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There is no right age! The search for age-appropriate ways to support children's digital lives and rights

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In a digital world, certain milestone birthdays define childhood experiences. The age of 13 is commonly dubbed “the age of digital consent” and embedded in the terms and conditions of social media platforms, although data protection regulation may set an older age limit for companies to profile children. For access to “adult” products and services such as pornography or gambling, 18 is the recognised age barrier. Three critical questions arise: (i) Are age limits the optimal way to regulate children's digital experiences? (ii) Does such “bright line” regulation select the “right” age, according to evidence from the field of children and digital media? (iii) Does it matter that age limits are widely contested and often poorly implemented?

In this provocation, we acknowledge but also question calls from parents and politicians for researchers to determine the “right age” for children to get their first smartphone, access social media, or decide their online activities without parental monitoring. These calls are often expressed negatively – should society ban “under-age” children from various aspects of the digital world? Whether the focus is on access or restriction, these are calls for simple answers that lead to more, often problematic questions: Who should manage this and how? Is the “right age” for parents to determine, governments to put into law, or companies to decide according to their interests?

For many academics, these are the wrong questions – too reductive of the pros and cons of digital access, insensitive to the heterogeneity among children, naïve about the practical efficacy of bright-line rules or bans, and deaf to the voices of children and young people. Moreover, it is near impossible to channel the complex and uneven body of available evidence about children's encounters with risks of harm towards a straightforward consensus regarding any “right age.” Researchers recognise the host of risk and protective factors shaping children's digital lives, so researchers prefer to answer – it depends. Or, as danah boyd (2014) powerfully argued a decade ago, it's complicated.

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To navigate both academic commitments and public concerns, we deploy a children's rights framework to evaluate milestone birthdays as they are applied to the digital environment and highlight emerging alternatives that seek to redesign digital policy and practice in age-appropriate and child-rights-respecting ways.

Milestone birthdays aren't working for children online

The idea of a digital age of consent at 13 is often referenced yet misunderstood. It originates with the 1998 US Children's Online Privacy Protection Act (COPPA), which requires parental consent for a company to process data from children under 13: this was to task companies with protecting children from marketing pressures (Montgomery & Chester, 2015) not to set an age barrier to access digital services. The most likely evidence base relies on Piagetian cognitive development theory and concerns children's ability to recognise clearly demarcated television advertising, a somewhat different scenario from today's social media. As it turned out, companies preferred to exclude younger children from their services, albeit only through the weak means of self-declared age.

A quarter of a century later, the globalised attention economy has transformed the internet. Platforms apply this "digital age of consent" globally, though some countries have introduced other age limits – 14 in Korea and Brazil and 16 in China. The evidence base remains unclear, as it would be hard to establish that, by such an age, children can identify digital advertising, understand how their data drives personalised marketing and profiling, or cope with the algorithmic "feed" of often extreme content, contact and conduct with which the data ecosystem is symbiotically entwined (Stoilova et al., 2021). Moreover, parents may struggle to make these judgement calls, though they are generally better positioned to make nuanced judgements about their child's specific needs and maturity. At the same time, being left out of the digital world is now hardly possible, as once-optional technologies have become essential to the infrastructure of communication, information, learning and commerce. No wonder children seek workarounds, often with parental sanction, even if they are criticised for "lying" about their age.

Learning little from this history, when the European Commission introduced its General Data Protection Regulation in 2018, this too was widely misunderstood to set a "digital age of consent." In fact, the age limit of 16 (or as low as 13 if countries so chose) applies only where companies process children's data on the legal basis of consent, which they prefer to avoid. Again, countries determined their age limit with little reference to evidence or children's views (Lievens & Verdoodt, 2018). Few companies have implemented these limits effectively, and nor have their efforts merited or resulted in the trust of parents and children (Livingstone et al., 2024). Since more effective implementation may again risk children's digital inclusion and expression, many academics are ambivalent about or even campaign against age limits.

Regrettably, little in this history of data protection regulation relies on evidence about children's development, safety or wellbeing, especially regarding children of different ages or circumstances. That said, the idea of a digital age of consent could be credited with trying to balance the risks and opportunities of digital access for children. For a further milestone birthday, the aim is simply protection: below the age of 18, companies should not expose children to "adult" experiences such as pornography, gambling or

drugs – a host of laws, regulations and policies mandate this. Although straightforward in relying on common forms of adult identification (credit card, driver's license, etc.), tests of whether such services are available to children still reveal significant failings (Livingstone et al., 2024). As parents and policymakers become more frustrated about children's exposure to an "age-blind" internet, they call for more robust age verification as part of a broader groundswell of legal efforts to require companies to protect children from online harms better.

A children's rights approach to age limits

A child rights approach encompasses a broad framework of state obligations and business responsibilities to underpin children's protection, participation and provision. The United Nations Convention on the Rights of the Child (UNCRC) sets out these rights, emphasising that all the rights apply to all children of all ages up to the age of majority. Importantly, Article 5 requires the state to respect how parents and carers guide the child "in a manner consistent with their evolving capacities," including their civic rights and freedoms (Article 14). The concept of "evolving capacities" does not qualify or bound children's rights but explains that adults must take the vital steps necessary, in accordance with children's maturity and circumstances, to support children in realising all of their rights and, further, to gradually allow them to exercise their rights independently from their parents (Varadan, 2019). In short, evolving capacities is a normative and emancipatory principle according to which children's agency should be enabled as young as possible while their vulnerabilities should be protected as long as possible (Lansdown, 2005). This challenges bright-line rules that impose an age limit in a manner that cannot allow for children's freedoms while simultaneously protecting their vulnerabilities.

A central tenet of a children's rights framework, the concept of "evolving capacities" is consistent with a long history of social science research showing that children's lives are highly diverse, resulting in intersectional needs. Child development is rarely, if ever, smooth or harmonious but, rather, jagged, complex and contextually variable. Crucially, the concept counters a capacity-based rationale for human rights, which denies that children have rights (because they lack capacity). Instead, the UNCRC grounds its rationale in human interests, asserting that children should receive support to realise their rights (because irrespective of age or capacity or even choice, realising these rights in ways that balance respect and protection is in their best interests) (Tobin, 2015). The principle asserts that what is in the "best interest" (Article 3) of the child and what is (age) "appropriate" will change as they mature; accordingly, so must parents' exercise of their duties as well as the state's obligations to protect children, including from undue incursions into their freedoms. While Article 5 acknowledges parents' and caregivers' vital role in tailoring children's experiences according to their particular needs, it is careful not to privilege parents as the sole judge of their child's access to the world: governments and other duty bearers, including companies, must play their part.

General comment No. 25 (UN Committee on the Rights of the Child, 2021) sets out how this applies in the digital environment. Since the risks and opportunities children experience online are related to their evolving capacities, governments must ensure that digital companies provide age-appropriate products and services (para. 17) that both address children's particular vulnerabilities and support their agency and capacity as rights

holders to enjoy all their rights in a digital world (para. 11 b and c; Varadan, 2019). By contrast, strictly enforced age limits may restrict the agency of those already equipped with the necessary maturity and skills while failing to protect those who do not, even though they may have reached the required age. In both cases, children's rights are put at risk. In short, bright-line rules may produce "solutions," as well as injustices – most likely to impact those already disadvantaged, compounding prior discrimination and vulnerabilities – think of poverty or disability.

An age-appropriate internet?

The idea of "age appropriate" provision to support the realisation of children's rights is repeated across the UNCRC, in accordance with the idea of evolving capacities (e.g., article 12 on the right to be heard, article 31 on the right to play, article 37 on criminal justice and imprisonment, as well as article 40 on criminal responsibility and rehabilitation). The specific idea of the state's responsibility to establish a "minimum age" is referred to three times. Each time, conditions are specified – for paid work, regulation of the hours of children's employment is required (article 32); for armed conflict, states should try to avoid such recruitment (article 38); and for criminal responsibility, appropriate measures are set out to avoid judicial proceedings (article 40.3). Several times, these injunctions carry a reminder that age-appropriate provisions or age limits intended to protect one right should not unduly undermine children's other rights. In effect, any limits on children's activities should be lawful, rights-respecting, proportionate and necessary, also drawing on available measures to ensure their optimal implementation, including children's consultation methodologies, access to child-friendly justice and redress, business transparency and accountability, and tools for child rights (or human rights) impact assessment.

In short, a child rights-respecting approach should take account of all children's rights, including prioritising these over company profits while also protecting children from overly normative or even punitive parenting. Whether this provides a legally implementable basis for a practical redesign of the internet in age-appropriate ways remains to be seen. However, we suggest that such conditions and qualifications have barely been discussed – and not much researched – in relation to a "digital age of consent." Yet without such provision, age limits on children's digital experiences risk inflexibility, potentially ignoring children's evolving capacities, failing to respect their diverse circumstances, prioritising protection over children's agency and positive rights, and, at worst, proving unequal or discriminatory in their effects.

We can point to some hopeful signs. These include the international spread of Age Appropriate Design Codes in internet governance. Originally conceived in the UK as a form of data protection regulation, these codes – implemented or under discussion in jurisdictions as widespread as Argentina, California, Indonesia and Ireland – bring potential benefits not only for children's privacy but also their safety, freedom from commercial exploitation, best interests and access to remedy. Complemented with new technology standards for age-appropriate design (for example, IEEE, 2021), which set out expected features, default settings, user empowerment tools and forms of remedy, all in one way or another grounded in an account of child development in a digital age, these pave the way for a more age-appropriate internet. Also important is the emergence of child rights-

informed approaches to age verification, a vital precursor to knowing which online users are children so as to treat them accordingly, but only viable if ways can be found to protect users' privacy (Livingstone et al., 2024). Finally, we observe rising interest in the use of Child Rights Impact Assessment by digital companies such as Google, Verizon and Twitch (Livingstone & Pothong, under review) as a widely endorsed mechanism for both anticipating and, subsequently, evaluating the likely impacts on children's lives of digital innovations in products and services.

On the other hand, the digital environment is distinctly challenging. Society has had little time to generate and test social norms regarding children's digital lives as digital innovation outpaces public awareness of the risks and opportunities, meaning no consensus has been reached. Digital services make it their business, literally, not to know the age or circumstances of their users whilst already possessing and deploying the technology for commercial purposes. Big tech operates transnationally, barely attending to local cultures, languages or values, nor often to national jurisdiction. The digital ecosystem is so complex and opaque that, even where there is consensus (for example, about preventing illegal content from reaching children), regulators struggle to hold actors responsible (whether this is the content creators, developers, sponsors, publishers, platforms, app stores, marketers, data brokers, safety tech, age assurance providers, payment operators, or others).

In other areas of children's lives, various settlements have been reached – think of driving, drinking alcohol, signing a contract, voting, working, marriage or criminal responsibility. Age limits are often regarded as the practical mechanism for implementing the rights of children as a collective, for instance, when implementing the UNCRC into national law. In the field of children and media, there is a long history of research and policy on age and content ratings for cinema and video games. This is not to say that all is well or that children's rights are fully observed in these domains. Age limits remain debated and contested, with countries failing to adhere to the ages suggested by the Committee on the Rights of the Child, such as the legal age of marriage and the minimum age of criminal responsibility. Note, too, that the purpose of such limits is less to restrict children's freedoms as to protect them from adult abuses (whether perpetrated by the state, commerce or family). Moreover, even when milestone birthdays are taken for granted, there may be insufficient checks and balances.

Nonetheless, much in this history of age limits in other domains is more nuanced and contextual than the bright-line rules currently implemented or in prospect in the digital environment. What's vital is that these should be researched, consulted on and evaluated for possible unfairness. They should also be flexible when particular circumstances apply and provide a remedy when mistakes are made. Where the state is involved, a right to a hearing or appeal may be included. Further, under Europe's Digital Services Act, businesses too are required to provide a mechanism for users to appeal to an internal complaint-handling system, though it is too early to say if such systems are effective, especially for child users (or their parents).

Implications for research on children and media

It is unlikely that children's evolving capacities are respected in the digital environment – and there is plenty of evidence of digital exclusions, on the one hand, and digital harms, on

the other. But it is hard to demand that children's developmental needs be respected when research has not come to a consensus about what is needed or appropriate for children of different ages and circumstances. Our child rights lens has raised many further questions – about the viability and effectiveness of available mechanisms for care, inclusion, restrictions and remedy across the range of digital services children engage with. Finally, we have argued that bright-line age limits need care if they are to be child rights-respecting and that bright-line rules are insufficient to ensure children's rights are respected.

To guide future developments, we call on researchers of children and media to develop knowledge at the intersections of child development, children's rights and children's digital lives. This should include research on children's perspectives and ways of navigating these intersections according to their interests and resources and across diverse contexts. Understanding these intersections requires a multi- and interdisciplinary approach that integrates psychological, sociological, legal, geopolitical and technological expertise. This is hard, and we applaud the efforts of *Journal of Children and Media* and other academic organisations and networks to build collaborative ways of asking and answering questions productively. At present, those who build age assurance "solutions" may know little of child development; those whose call for designers to consider children's social contexts may know little of the design choices available; those who pass laws to protect children's vulnerabilities may not realise their diverse circumstances or anticipate the lived consequences for children. The challenges for research are conceptual, empirical and ethical. It is clear that designing the internet for adults, or a generic "user," without children's diverse needs in mind is resulting in more problems than the public will accept. What is less clear is the optimal approach for children of different ages and the possible benefits or injustices that may result from setting age limits. Policymakers are asking for directions and for evidence of what works. How shall we respond?

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