



RAPID ANALYSIS

Digital misinformation / disinformation and children

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01.

Synopsis

- The rapid spread of misinformation and disinformation (mis/disinformation) online has emerged as a pressing public issue of the 21st century that affects all those accessing online networks, as well as those offline. As active digital users, mis/disinformation is very much a part of children's lives.
- Digital mis/disinformation can proliferate through people, bots and troll factories – organized groups that wage coordinated mis/disinformation campaigns – for a range of reasons: to intentionally deceive and harm, to gain political influence, for financial gain, or unwittingly to share information or garner approval and popularity.
- Algorithms drive personalized news feeds and curate search results, content and recommendations based on individual profiles that have been created by tracking user behaviour. By sometimes promoting misleading, sensationalist and conspiratorial content over factual information, algorithms are a key part of the mis/disinformation flow.
- Mis/disinformation among parents, caregivers and educators can have a negative effect on children, even if the children themselves are not directly exposed to it. The circulation of mis/disinformation has real-world, harmful consequences, such as violence against ethnic minorities or victimization of children and young people by spreading manipulated images that stereotype or discredit them.
- Children can be targets and objects of mis/disinformation, spreaders or creators of it, and opponents of mis/disinformation in actively seeking to counter falsehoods. There is insufficient data available to researchers and policymakers to get a clear and comprehensive picture of how susceptible children are to mis/disinformation and how it affects their development, well-being and rights.

- Approaches for ameliorating the harmful effects of mis/disinformation on children are emerging, but current efforts are falling short of protecting and empowering children.
- Children’s rights – such as to freedom of expression and access to information – can be infringed by over-zealous attempts, including regulations, to restrict access to online content and communities.
- The mis/disinformation ecosystem can only be adequately addressed through a multi-pronged approach by a range of stakeholders that cooperate globally to protect children from the harms that stem from mis/disinformation.

Key recommendations

Policymakers: Devise child rights-based regulations; enlist support of technology companies, and require greater transparency, accountability and global responsibility from them around mis/disinformation and children; support media and information literacy programmes, and an independent and diverse media ecosystem; and utilize and further support research on mis/disinformation and children.

Civil society, including academia and international organizations: Provide policy guidance to minimize mis/disinformation for children; and conduct ongoing research on the impact of mis/disinformation on children and the efficacy of counter-measures.

Technology companies: Implement self-declared policies and invest more in human and technical approaches to combat mis/disinformation that affect children; be more transparent; and prioritize meaningful connections and plurality of ideas for children.

Parents, caregivers and educators: Engage in children’s media activities and help develop their critical thinking; and support media and information literacy programmes for children.

02.

Introduction

Misinformation refers to false or misleading information that is unwittingly shared, while disinformation is false or misleading information that is deliberately created and distributed with an intent to deceive or harm.¹

In an open letter to the children of the world, UNICEF Executive Director Henrietta Fore expressed deep concern about a digital environment saturated with harmful information and its impact on children.² The popularity of the internet, social media and visual networks such as Instagram and TikTok among children has exacerbated the risks. Even very young children or those without access to social media networks may be exposed to mis/disinformation through their interactions with peers, parents, caregivers and educators, with mis/disinformation moving easily between online and offline contexts.³

The United Kingdom's Commission on Fake News and Critical Literacy in Schools concluded that "fake news is a serious problem for children and young people, threatening their well-being, [and] trust in journalism and democracy itself".⁴ In navigating the digital world, with their cognitive capacities still in development, children are particularly vulnerable to the risks of mis/disinformation.⁵ At the same time, they are capable of playing a role in actively countering the flow of mis/disinformation, and in mitigating its adverse effects.

Scope of this report

This report aims to answer the following questions:

- What do we know about mis/disinformation in general?
- What do we know about children and mis/disinformation?
- What are the challenges for policymakers, technology companies, educators, and parents and carers in countering mis/disinformation?

Given the paucity of data on this topic, to complement the literature review we conducted interviews with 13 leading experts on issues of children and mis/disinformation.

We reviewed the latest – albeit limited – scholarly and grey literature, including policy reports and the guidelines of technology companies that cover mis/disinformation and children. Given the paucity of data on this topic, to complement the literature review we conducted interviews with 13 leading experts on issues of children and mis/disinformation, including from academia, civil societies and advocacy groups, with insights and knowledge drawn from Africa, Asia, Europe, the Middle East and North Africa, the United Kingdom (UK), and the United States (US) (see Appendix A).

We conclude with policy and practice recommendations, as well as suggested research questions, to help the development of strategies that will ameliorate the harmful effects of mis/disinformation on children.

03.

What do we know about mis/disinformation?

Mis/disinformation ranges from satire and parody, to dangerous conspiracy theories, and is generated and disseminated both knowingly and unwittingly by a very broad range of people, with outcomes that range from the mildly irritating to very serious consequences, including fatalities.

Charges of ‘fake news’ to discredit legitimate but unfavourable information, politicized falsehoods and lies are not a new problem for societies.

In 2014, the World Economic Forum identified the rapid spread of digital mis/disinformation as one of the top ten perils to society.⁶ Since reports of digital meddling and foreign interference in the US presidential elections and the Brexit referendum first surfaced in 2016, concerns about the veracity of information have become more prominent globally. Charges of ‘fake news’ to discredit legitimate but unfavourable information, politicized falsehoods and lies are not a new problem for societies and they existed before the widespread use of the internet and social media.⁷ However, their emergence in digital media, and specifically social media, is new.

This rapid spread is not surprising, given the vast number of people who use the internet – just over half of the world’s population and over 69 per cent of those aged 15–24 – to communicate, socialize, and consume and share information.⁸ The algorithms that are designed to serve up content that captures user attention and encourage sharing are also likely to promote misleading clickbait, conspiratorial rhetoric, and harmful mis/disinformation that endangers children, currently at marginal cost to content creators and technology companies.⁹ Dissemination takes place within a complex ecosystem that operates in real time, on a global scale, and is populated by many different actors (human, corporate, government and automated), meaning that responses need to be multi-faceted and involve a wide range of interested parties.

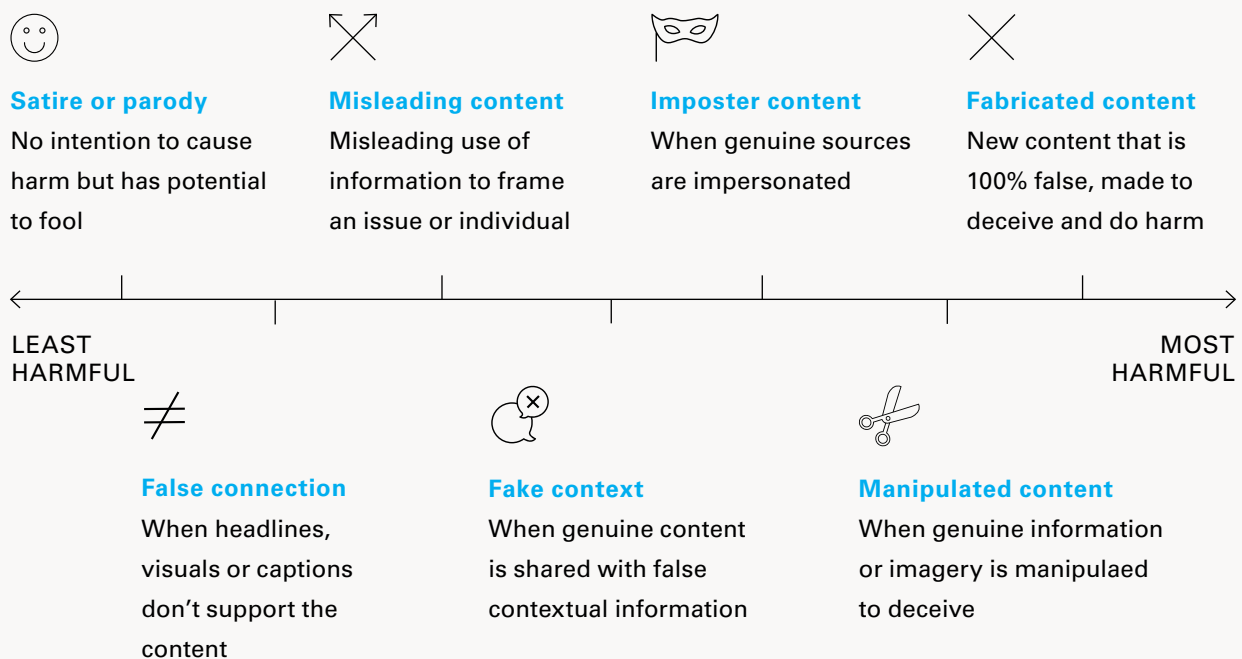
What is mis/disinformation?

Mis/disinformation is not always a black-and-white concept, but can be subject to individual interpretation.

While mis/disinformation is a topic of growing policy and academic interest, the debate lacks a common vocabulary and shared definitions. Various types of problematic content are frequently conflated within both scholarly and public discourse. As a result, terms such as ‘fake news’, ‘junk news’, ‘computational propaganda’, ‘online harms’, ‘inauthentic behaviour’ and ‘hate speech’ are often used as catch-all terms describing many varieties of problematic content. Misinformation and disinformation have emerged as somewhat blurry umbrella terms to refer to a diverse range of content, from conspiracy theories, foreign interference and political deceptions,¹⁰ to well-intentioned claims for ineffective and unproven natural remedies. In this report, we use the term ‘mis/disinformation’ to refer to this broad range of misleading, false and deceptive information online (see Figure 1).¹¹

Mis/disinformation can appear as text, images, video and audio, or a combination of these, and be created or manipulated by humans – such as with ‘deepfakes’ – or synthetically generated by AI-enabled tools. It can fall into several of the categories simultaneously (see Figure 1).

FIGURE 1: SEVEN TYPES OF MIS/DISINFORMATION



Source: Claire Wardle, ‘Fake news. It’s complicated’, First Draft, 2017

Mis/disinformation is not always a black-and-white concept, but can be subject to individual interpretation – what is a funny hoax or prank to one person may be offensive or noxious to another.

Who is behind mis/disinformation and why?

A wide variety of actors generate, distribute and share mis/disinformation online with varying motivations.

A wide variety of actors generate, distribute and share mis/disinformation online with varying motivations and for different purposes, creating a complex landscape deeply interwoven within political, social and technological contexts. At the most harmful end of the scale are actors and coordinated groups who purposefully seek to deceive and manipulate discourse in the pursuit of power and political influence, examples being mis/disinformation shared by the military in Myanmar, and falsehoods and conspiracies perpetrated by white supremacist groups in the United States.¹² Others intentionally spread lies and fabrications to sow confusion, undermine trust in science and public institutions, and discredit their political opponents.¹³ Actors behind mis/disinformation may also seek to generate economic profit by turning user attention into advertising revenue.¹⁴ One estimate finds that those promoting anti-vaccine mis/disinformation in the US generate annual revenues of at least US\$35 million.¹⁵ There are also those who post online behind pseudo usernames to amplify mis/disinformation in coordinated ways to induce conformity among recipients.¹⁶ Known as ‘trolls’, these users launch personal attacks on a dissenting voice, so that the latter’s view appears isolated and less credible. Dissenters may also be shamed or threatened into silence. Seen in sufficient quantities, trolling messages begin to feel truthful to onlookers. Troll ‘farms’ or ‘factories’ are organized groups that wage coordinated campaigns and can be hired for their services, for example to spread propaganda or discredit and harass journalists and public institutions.

Some of the biggest spreaders of mis/disinformation, inflammatory rhetoric and controversial clickbait are alternative news outlets, state-controlled news organizations, extremist groups¹⁷ and mis/disinformation profiteers. Hot-button issues, such as immigration, gender politics and equality, and vaccination are common targets.

Many users unintentionally share false information, either because they do not assess the veracity of the content (for example, when sharing links to news stories they have not actually read), or because they believe that the false information is truthful and could be interesting or helpful to others.

How does mis/disinformation spread?

Mis/disinformation spreads rapidly over online networks, through bots, algorithms, individuals and groups.

Bots are automated social media accounts that resemble genuine users, complete with avatars or photos, that amplify mis/disinformation. The ability to automate the creation and dissemination of messages online has become much easier and, crucially, cheaper, resulting in the ability to flood an online network, or several networks, with consistent mis/disinformation messaging exposing users to potentially harmful content.¹⁸ The sheer number of posts gives the impression of them being truthful because they appear repeatedly in social media feeds and search results. “When we see multiple messages about the same topic, our brains use that as a short-cut to credibility.”¹⁹

Algorithms drive personalized news feeds, search results, content, and friend or group recommendations, and as such curate online information. They are programmed to sort information, rank it for relevance and present it to users, based on individual profiles developed by tracking user behaviour. This enables content, including political messaging, to be targeted very specifically. As a result, algorithms can sometimes promote misleading, sensationalist and conspiratorial content over factual information.

The promotion of user-generated and third-party content that grabs users’ attention generates advertising profit for social media companies that rarely generate original content themselves.

The promotion of user-generated and third-party content that grabs users’ attention generates advertising profit for social media companies that rarely generate original content themselves. Indeed, the profit incentive of some technology companies comes at the cost of prioritizing clicks over safety, as several of our interviewees pointed out. Algorithms drive many ad-buying platforms that can unintentionally fund the spread of mis/disinformation. One study indicated that since the pandemic began, over 4,000 brands and organizations, including the US Center for Disease Control, have inadvertently bought ads on mis/disinformation sites that are publishing COVID-19 myths. In effect, such ads fund mis/disinformation efforts by generating advertising revenue for them.

Individuals and groups also drive mis/disinformation, such as when seeking to increase their engagement metrics, including the number of Likes or Shares/Retweets on social media networks. One study found that “exposure to these signals increases the vulnerability of users to low-credibility information”.²⁰ The higher the engagement

Mis/disinformation on social media spreads farther, faster, deeper and more broadly than truthful information.

figures, the more prone people are to share content and the less likely to fact-check it.

Mis/disinformation on social media spreads farther, faster, deeper and more broadly than truthful information and is often among the most popular social media posts.^{21,22} One possible reason is that emotionally charged content – such as that which surprises, outrages or angers – spreads more widely and more rapidly among people than regular content. A study of Twitter communications about three polarizing issues showed that the presence of moral–emotional words in messages increased their diffusion by a factor of 20 per cent for each additional word.²³ One challenge presented by conspiracy theories is that they “are notoriously difficult to debunk because of their ‘self-sealing’ nature.”²⁴ Contrary evidence is often reinterpreted as confirmatory evidence.” Thus, a call by the WHO to be vaccinated against COVID-19 plays into theories that the organization secretly makes money from vaccines. Manufactured ‘proof’ of such claims causes more outrage and anger, perpetuating the cycle.

What are the real-world consequences of mis/disinformation?

Evidence of the real-world consequences of mis/disinformation – be it at the individual or societal level – is mounting. In Myanmar, mis/disinformation on social media has been attributed with inciting violence and crime targeted at ethnic minorities, which has resulted in deaths and displacement, including of children.²⁵ At a societal and cultural level, mis/disinformation disrupts the flow of ideas, undermines trust in public institutions and drowns out or silences marginalized voices, posing significant risks to democracy and public debate.²⁶ According to recent research, at least 81 countries worldwide use social media to propagate political mis/disinformation, manipulate opinion and undermine public trust in ways that can have severe adverse consequences for stability and prosperity, which in turn have direct effects on children’s safety and well-being.²⁷ There is a long history of mis/disinformation hampering efforts to promote health. For example, a 2014 study highlighted the detrimental consequences of anti-vaccine conspiracy theories and their role in shaping health-related behaviours, such as reducing parental intentions to vaccinate their children. Most recently, conspiracy theories around the origin, possible treatments for and even the existence of COVID-19 have sparked a stream of mis/disinformation online with real-life consequences,²⁸ for example in stoking vaccine hesitancy and rejection.²⁹

04.

What do we know about children and mis/disinformation?

Children are active users of online resources, but they do not always have the cognitive and emotional capacity to distinguish between reliable and unreliable information. As a result, not only can they be harmed by mis/disinformation, but may also spread it among their peers. Children can be targets and objects of mis/disinformation, but they can also challenge and debunk misinformation.

Children are frequent users of the internet: they “value technology as a way to research the issues their communities face, to be informed about events and issues, to gather data, [and] to share views and experiences with others”.^{30,31} Many find themselves more attuned to social media and the online world than their parents, caregivers and educators, and are both comfortable with this world and curious about it.³² With increased digital use comes increased exposure to mis/disinformation: in one 2020 study, 76 per cent of 14–24-year-olds reported seeing online mis/disinformation at least once a week, a rise of 50 per cent on the previous two years.³³

Children encountering mis/disinformation

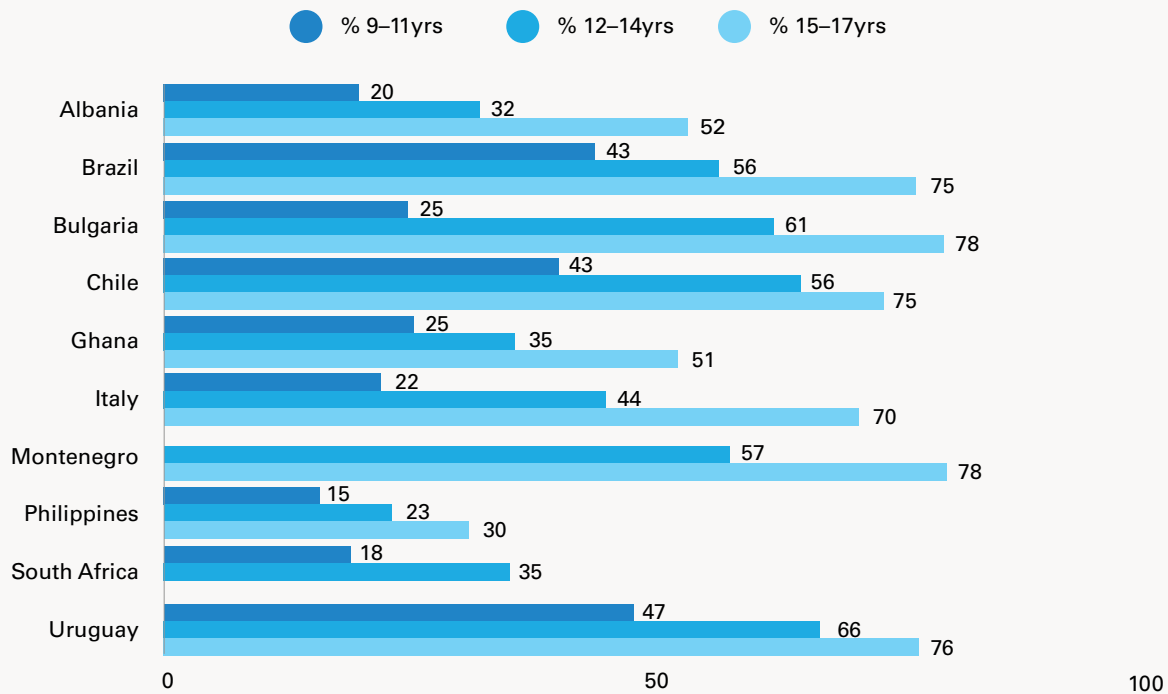
A study found that only 2 per cent of children and young people have the critical literacy skills they need to judge whether a news story is real or false.

Children may be particularly vulnerable to mis/disinformation because their maturity and cognitive capacities are still evolving, including the development of “different psychological and physiological motivations, and with them, different rights and protections”.³⁴

A UNICEF survey in 10 countries* points to shortcomings in how young people evaluate online information: up to three-quarters of children reported feeling unable to judge the veracity of the information they encounter online.³⁵ This was especially true among young children. However, depending on the country, relatively large proportions of older children self-reported high critical evaluation skills (*see Figure 2*).

*Countries in the survey are Albania, Brazil, Bulgaria, Chile, Ghana, Montenegro, New Zealand, the Philippines, South Africa and Uruguay.

FIGURE 2: CHILDREN (%) WHO HAVE HIGH CRITICAL EVALUATION SKILLS, BY AGE AND COUNTRY



Source: Sonia Livingstone, Daniel Kardefelt Winther and Mariam Saeed, Global Kids Online Comparative Report, Innocenti Research Report, UNICEF Office of Research - Innocenti, Florence, 2019

A 2018–2019 assessment of 3,446 US high-school students revealed that 52 per cent believed that a grainy video claiming to show ballot-stuffing in the 2016 Democratic primaries constituted ‘strong evidence’ of voter fraud in the US (the video was actually shot in Russia), 96 per cent failed to consider that ties to the fossil-fuel industry might affect the credibility of a website about climate change, and 66 per cent couldn’t tell the difference between news stories and ‘sponsored content’ (i.e. adverts) on a website.³⁶ Equally troubling results were found in a 2016 Stanford University study concerning the levels of news and media literacy among US students.³⁷ As far back as 2012, a study found significant need among US youth for assistance in verifying information on social media.³⁸

In the United Kingdom, the 2018 Commission on Fake News and Critical Literacy in Schools found that only 2 per cent of children and young people have the critical literacy skills they need to judge whether a news story is real or false.³⁹ A majority (60 per cent) of teachers surveyed believe fake news is having a harmful effect on

children’s well-being by increasing anxiety, damaging self-esteem and skewing their world view. The study found that children from disadvantaged backgrounds were the least likely to spot fabricated or misleading content, signalling that families with low levels of education or literacy are particularly at risk. Sixty per cent of children reported that they trust news less as a result of fake news. The Commission concluded that “fake news is a serious problem for children and young people, threatening their wellbeing, trust in journalism and democracy itself.”⁴⁰

Visual social media, mis/disinformation and children

In its report to the Council of Europe, First Draft, a non-profit organization that studies mis/disinformation, suggests that while much of the discussion about fake news has focused on text-based content, fabricated, manipulated or falsely-contextualized visuals may be more pervasive than textual falsehoods.⁴¹ The organization highlights that visual information is processed

far more rapidly than written communication, with the result that our critical reasoning skills are less likely to engage with what we’re seeing. Since many of the online content services that are popular with children are video or visually based, this could be significant for how children process mis/disinformation.

Children as spreaders or creators of mis/disinformation

Children themselves, unwittingly or otherwise, share, amplify and create mis/disinformation, most often among their peers. Apps such as YouTube, TikTok and Instagram function as a fun space for children to share content without their parents’ knowledge. The motivation to do so is tied to various social reasons: one study found that students in Singapore share mis/disinformation because of its perceived value and their desire for self-expression and socializing.⁴² Herrero-Diz and colleagues found that young people cared less about the accuracy of articles than their novelty or uniqueness.⁴³ They conclude that the students in their study were “moved by the power of attraction of conspicuous, emotional, or outrageous language to camouflage hoaxes, rumours, or manipulations, under the guise of reliable information”. Students in Indonesia shared mis/disinformation “for no reason or to please themselves”; the authors of this study suggest that, because of their flippant motivations to

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share, children need to become better informed about the consequences of distributing mis/disinformation.⁴⁴

In the US, teens aged 13 to 17 get their news more frequently from social media sites or from YouTube than directly from news organizations, and 60 per cent of teens who get news from YouTube say they are more likely to get it from celebrities, influencers, and personalities as compared to news organizations (39 per cent).⁴⁵ Many children identify with the influencers they follow – some of whom are themselves teenagers – and may be at risk of over trusting and thus sharing mis/disinformation from them.⁴⁶

Algorithms are crucial in expediting the spread of mis/disinformation. Our interviewees confirmed that children are aware of algorithmic dynamics that are maximized for attention. Seeking popularity and confirmation, children post to social media in the hope of making something ‘go viral’, and reaping the popularity and visibility that come with getting a lot of engagement. It is arguably these motivations among online users that lead to misleading or fabricated content often outperforming trustworthy information.⁴⁷ Expert John Silva of the News Literacy Project commented, “Kids want to be in the ‘in group’; they want to be popular, and that means generating and sharing content geared towards popularity.”

The line between what is fun and edgy, and what is harmful and dangerous is blurred – where do irony, satire and pointed critique end, and lies and manipulation start? This distinction can be difficult even for adults to perceive simply because it is often so subjective. Our experts observed that despite children being thought of as ‘born digital’, we cannot equate familiarity with technology with critical thinking and media awareness. Navigating the complex online landscape circumspectly requires a certain level of literacy and maturity that children and young people may not have acquired.

Children do not always spread mis/disinformation purely voluntarily. There are several well-documented instances of children becoming enlisted in the deliberate dissemination of mis/disinformation.⁴⁸ One recent example is from the US, where teenagers were enrolled by a pro-Trump youth group, Turning Point Action, to spread mis/disinformation about topics such as mail-in ballots and the impact of COVID-19. Children may also be incentivised to create and distribute mis/disinformation for financial reasons. In the Balkans, North Macedonian teenagers published inflammatory mis/disinformation around the 2016 US presidential election when seeking to generate

advertising revenue from the traffic their websites and social media posts attracted.⁴⁹ They were not driven to interfere in a foreign election, but simply wanted to make money.

Children as the targets or objects of mis/disinformation

Children are also the targets of mis/disinformation efforts. The full extent is unknown, although we can draw on documented cases of public figures to assess the impact. Emma González, a teenage survivor of the 2017 Parkland School shooting in the US, was photographed for Teen Vogue for a piece on gun control, which she supports, showing her ripping up a copy of a shooting range target. A manipulated version, which was heavily circulated on social media, showed González purportedly ripping up the US Constitution (see Figure 3).⁵⁰

FIGURE 3: THE ORIGINAL IMAGE (LEFT) SHOWS GONZÁLEZ RIPPING UP A COPY OF A SHOOTING RANGE TARGET. IN THE MANIPULATED VERSION (RIGHT), THIS HAS BEEN REPLACED BY THE US CONSTITUTION.



Source: David Mikkelson, 'Was Emma González Filmed Ripping Up the U.S. Constitution?', Snopes, 2018

The climate activist Greta Thunberg has also been smeared by false conspiracy theories. Since she began weekly school strikes in 2018, mis/disinformation narratives have sought to discredit Thunberg through personal attacks (questioning her mental abilities), her alleged associations (with antifa and George Soros), and allegations that she is manufactured or a hoax.⁵¹

Outlandish conspiracy theories are also woven around children. The conspiracy theories that claimed furniture company Wayfair was trafficking children or that Hilary Clinton was running a child-trafficking ring from the basement of a pizza restaurant (#Pizzagate) gained significant momentum on social media networks during the pandemic.⁵² Other dark and baseless conspiracy theories have seen surges, for example, the 'blood-harvesting conspiracy' that accuses Jews of drinking the blood of children.⁵³ Such stories promote sinister messages beyond the obvious surface horror, as in the latter case, which propagates anti-Semitism. They also exploit adults' protective instincts by casting children as victims in fictitious scenarios and crimes that are entirely manufactured.

Children as opponents of mis/disinformation

While children are the objects and targets of mis/disinformation, and may play a role in spreading it, many have stepped up to combat its spread.

While children are the objects and targets of mis/disinformation, and may play a role in spreading it, many have stepped up to combat its spread. Children contribute to online fact-checking and myth-busting initiatives, such as those created by UNICEF Nepal,⁵⁴ or are fighting for legislation to protect free and fact-based journalism, such as through Teens for Press Freedom in New York.⁵⁵ Through the UNICEF Young Reporters initiative, UNICEF Montenegro's Let's Choose What We Watch programme has given young people opportunities to practise their media literacy and journalism skills and so improve the quality of reporting on issues relating to child rights.⁵⁶ Teenagers on social media networks have also become active campaigners for their political beliefs, as well as challenging and debunking false information.⁵⁷ Their presence on social media is an important means by which young people can be actively involved in political and civic engagement, even if – or perhaps because – they cannot vote.⁵⁸

05.

What approaches are there to counter mis/disinformation, and what challenges do they face?

Mis/disinformation is being countered in various ways by policymakers, civil society, technology companies, parents, educators and children themselves, but efforts to slow its spread are not coordinated, and there is little reliable data on the scale of the problem, or an in-depth understanding of the challenge to children's rights if access to online information is overly restricted.

Governments and civil society organizations are key in countering digital mis/disinformation.

Our interviews and analysis identified existing and emerging policies and approaches to counter the spread of digital mis/disinformation and its harms to children. We focused on government and civil society, technology companies, education providers, and parents and caregivers as key actors in the mis/disinformation ecosystem. While the countermeasures we found offer useful lessons and ways forward, they also reveal challenges: there is no single, comprehensive solution to the complex issues surrounding mis/disinformation.

Policy measures

Several democratic governments have introduced regulation to limit the spread of nefarious content online, while trying to balance this with human rights and freedom of speech.⁵⁹ Since 2018 the European Union has had a voluntary code of conduct that asks social media companies to submit reports about their services and products. For some, this lacks real power and shortcuts lengthy regulatory processes and the creation of appropriate laws.⁶⁰ In May 2021, the European Commission released a complementary Guidance on Strengthening the Code of Practice on Disinformation,⁶¹ with an aim to strengthen application of the Code and expand it beyond large social media platforms, demonetize disinformation, empower users to understand and flag disinformation, expand the coverage of fact-checking, and provide increased access to data for researchers.

The guidance notes that “Signatories should also specifically consider the situation of children who can be particularly vulnerable to disinformation” and commit to improving media literacy efforts, especially to protect children. Germany’s 2018 Network Enforcement Act requires large social media companies to remove content that is “manifestly unlawful” within 24 hours,⁶² and at least 13 countries – not all liberal democracies – have adopted or proposed similar models. Yet definitions of illegal content vary, and without a reliable, unbiased arbiter of what is a harmful political rumour or false information and what is legitimate political opinion or disagreement, such regulations have the potential to suppress dissent and target minorities.⁶³

Elsewhere, governments have relied on technology companies’ terms of service to tackle disinformation.⁶⁴ In the US, Section 230 of the Communications Decency Act grants technology companies immunity for third-party content they host, although revisions are under debate.⁶⁵ In the EU, the proposed Digital Services Act will require technology companies and third parties to “adopt transparency and due process measures that could ... address the problem of disinformation”.⁶⁶ Key here is the focus on transparency and due process, rather than regulations defining illegal content or opinions. The UN Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression believes this approach can make a positive contribution to protecting human rights, but for it to work, “the independence of the oversight body or regulator must be assured and scrupulously respected”. Even with the best intentions, attempts to regulate for mis/disinformation risk resembling censorship and imposing limits on freedom of speech.⁶⁷ Finding the balance between rights-based online protection and freedom of expression is a very significant policy challenge.

Technology companies and content strategies

While all major content-focused technology companies have policies to discourage the dissemination of harmful mis/disinformation, and have had some successes in addressing the issue, their practical application is also fraught with difficulties. These strategies can be self-imposed or mandated through government policies.

Content moderation and pre-moderation

The default action used to minimize mis/disinformation is moderation, both of content posted and of users. Technology giants running sites such as Facebook, Twitter, TikTok and Google have all faced problems around the logistics, rules and enforcement of content moderation.

Preventing children
who are legally allowed
to use social media
from accessing products
is unrealistic.

Common techniques include filtering, automated removal and human deletion. However, despite investments in both automated and human moderation, technology companies struggle to respond promptly to the sheer scale of mis/disinformation on their sites, for example in relation to COVID-19.^{68,69} Equally, companies may block permissible content in error. Moreover, opaque corporate rules and algorithmic tools lack accountability, transparency and oversight. Human content moderators themselves can suffer from immense mental distress and receive little compensation.⁷⁰ Inconsistent and non-application of policies are common issues. Further, a trend towards end-to-end encryption of digital services and products will make researching and understanding the scale of mis/disinformation more difficult. Providers themselves will no longer know the extent of the problem and will be unable to report on the amount of content that has been removed from encrypted spaces.

Companies have started to rise to the challenge of labelling mis/disinformation online, even if it is not necessarily illegal. Recognizing the threat of anti-vaccination mis/disinformation in 2020, YouTube, Facebook and Twitter paired with fact-checking organizations to try to prevent the spread of such content.⁷¹ Facebook and Twitter were also active in taking down mis/disinformation before the 2020 US presidential election, suggesting a more pre-emptive approach than has been the case historically. However, it remains to be seen whether such measures will become the norm globally.⁷² If they do, a reduction in the amount of misleading political information in particular may be a positive outcome for adolescents close to voting age who are seeking free and fair political commentary.

Some providers, for example YouTube Kids or Netflix Kids, rely on pre-moderation, such as human approval or algorithmic filtering by age, to try to ensure children do not access mis/disinformation and other age-inappropriate content. The idea is that certain content is not shown to users who self-report – or whose parents report – that they belong to a particular age group. This is a means of achieving a greater degree of child safety, but even so, ambiguous mis/disinformation can slip through the net, and hence be seen and spread by unaware children. Just as significantly, harmless content can be incorrectly pre-moderated due to human or algorithmic error, limiting freedom of speech and expression in ways that pose harms to human rights and democratic values.⁷³ Child users may also not give their true age and thus be exposed to content pre-moderated out for younger users.

Most digital content providers have built parental controls into their browsers, games and apps, which are intended to help parents control the type and amount of content their children access. Our experts unanimously flagged concerns about these approaches. They considered that preventing children who are legally allowed to use social media from accessing products is unrealistic and does not encourage trust or open communication between children and their parents, caregivers and educators. Studies also show that restricting children's online freedoms with regard to social media and leisure may also restrict children in pursuing information-seeking activities, such as watching educational videos.⁷⁴ What is more, there are important rights at risk when limiting children's access to the internet and social media. Children have rights to freedom of expression and to information. As UNICEF points out in a report in 2018, these rights "are fundamental to democracy, and children have embraced the internet as a means to learn, share and participate in civic life".⁷⁵

Corrections and warnings

Social media companies can provide corrective information on mis/disinformation content to mitigate misperceptions. Employing an experimental approach, researchers exposed undergraduate students to links containing mis/disinformation on Facebook.⁷⁶ When users clicked on the links, they were shown corrective information, which reduced their misperceptions. A further study found that correction is effective on visual networks, such as Instagram, even when the correction is not directly threaded to the post.⁷⁷ Young people are most influenced by corrections from people they know or who are in their social networks.⁷⁸ This has implications for peer-to-peer corrective support, alongside the provision of pre-emptive information by social media companies to mitigate the effects and spread of mis/disinformation.

Expert voices

Recent research offers evidence that corrective responses from experts, including non-partisan think tanks and public health agencies, can reduce misperceptions.⁷⁹ UNICEF has published a Vaccine Misinformation Management Field Guide⁸⁰ to guide countries on how to develop national vaccine misinformation management strategies, including pushing links to expert voices and resources. With the onset of the pandemic, several social media companies steered users towards authoritative sources of public health information, for example by providing links to national health agencies or the WHO. Initial reports suggest that millions of users have accessed authoritative sources through such tools, although

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Disabling the accounts of 'superspreaders' – so called deplatforming – is an approach that is gaining momentum.

research on the effectiveness of these particular measures in countering mis/disinformation is not available.⁸¹

Slowing the spread

The saying, “A lie can travel around the world and back again while the truth is lacing up its boots”, attributed to Mark Twain, appears to hold as true today. Adding friction to the usually easy act of spreading mis/disinformation can slow its diffusion. In 2019, WhatsApp introduced a limit so that messages could only be forwarded to five users or groups, instead of 20. The company reports that this has diminished the total number of forwarded messages on WhatsApp by 25 per cent.⁸² An independent study in the context of the Brazilian elections suggests that “the current efforts deployed by WhatsApp can offer significant delays on the information spread, but they are ineffective in blocking the propagation of misinformation campaigns through public groups when the content has a high viral nature”.⁸³ This study, which used data scraped from public groups, found that 80 per cent of messages died within two days, but 20 per cent were still very viral and reached the full network during this time. The authors propose that WhatsApp follow a ‘quarantine’ approach and directly limit forwarding on specific messages, or from specific people, since they have access to highly viral messages and their origins. Such an approach would accord with the suggestion of Dr Sonia Livingstone, Professor of Social Psychology at the LSE, of managing the digital environment more effectively: “We should think about addressing the creation and flow of mis/disinformation before it reaches people – not censorship but managing the environment the same way we manage all environments.”

Focusing on viral sources and content could be highly relevant and relatively straightforward to implement: 65 per cent of anti-vaccine content posted or shared on Facebook and Twitter in February and March 2021 originated from only 12 people.⁸⁴ Disabling the accounts of ‘superspreaders’ – so-called deplatforming – is an approach that is gaining momentum and has been shown to reduce mis/disinformation at scale.⁸⁵

Educational approaches

Equipping children with the critical reading and thinking skills to determine the veracity of information, even from primary school age as in Finland,⁸⁶ offers a supportive check on their exposure to mis/disinformation by increasing their media literacy and resilience.

Equipping children with the critical reading and thinking skills to sift the veracity of information... offers a supportive check on their exposure to mis/disinformation by increasing their media literacy and resilience.

The Committee on the Rights of the Child General Comment No. 25 (2021) on children’s rights in relation to the digital environment calls for educational efforts to increase children’s “critical understanding, [provide] guidance on how to find trusted sources of information, and to identify misinformation and other forms of biased or false content”.⁸⁷

A large-scale, nationally representative survey in the US demonstrated that young people who receive media literacy learning opportunities are more likely to assess the accuracy of information correctly,⁸⁸ and that those who received media literacy education in school were 26 per cent more likely to judge an evidence-based post as ‘accurate’ than they were to judge an inaccurate one as ‘accurate’. By contrast, the study found that young people who did not receive media literacy education were just as likely to judge accurate and inaccurate posts to be ‘accurate’. Political knowledge did not improve children’s ability to correctly assess the accuracy of posts, but media literacy education did.

There is an important distinction to be made between children’s digital and technical skills, such as being proficient in navigating browsers, using search terms and selecting relevant links, and their ability to evaluate the veracity of what they find online. One study found that students with greater information literacy but not other types of literacy (including news, digital and media literacy), are significantly better at recognizing mis/disinformation.⁸⁹ A study in Indonesia found that students who were technically skilled in using multiple social media platforms nevertheless lacked confidence in their ability to distinguish between mis/disinformation and accurate information.⁹⁰ This is summed up in Dr Livingstone’s observation that media literacy “sees media as a lens or window through which to view the world”, whereas information literacy “sees information as a tool with which to act upon the world”.⁹¹ As recommended by UNICEF, the development of children’s media and information literacies should be part of broader digital literacy efforts, delivered using age-appropriate curricula that match children’s evolving capacities.⁹²

The skills to navigate the mis/disinformation landscape are essential if children are to “engage with other users and with content in an active, critical, sensitive and ethical manner”.⁹³ The implications for schools are clear: Dr Jelena Perovic, Communications Officer for UNICEF Montenegro, told us that teachers need “substantial

Prebunking has been shown to develop resistance to mis/disinformation on topics such as climate change, public health and emerging technologies.

training and support, in order to help them understand how to use media critically". One strategy that has some evidence of efficacy is 'prebunking', which involves exposing people to the strategies being used to mislead them, and providing corrections or warnings before exposure to the mis/disinformation.⁹⁴ Prebunking has been shown to develop resistance to mis/disinformation on topics such as climate change, public health and emerging technologies.⁹⁵ In an educational context, prebunking techniques can be gamified. For example, the online game 'Bad News' invites gamers to play the role of a 'fake news producer'.⁹⁶ In doing so, they are pre-emptively exposed to strategies commonly used in the production of mis/disinformation, such as polarization, invoking emotions, spreading conspiracy theories and trolling, which helps to confer resistance and "cognitive immunity when exposed to real misinformation", according to the developers. The ability to spot and resist mis/disinformation was shown to improve significantly after playing the game, an effect that was observed irrespective of age, education, political ideology and cognitive style. Sergiu Tomsa, Social Behaviour Specialist for UNICEF Europe, told us that prebunking could be an effective tool in addressing false narratives around immunization and vaccines, whether these are the current conspiracy theories asserting that COVID-19 is not real, or false claims about supposed links between vaccines and autism.

Non-digital education is also important

Considering how mis/disinformation moves easily between online and offline contexts, it is also important to develop critical thinking skills amongst children even in non-digital contexts. In a randomized control trial in Uganda, primary school students aged 10 to 12 were taught to think critically about health claims and make

informed choices using a book-based learning resource titled 'Informed Health Choices'. The intervention was shown to increase resistance to misinformation amongst the children.⁹⁷ A one-year follow-up study showed that the effects of the intervention were sustained.⁹⁸

Parents, caregivers and educators

Digital, media and information literacy skills alone do not provide a foolproof solution against mis/disinformation, and the onus cannot be entirely on children to protect themselves. Our experts suggested that open dialogue between children, parents, caregivers and educators can promote critical thinking among children. Several reported that child focus groups, surveys and community-level research can be useful ways for parents, caregivers and educators to understand the information habits of the children in their care, and may be among the best ways to generate healthy community and policy responses that are locally relevant. Given the many reasons that children have for sharing information, talking to them about the consequences of doing so, especially when mis/disinformation is a risk, may be helpful. Adults caring for and educating children are in a position to start these conversations and to prompt critical reflection and understanding.

06.

Recommendations

This report has shown the ways in which issues concerning children and mis/disinformation are highly complex and deeply interwoven in social, political and technological contexts. These issues can only be addressed by an alliance of different communities of interest, collaborating in a multi-pronged approach.

We identify four key groups that need to act: policymakers; civil society organizations, including academics and international organizations; technology companies; and parents, caregivers and educators. Collectively, action is required to:

- » Protect children from the harms of mis/disinformation;
- » Build and strengthen capacities among children and adults to navigate and evaluate digital information environments; and
- » Support further research into the causes, effects and scale of mis/disinformation targeted at children.

1. Recommendations for policymakers

Devise child rights-based regulations

- Devise proportionate regulation to “protect children from harmful and untrustworthy content and ensure that relevant businesses and other providers of digital content develop and implement guidelines to enable children to safely access diverse content, recognizing children’s rights to information and freedom of expression, while protecting them from such harmful material in accordance with their rights and evolving capacities”.⁹⁹ Regulation should focus on requiring *procedures* for classifying content – as opposed to defining what constitutes mis/disinformation – and include ways to ensure transparency and accountability.

Enlist support of technology companies, and require greater transparency, accountability and global responsibility from them around mis/disinformation and children

- Require large technology companies with significant global influence to fund independent, safe oversight of content moderation, digital literacy programmes, and further research.
- Require large technology companies to undergo regular public audits of their algorithms, content policies and mis/disinformation moderation practices concerning children's use of their services and products.
- Demand that companies pay attention to global trends on mis/disinformation directed at all countries, not just those with strong regulators, and require more proactive, rights-based responses to minimize the harmful effects on children.

Support media and information literacy programmes

- Invest in media and information literacy programmes, revising national curricula if required, and create training and education opportunities for parents, caregivers and educators.

Support an independent and diverse media ecosystem

- Invest in enhancing the role of free, independent and diverse media outlets that promote fact-based information.¹⁰⁰

Utilize and further support research on mis/disinformation and children

- Collaborate with and support those in industry, civil society and international organizations who investigate and counter mis/disinformation by giving visibility to their findings and making data-informed policy decisions. Support research into the exposure of children to mis/disinformation and its effects.

2. Recommendations for civil society, including academia and international organizations

Provide policy guidance to minimize mis/disinformation for children

- Work with policymakers and technology companies to rapidly evaluate children's exposure to mis/disinformation, and identify the policy interventions and service and product redesigns needed to minimize its negative impact.

- Cooperate with policymakers to determine what public interest data – disaggregated as necessary, such as by age – should be required from companies for the independent analysis of mis/disinformation exposure and spread.

Conduct ongoing research on the impact of mis/disinformation on children and efficacy of counter-measures

- Conduct research and analysis of trends in order to understand how mis/disinformation is influencing public understanding of important issues as well as children’s development, and track the impact of different responses, such as media and information literacy programmes, on children. The findings should inform continued advocacy for children’s rights and evidence-based regulations.

3. Recommendations for technology companies

Implement self-declared policies and invest more in human and technical approaches to combat mis/disinformation that affect children

- Recognizing the vulnerabilities of children, implement their own terms of service around mis/disinformation to reduce its spread and visibility.
- Further invest in human resources, boost efforts to pre-empt and halt the diffusion of mis/disinformation that negatively impacts children, and develop approaches to combat mis/disinformation in ways that are proportionate and that respect freedom of expression and the right to privacy.¹⁰¹ Openly share effective approaches across the industry.

Be more transparent

- Safely and ethically provide anonymized and disaggregated user data to independent researchers to evaluate trends in real time. Provide information about their algorithms and relevant activities occurring within their services and products to better understand impacts on children. This includes data on what types of content children consume, generate and share, revenue models, and their efforts in moderation and enforcement of terms of service.

Prioritize meaningful connections and plurality of ideas for children

- Optimize algorithms for meaningful social connectivity and plurality of ideas over emotion-driven, viral content that is designed to garner high engagement metrics at the cost of social cohesion.

- Explore alternative business models that are not purely advertising-driven and that do not rely on algorithms to promote engagement at all costs.

4. Recommendations for parents, caregivers and educators

Engage in children’s media activities and help develop their critical thinking

- Encourage open conversations on current news events and digital life with children. Where possible, challenge and correct mis/disinformation and foster children’s critical thinking abilities.

Support media and information literacy programmes for children

- Support children’s participation in media and information literacy programmes, for example through online resources, taught classes and parenting literature.
- Call on technology companies, policymakers and governments to provide better educational resources to equip children with the information, knowledge and judgement they need to help protect themselves from harmful mis/disinformation.

Suggested research questions

More research on mis/disinformation and its effects on children is needed so that we can better understand the efficacy of different approaches to combating it. We identify the following questions as the most crucial:

- How does exposure to mis/disinformation affect children’s social, cognitive and emotional development and well-being over time?
- Is the influence of child peer-to-peer mis/disinformation communication different to that from official or adult sources, and what might that mean for engaging children to help reduce the spread of mis/disinformation?
- What government regulations and policies best balance children’s rights to protection from harmful mis/disinformation to protect children while also maintaining their rights to freedom of expression and association, and right to access information?

07.

Appendix A: Interview data

We defined three target groups for our interviews:

- 1 **Research professionals:** These experts, mainly based in academic institutions, conduct research into various topics surrounding digital media and children, including exposure, influence and impact.
- 2 **Media literacy practitioners:** These experts educate and train children and their caregivers in media and information literacy, critical thinking and fact-checking online. They are practitioners at think tanks and civil society organizations.
- 3 **Child rights and safety experts:** This group is composed of experts on the rights of children. They work at humanitarian organizations, advocacy groups and civil society organizations.

TABLE 1: INTERVIEW SUBJECTS, 19 NOVEMBER 2020–8 FEBRUARY 2021

Last Name	First Name	Organization	Title	Date
Ahmed	Imran	Center for Countering Digital Hate	CEO	27 Nov 2020
Berger	Guy	UNESCO	Director for Strategies & Policies	1 Dec 2020
Bird	William	Media Monitoring Africa	Director	8 Feb 2021
Kennedy-Pfister	Brigid	UNICEF	Senior Child Protection Specialist	19 Nov 2020
Livingstone	Sonia	London School of Economics	Professor	30 Nov 2020
Miller	Alan	News Literacy Project	CEO	24 Nov 2020
Nash	Victoria	Oxford Internet Institute	Professor	19 Nov 2020
Perovic	Jelena	UNICEF	Communication Officer	19 Nov 2020
Silva	John	News Literacy Project	Senior Director of Education and Training	24 Nov 2020

TABLE 1: INTERVIEW SUBJECTS, 19 NOVEMBER 2020–8 FEBRUARY 2021

Last Name	First Name	Organization	Title	Date
Sommariva	Silvia	UNICEF	Social Media Consultant	30 Nov 2020
Thies	Lars	Vodafone Foundation	Head of Thinktank	24 Nov 2020
Tomsa	Sergiu	UNICEF	Social Behaviour Specialist	24 Nov 2020
Viswanath	Vish	Harvard T. H. Chan School of Public Health	Professor	20 Nov 2020

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