known about how children cope with false information in their interactions with digital content (Chakrabarti et al., 2025; Kops et al., 2025; Lemaire et al., 2025; Sharevski & Vander Loop, 2023). Studies in Türkiye generally examine children's presence in the digital world along the axes of general media literacy, screen time, or cyberbullying. Although such studies offer important findings for understanding children's interactions with false information, studies centering on information disorders are still very limited. However, understanding children's interactions with the false information they encounter in

the digital environment from their own perspectives is highly important for developing effective, long-term, and rights-based intervention strategies that respond to children's needs.

The processes and practices of accessing information do not hold the same meaning for all children. All these processes can be experienced in vastly different ways and carry different meanings for diverse groups such as children disadvantaged in accessing the internet and devices, girls, migrant children, and children with disabilities. It is evident that the needs brought about by the unique conditions of these groups are not sufficiently understood, and the number of studies on this subject needs to increase. Therefore, learning where and how children, including these groups, access information, what challenges they encounter while accessing accurate and reliable information, and what they do to overcome them is of vital importance in terms of building a more inclusive and safe information ecosystem. Within the framework of the UNCRC (1989) and General Comment No. 25, not only the protection of children in digital environments but also their rights to access reliable information and safe participation are emphasized. Understanding children's interactions with information, their daily experiences, and their strategies against information disorders is crucial for the construction of participatory models where they are elevated from being merely “information consumers” and recognized as active design partners in generating solutions.

Children's active involvement in intervention development processes can enhance the impact of the intervention (Orosz et al., 2024). Their active inclusion in the information production process and experiencing the production processes of false information in a safe environment can help children understand how false information is generated and how it can be detected (van Helvoort & Thissen, 2022). A study comparing children with adults proved that although children's ability to distinguish false information from true information is not as developed as adults', children with high cognitive reflection skills, in other words, the habit of privileging analysis over intuition, are highly successful at differentiating fake news from real news (Shtulman et al., 2025). However, analytical thinking alone is not sufficient in the digital world. Adults are more advantageous compared to children in evaluating source credibility because they possess, or have the potential to possess, a body of knowledge regarding news production processes, journalistic standards, and the institutional functioning of the media. Therefore, it is highly important to develop interventions that enable children to gain experience and knowledge on these subjects, and to measure the long-term impact of these models. For instance, in a study focusing on racial hoaxes and aimed at the 12–16 age group, as part of the intervention, children were asked to rewrite the news from the perspective of an immigrant character, and it was concluded that this method was effective in reducing ethnic prejudices (D'Errico et al., 2024).

Studies in the literature, particularly those that make space for children's voices and perspectives, provide important clues for understanding what children need in order to combat information disorders they encounter in digital environments. Children demand the design of safe tools appropriate for their ages and developmental levels, rather than the banning of technology, in solving the problems they face in the digital world. For instance, in the study conducted by Kaberi et al. (2025) in Kenya, children stated that they wanted artificial intelligence to be a “guide” that explains how to do things, rather than a “copying tool” that merely provides them with direct, ready-made answers. In the same study, children expressed their discomfort with their voices not being heard and their exclusion from technology design processes. Children also emphasized their need for safe, specially designed artificial intelligence tools. Other current studies in the literature also underline

the importance of including children in processes as “design partners” rather than being viewed merely as data sources by technology companies (Mathiyazhagan & La Fors, 2023).

As noted above, young people avoid interventions that underestimate their skills and potentials and constantly dictate to them “what not to do.” This situation necessitates a fundamental questioning of the traditional perception of childhood, which views children as beings lacking knowledge, skills, and rational thinking capacity, and merely in need of protection. Overcoming the traditional childhood paradigm and the power hierarchy operating in favor of adults is a fundamental necessity not only for developing effective strategies in combating information disorders, but also for empowering children in the digital media ecosystem in general and enabling them to exist as rights-holding active individuals. Producing lasting and effective solutions against all the risks and opportunities harbored by the digital world, primarily information disorders, can only be possible by recognizing children not as “deficient,” “incomplete,” or “future adults,” but as the experts of their own experiences, and as equal and active subjects in today's digital life.

At this point, it is necessary to emphasize the principle of the 'evolving capacities of the child' highlighted in Article 5 of the UNCRC which is a fundamental guide in balancing children's rights (protection, access to information, and participation) in the digital world. This concept, contrary to authoritarian and protective/paternalistic adult attitudes aimed at restricting children's autonomy, is an empowering principle that centers on the competencies the child acquires with age and maturation. The evolving capacities principle stipulates that as children's cognitive and social skills increase, strict protection measures and restrictions directed at them should be reduced, and correspondingly, their participation in decisions affecting their own lives should be increased. These expectations of children in the face of information disorders and new technologies demonstrate that the issue is not merely a technical matter; on the contrary, it has an ethical, pedagogical, and rights-based dimension. This multi-layered structure necessitates the collaboration of different disciplines such as political science, childhood studies, communication, psychology, and educational sciences. Interdisciplinarity can contribute to the creation of more holistic approaches that respond to children's unique needs.

5.3. Multi-Stakeholder Ecosystem, State and Platform Responsibilities

Developing an intervention model through co-creation with teachers as well as children, in a manner appropriate for children's ages and needs, creates positive effects for both teachers and children (Kosmas et al., 2025). While developing digital skills, it is of great importance that teachers and students conduct a collaborative learning process, and that learning is designed to include student participation (Karaduman, 2019, pp. 697–698). For instance, children who have taken a media literacy course state that a process in which the teacher is in a guiding role and students take an active role is highly effective (Özel, 2020). Designing interventions that directly respond to needs, are easily applicable, and are long-term is only possible through a participatory ecosystem where teachers and students make decisions together.

It is of great importance to conduct a participatory design and development process with children and other stakeholders by bridging theory and practice, also known as the design-based research model. By striving to bridge the gap between research and practice, this methodology argues that co-designing interventions with participants is meaningful (Anderson & Shattuck, 2012; Barab & Squire, 2004; Brown, 1992; Konings et al., 2014). In this approach, qualitative and quantitative methods are used together, and participants are included as partners in the design

process. The intervention is continuously reviewed through iterative cycles. The most fundamental feature of this multi-stakeholder model is that, instead of viewing children merely as passive information receivers or information consumers of the digital world, it positions them as rights-holding, solution-generating, creative design partners. This perspective emphasizes that mechanically equipping children with solely technical digital skills is not sufficient; on the contrary, children need to build their relationship with information and digital tools through their ethical, critical, and social dimensions. In this way, children can have the opportunity to develop concrete and most appropriate solutions for themselves based on their own daily experiences, needs, and interests, rather than on problems assumed on their behalf by adults.

Information disorders, which are one of the risks children frequently encounter in the digital media environment (UNDP, 2025, p. 75), can negatively affect children's decision-making processes, causing them to experience confusion and distrust (Howard et al., 2021). Beyond being a cognitive or technical issue, this matter directly hinders the realization of fundamental human rights, particularly the child's rights to access information, freedom of expression, and participation. For example, the decline in vaccination rates caused by false information spread in the field of health is a concrete effect that threatens children's most fundamental rights to health and life (Brunson et al., 2024; Chadwick et al., 2024; Deane et al., 2025; Lewandowsky et al., 2012; McKeever et al., 2025; Simon & Bracko, 2023; Souto et al., 2024; Villacis Calderon et al., 2023). Moreover, it becomes impossible for children who cannot access adequate and reliable information to develop an independent view on matters that concern them and to make informed decisions by consciously participating. The prejudices produced by false information spread in online environments fuel discrimination among children, laying the groundwork for rights violations.

Amartya Sen's (1980; Sen & Nussbaum, 1993) capability approach measures human development and the well-being of societies not merely by the economic resources possessed, but by the freedoms of individuals to “do” and “be” the things they value. Information disorders are considered a profound rights violation because they target precisely these real freedoms and potentials of individuals (RESAID, 2025). The capacity of individuals who are continuously exposed to false, incomplete, or manipulated information to distinguish truth from falsehood and to make free, informed decisions based on this is impaired. It is of vital importance to consider children's well-being in the digital world and their access to fundamental rights exactly within this framework of 'capabilities.' Information disorders directly damage the capabilities of “forming an informed opinion” and “making independent decisions” that children need in order to exercise these rights.

In the face of these risks, establishing a delicate balance between the responsibility to protect child rights and their rights to access information and freedom of expression is of vital importance (Gencil Bek, 2011, p. 32). Instead of overly protectionist approaches that completely restrict the child, the full realization of the rights to freedom of expression, access to information, and participation allows children to grow up as more resilient and conscious individuals in the face of the risks of the digital world (Cordeiro et al., 2025, pp. 33–34). At this point, media literacy education takes on a supportive role regarding access to information, critical thinking, and participation (Çakmak, 2013, p. 221). Conducting this education by centering on the values of freedom and responsibility, rather than it merely consisting of information transfer, creates a positive impact for children (Kul Kanbur, 2023). However, in the relevant literature, children's interactions with the media are generally addressed as a technical issue based on individual skills. Yet, the information disorders children encounter in the media environment are directly related to rights violations. This approach, which addresses the issue

from a rights-based perspective rather than an individual skill deficiency, will not only enable children to develop cognitive resilience against information disorders but will also pave the way for them to become individuals who can recognize the rights violations they encounter, defend their own rights, and be empowered as active “subject of rights” in the digital ecosystem.

Considering all these rights violations (access to information, participation, health and development), it is evident that combating information disorders and empowering children in the digital world is not an individual responsibility that can be placed solely on the shoulders of the child, parents, or teachers. Parents express concern that the entire burden falls on their shoulders regarding the development of children's critical thinking skills; it is observed that a smaller proportion of parents think that children's encounters with information disorders could be beneficial (Sharevski & Vander Loop, 2023). The literature emphasizes that the responsibility for providing a safe environment in the digital ecosystem primarily belongs to the digital service providers (technology companies and social media platforms) that design and manage the online spaces children interact with, and to the states that regulate this space.

Although the efforts of educators and parents/caregivers are of vital importance in combating information disorders, it is clear that the burden of protecting children in the online environment cannot be left solely on the shoulders of individuals. At this point, the shared legal and institutional responsibilities of states, media organizations, and digital service providers come into play. The primary responsibility of states in this ecosystem is to protect and guarantee children's fundamental rights against potential violations by technology companies or third parties by building effective legal regulations and policies. On the other hand, social media platforms and technology companies have obligations to ensure the transparency and accountability of algorithms, to prevent the spread of harmful and manipulative content, and to secure children's digital privacy and safety right from the design stage (safety and privacy by design). It is imperative for these platforms, which specifically aim to maximize user engagement and profit, to conduct transparent moderation processes, make room for independent fact-checking processes, and integrate functional mechanisms into their systems, such as veracity/warning labels for users, in order to stop the spread of information disorders.

At the same time, it is necessary for states and public institutions to develop critical digital literacy policies that encompass not only children but the entire society, and to establish effective, transparent, and human rights-respecting legal frameworks in combating disinformation. Combating information disorders effectively is only possible through a multi-stakeholder approach where states, civil society organizations, educators, caregivers, and technology companies act collaboratively (Howard et al., 2021). In this context, sanctions demanding greater transparency, accountability, and global responsibility from technology companies must be implemented by states and policymakers.

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CREATING SOCIETAL
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AGAINST INFORMATION
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