Technology

The truth about social media and screen time's impact on young people

There are many scary claims about excess time on digital devices for children and teenagers. Here's a guide to the real risks - and what to do about them

By [Michael Marshall](#)

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"Get off your phone!" Most parents will have found themselves yelling some version of this at their offspring – often to be met with eye-rolls.

We have all found ourselves spending more time on screens in recent years, with the rise of smartphones and social media. Children are no exception. The covid-19 pandemic also resulted in a huge rise in their screen time as a result of lockdowns and school closures.

suicide, and is cutting into time they would otherwise spend socialising or exercising, causing loneliness and poor physical fitness. In short, the fear is that too much time on digital devices is ruining kids' lives – and tech companies, which have designed their apps to hook us 🔗 /article/2415257-us-congress-grilled-big-tech-leaders-on-child-online-safety/, are complicit. No wonder governments around the world are considering curtailing screen time for under-18s.

Yet a closer look at the evidence doesn't support this overwhelmingly negative picture. This doesn't mean tech giants are benign and don't need more regulation. But it does mean we need to think more carefully about what healthy screen time for young people looks like and how best to make the online world accessible to them. So here's a guide to what we really know about the impact of screens and social media.

One thing is clear in this complex area: children and adolescents now spend a lot of time on screens – just like the rest of us. A 2023 review 🔗 https://ghrp.biomedcentral.com/articles/10.1186/s41256-023-00297-z that compiled research from 2016 to 2021 found that 6 to 14-year-olds worldwide spent an average of 2.8 hours a day on screens. The covid-19 pandemic drove a sharp increase because, for many young people, education shifted online, as did socialising and entertainment. One study found that even in late 2021, when lockdown restrictions had largely been lifted, total screen time was still 1.1 hours above pre-pandemic levels 🔗 https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2801457.

Furthermore, even the youngest children now often spend time on screens. Groups like the World Health Organization 🔗 https://iris.who.int/handle/10665/311664 and the American Academy of Pediatrics recommend that kids under 5 should have little or no screen time 🔗 https://publications.aap.org/pediatrics/article/138/5/e20162591/60503/Media-and-Young-Minds, regardless of whether it relates to televisions, computers, phones or video games. Yet a 2022 review found that only a quarter of children under 2 in many different countries had no screen time 🔗 https://jamanetwork.com/journals/jamapediatrics/fullarticle/2789091, while just 36 per cent of 2 to 5-year-olds had their daily screen time limited to 1 hour a day.

Gaming, social media and YouTube

One of the most popular online destinations for younger children 🔗 https://www.qustodio.com/en/born-connected-rise-of-the-ai-generation/ is the gaming platform Roblox, whereas for teenagers it is social media and YouTube. In

https://www.ofcom.org.uk/__data/assets/pdf_file/0022/272281/childrens-user-age-2023-chart-pack.pdf. YouTube allows younger children, but only with parental permission.
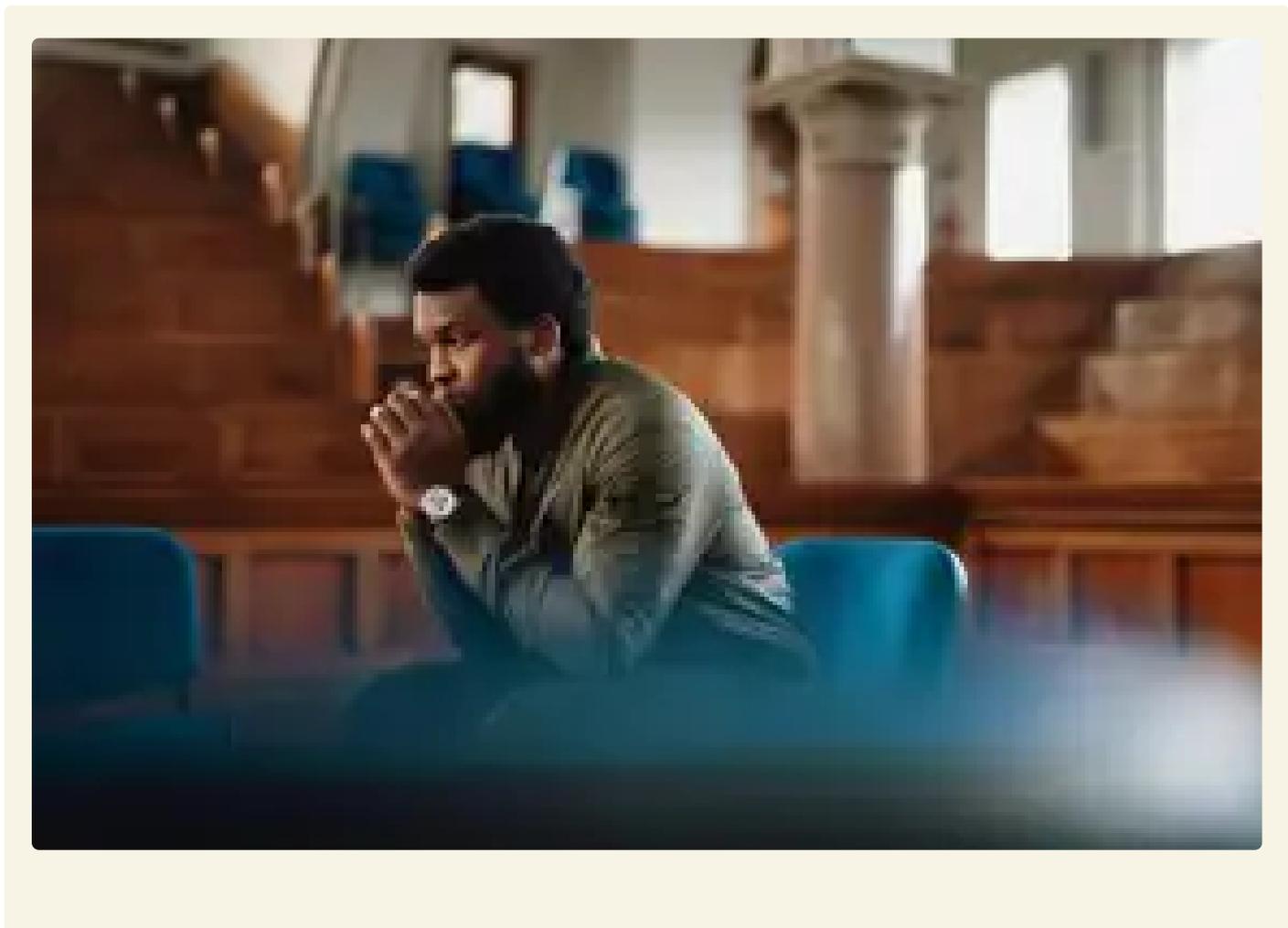
These services are offered by vast and hugely profitable companies like Alphabet (which owns Google and YouTube), Meta (which owns Facebook, Instagram and WhatsApp) and ByteDance (which owns TikTok). The firms want you to use their apps. In particular, social media sites make money through advertising, so have devised ways to entice as many people as possible to spend as much time on them ⦿ /article/mg22229710-600-obsession-engineers-mind-control-the-candy-crush-way/ as possible. "The profit is advertising and that will shape the choices they make," says Amy Orben ⦿ https://amyorben.com/ at the University of Cambridge.

23% of UK children aged 8 to 12 give their age as 18+ on social media apps ⦿ https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/childrens-online-user-ages/children-user-ages-chart-pack.pdf
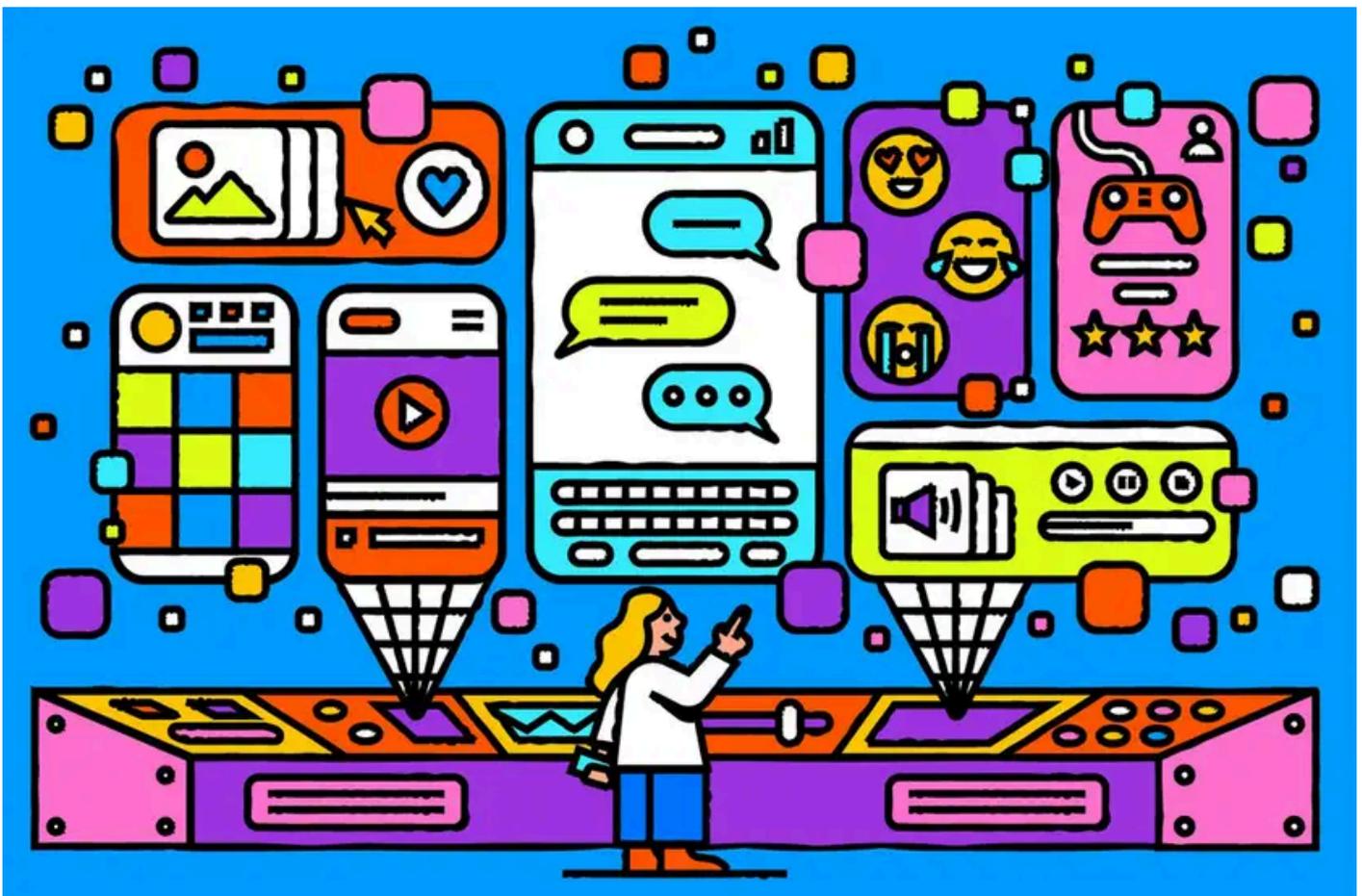
But what are the costs of all this screen time for young people? This is a surprisingly difficult question to answer, especially with a paucity of long-term data. It could be that the concerns are yet another example of the techno-panics that inevitably accompany the adoption of new technologies (see "Techno-panics of the past" ⌘ #DeepDive-1, below).

But let's start with the case for the prosecution: that children's mental and physical health, and their overall development into well-rounded adults, is being harmed. At the forefront of this argument are Jean Twenge ⌘ https://psychology.sdsu.edu/people/jean-twenge/ at San Diego State University in California, author of *iGen*, and Jonathan Haidt ⌘ https://www.stern.nyu.edu/faculty/bio/jonathan-haidt at New York University, who wrote *The Anxious Generation*. They argue that children are addicted to their phones, that their mental health is suffering and that urgent action is needed. They point to evidence that the mental health of children and adolescents has worsened significantly in the past two decades. In many countries, growing numbers of young people ⌘ https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2763444, especially teenage girls ⌘ https://journals.sagepub.com/doi/10.1177/0004867414533834, are seeking medical help for conditions like anxiety and depression.

◎ /article/mg26234851-700-the-new-evidence-that-explains-what-anxiety-really-is/

There can be no doubt that many youngsters are having bad experiences on their screens. In May, a UK parliament report ◎ https://publications.parliament.uk/pa/cm5804/cmselect/cmeduc/118/summary.html found that 79 per cent of children in England encountered violent pornography before the age of 18 and 81 per cent of girls and women aged 7 to 21 have experienced some form of threatening or upsetting behaviour online.

One example of such behaviour is cyberbullying. A 2023 study found that a third of children in the US have experienced cyberbullying ◎ https://www.sciencedirect.com/science/article/pii/S0095454322001312, with a Canadian study from the same year finding that girls and young people from ethnic minority groups were more likely to be victimised ◎ https://www.sciencedirect.com/science/article/pii/S1359178922000921?via%3Dihub.

Cyberbullying is a significant contributor to teenagers being admitted to hospital for psychiatric care, according to unpublished research by Michelle Drouin ◎ https://www.drmichelledrouin.com/ at Purdue University Fort Wayne in Indiana and her colleagues. "Parents were sometimes completely unaware that their children are experiencing cyberbullying," she says. Many teens didn't let on, as they thought their parents weren't tech-savvy enough to help and would just take their phones away.

Mental health and sleep

On top of that, studies in recent years have identified a laundry list of harms that appear to follow from overuse of screens, especially in children and teenagers. A 2020 meta-analysis of 31 studies found that more screen time was associated with worse sleep ◎ https://www.sciencedirect.com/science/article/pii/S1087079219301947 in children under 3. Similarly, a 2023 review looked at 50 studies of teenagers and reported that most of them discovered associations between screen use and poor mental health ◎ https://bmcpsychology.biomedcentral.com/articles/10.1186/s40359-023-01166-7, especially in girls.

Several lines of evidence point to harm specifically from social media. A 2020 study ◎ https://srcd.onlinelibrary.wiley.com/doi/10.1111/cdev.13422 randomly assigned some teenagers to get fewer likes on their social media. Those teens said they felt more rejected and had negative thoughts about themselves. Those who were being bullied or

among students ⌗ https://www.aeaweb.org/articles?id=10.1257/aer.20211218.

"Social comparison is one of the strongest possible mechanisms explaining the possible negative effects of social media," says Silje Steinsbekk ⌗ https://www.ntnu.edu/employees/silje.steinsbekk at the Norwegian University of Science and Technology in Trondheim. "'Everyone has to look so perfect and have perfect lives, that makes me feel miserable.'"

To investigate further, paediatrician Jason Nagata ⌗ https://profiles.ucsf.edu/jason.nagata at the University of California, San Francisco, has published several studies looking at associations between screen time and poor health outcomes. Using data from studies that track children over several years, Nagata and his colleagues have spotted some alarming associations. One study found that screen time among 11 to 18-year-olds was linked with a greater likelihood of obesity and diabetes ⌗ https://link.springer.com/article/10.1007/s11606-022-07984-6 24 years later. Likewise, more screen time at ages 9 and 10, including watching videos and playing video games, was associated with higher odds of obsessive compulsive disorder ⌗ https://www.jahonline.org/article/S1054-139X(22)00722-4/fulltext two years later – and with a greater likelihood of suicidal behaviours ⌗ https://www.sciencedirect.com/science/article/pii/S0091743523000324.

Small wonder that many parents and policy-makers are clamouring for stronger rules on screen time, smartphones and social media. The UK parliamentary report from May recommends tighter controls on the sale of smartphones to children under 16, strict bans on mobile phones in schools and more guidance for parents. In 2023, the US surgeon general, Vivek Murthy, recommended that governments "further limit access ⌗ https://www.ncbi.nlm.nih.gov/books/NBK594761/ – in ways that minimize the risk of harm – to social media for all children" and this month he called for cigarette packet-style warnings on social media platforms ⌗ https://www.nytimes.com/2024/06/17/opinion/social-media-health-warning.html about the "significant mental health harms for adolescents". UK broadcasting regulator Ofcom has also threatened to ban under-18s from all social media ⌗ https://www.bbc.co.uk/news/technology-68976826.

The trouble is, though, when you take a closer look at the evidence of harms from screen time, it isn't as strong as it might seem.

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For starters, the vast majority of studies into screen time, smartphones and social media just look for associations. Is more screen time associated, on a statistical level, with a certain harm? This means they can tell us whether the two are correlated, but they can't say whether the screen time is actually causing the harm.

Researchers often ask people to self-report screen time, which is unreliable – particularly if you want to distinguish between different types of screen time. This is exemplified by a 2021 review of 33 studies 🔗 https://www.thelancet.com/journals/landig/article/PIIS2589-7500(21)00135-7/fulltext examining whether screen time causes short-sightedness, or myopia.

On the face of it, more screen time was associated with a higher risk of myopia and with more severe myopia. However, none of the studies used a reliable measure of screen time, and seven didn't even objectively measure myopia. The researchers therefore concluded that the findings should be considered cautiously. Another example of this confusion is the debate over screens and sedentary behaviour (see "Still on screens" 🔗 #DeepDive-2, below).

In general, when researchers have conducted meta-analyses into the effects of screen time, and especially when they have placed more weight on better-conducted studies, the evidence for harms has both shrunk and become highly nuanced.

How to improve your digital diet for greater well-being

Online activities like gaming, social media and video calls have unique "nutritional" values that will influence our mood, concentration and energy levels. This is how to optimise yours

🔗 /article/mg25634090-300-how-to-improve-your-digital-diet-for-greater-well-being/

One of the best known of these studies is from 2019, when Orben and Andrew Przybylski at the University of Oxford 🔗 https://www.oii.ox.ac.uk/people/profiles/andrew-przybylski/ performed a meta-analysis of studies of adolescent well-being 🔗 https://www.nature.com/articles/s41562-018-0506-1, including over 355,000 young people aged 12 to 18 from the US and UK. This found that digital technology use explained at most 0.4 per cent of variation in well-being – far too small an effect to warrant policy changes, they argued.

Yet in this fraught area, the same data can be interpreted in different ways by different researchers. When Twenge, Haidt and others carried out their own analysis of this same data 🔗 https://www.nature.com/articles/s41562-020-0839-4 in 2020 – this time separating out social media use rather than just total screen time, plus gender – they concluded that "heavy use of social media is consistently associated with negative mental health outcomes, at non-trivial levels, especially for girls".

https://www.sciencedirect.com/science/article/pii/S0165032720323727 and anxiety ⬤ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4053961. A 2022 umbrella review ⬤ https://www.sciencedirect.com/science/article/pii/S2352250X21001500 combined several dozen previous reviews and meta-analyses, finding that most of them described the evidence of links with mental health effects as "weak" and "inconsistent". A similar exercise in 2023 ⬤ https://www.nature.com/articles/s41562-023-01712-8 found a mixed picture. For instance, screen use during childhood was associated with reduced literacy – unless parents watched with their children, in which case it was associated with improved literacy.

Vulnerable individuals

Regardless, this doesn't mean the risk is zero. For young people who are already susceptible, some online content can be dangerous. "A specific type of content for a really vulnerable individual at a very specific point in time when they're going through crisis can have harmful consequences," says Orben. But for those who aren't especially vulnerable, the risks are low, says Steinsbekk. "If you're happy, you're good at school, you have a lot of friends, [a] stable family life, it's not very likely that social media will ruin your mental health."

15% of US teens aged 13 to 17 say they visit YouTube, TikTok and Snapchat almost constantly ⬤
http://www.pewresearch.org/internet/2023/12/11/teens-social-media-and-technology-2023/

The reality, say researchers, is that simply totting up hours of screen time isn't very informative. "Screen time is a meaningless concept," says Pete Etchells ⬤ https://www.bathspa.ac.uk/our-people/peter-etchells/ at Bath Spa University in the UK, author of Unlocked ⬤ /article/mg26134830-600-unlocked-review-why-we-dont-need-to-panic-about-our-phones/. "It's a completely useless thing because it could mean literally anything." Yet this is all most studies do. A 2021 review looked at 622 studies of screen time in children ⬤ https://onlinelibrary.wiley.com/doi/10.1111/obr.13260 up to the age of 6, finding that 60 per cent just assessed the duration of daily screen time. Fewer than 20 per cent reported what the kids were looking at or if parents were also watching, and only 11 per cent gave information on the reliability of their measures.

harmful, and which design features enable healthy behaviours. This research is embryonic. For instance, some researchers have argued we should distinguish between active and passive use of social media 🔗 https://journals.sagepub.com/doi/10.1177/14614448211065425. The idea is that actively posting may provide benefits, such as new friendships, but passive consumption can cause psychological harm. However, a preprint paper released in March 🔗 https://osf.io/preprints/psyarxiv/ydm9s suggests this is also too simple. The evidence doesn't consistently support active use as being beneficial and passive as being harmful, and the researchers argue that behaviour needs to be broken down in even more granular ways.

Instagram comparisons

One argument that resonates with many people is that photo-sharing apps like Instagram can cause or exacerbate body image problems. If everyone else is posting photos of themselves looking slim, toned and airbrushed to supposed perfection, teenagers may start to feel bad about their own bodies. There is little hard data, says Orben, because "platform-specific evidence is hard to come by". But she says it is plausible that sites with a lot of images of bodies could lead teenagers to make more comparisons and judgements about their own bodies. "I think it's a very valid hypothesis."

Again, though, the devil is in the details. Steinsbekk is co-leader of the Trondheim Early Secure Study 🔗 https://www.ntnu.edu/tess, which since 2007 has been tracking 1250 Norwegian people born in 2003 to 2004. The aim is to learn how common mental health conditions are and to look for potential causes. The team found that social media use – including specific behaviours like posting, liking and commenting – in childhood and adolescence doesn't predict subsequent depression or anxiety 🔗 https://www.sciencedirect.com/science/article/pii/S0747563223002108. In a 2021 study, however, the team found that girls (but not boys) who spent a lot of time interacting with other people's posts on social media developed lower self-esteem about their appearance 🔗 https://www.sciencedirect.com/science/article/pii/S0747563220302806.

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At the same time, there is also evidence that smartphones and social media offer benefits. Kids can find people online who share their interests, which may not be possible if they live in a small town. LGBTQ+ youngsters may find more acceptance in online communities than at home. "We have evidence of young people saying that phones allow them to do a lot of things they care about, like being connected to other people or getting information," says Orben. In line with this, in a study published in April � https://www.sciencedirect.com/science/article/pii/S0747563224001031, Steinsbekk's team found that 10 to 18-year-olds who increased their time on social media also spent more time with their friends offline. "Their friendships get closer," says Steinsbekk. This is the opposite of the common concern that screen time disrupts friendships.

Faced with this complex, rapidly changing picture, what should we do? We do have one test case for strict bans: South Korea. In 2011, the government passed the Youth Protection Revision Act, which blocked under-16s from accessing online games between midnight and 6am. The aim was to ensure teenagers got more sleep. However, a 2017 study found that the law increased average nightly sleep by just 1.5 minutes ⌐ https://www.sciencedirect.com/science/article/pii/S0736585317303799. It was abolished in 2021 ⌐ https://www.engadget.com/south-korea-gaming-shutdown-law-end-163212494.html. Etchells describes it as a "massive waste of time".

There are other potential approaches to help young people deal with the allure of their digital devices. Orben points out that on many websites and apps, you can scroll endlessly, which encourages users to keep "doomscrolling" down the screen ⌗ /article/2426007-ai-pop-ups-can-help-you-stop-doomscrolling-on-your-phone/. She suggests this could be limited. Other design features like privacy settings could be made more child-friendly. Etchells wants governments to invest heavily in digital literacy training, for everyone.

A ban on these technologies for under 18s would "curtail young people", says Orben. Instead, we should figure out how to make online spaces safe for them. She says young people have a right to be online, and for that space to provide them with good experiences. "Young people deserve to be part of the digital landscape," she says. "They deserve to build the skills and be able to experience the online world, because it's a key part of what our world now is."

The greatest network the world has ever seen: The global internet map

Bundles of undersea fibre optic cables connecting continents form the backbone of the internet – a network that now connects more than half the world

This will require governments to get to grips with the big tech companies. "The power in this network often lies with the companies," says Orben. "I think we should really push for companies to be held to account."

"I'm optimistic about the future and the ways we can harness the technology," says Drouin. "We just need to be really purposeful about the way we're doing it."

In the meantime, what's a parent to do? Here, at least, there is some clear evidence. The key thing is to keep the lines of communication open with your kids, especially when they reach their teenage years and start to become more independent. Think about expectations and boundaries, and have conversations with them about what sort of tech use is appropriate, says Etchells. For instance, suppose your 6-year-old asks for a smartphone. You might well say "no", but don't make them feel bad for asking. Instead, ask them what they want it for, and see if you can find other ways for them to meet those needs and desires. The aim is to set some boundaries while also respecting your child's autonomy.

A 2019 study of 1000 British teenagers found that those whose parents took such an "autonomy-supportive" approach to technology were more likely to believe that their parents trusted them and were less likely to want to disobey ◎ https://www.sciencedirect.com/science/article/pii/S074756321830428X, compared with teens whose parents took a more controlling or punitive approach. This respectful approach may make it more likely that your child will tell you if they have a problem online, so you can help them sort it out before it escalates. There is also some evidence that encouraging autonomous behaviour ◎ https://journals.sagepub.com/doi/10.1177/07435584231168402 can help teens develop a healthy relationship with social media.

So instead of yelling "get off your phone!", try asking your child what they found on it today.

Techno-panics of the past

Throughout history, new communication technologies have caused concerns that sometimes escalated into panic. More than 2000 years ago, the ancient Greek philosopher Socrates worried that the widespread use of written texts would harm the learning of students ◎ https://www.wabash.edu/news/story/1452.

Fast-forward to the mid-1800s, when a boom in the production of newspapers, magazines and often-sensationalist books induced a moral panic about people (mostly women) reading too much and

In the 20th century, television and radio were often seen as the problem 🔗
https://pubmed.ncbi.nlm.nih.gov/32603635/ – there were concerns in the 1940s that US children were hooked on radio and movie crime dramas. In the 1990s, the internet became more of a focus, with worries about internet addiction and violent video games causing violent behaviour in real life.

The current fears about the impact of screen time and social media on children look distinctly similar to these previous panics. However, we can't dismiss them solely on the grounds that people have previously worried over nothing. "There's this line at the minute which is: 'Is this just another moral panic?'" says Etchells. "It's a completely unanswerable question, because you don't know if you're in a moral panic when you're in it."

Still on screens

🔺 Tim Alexander

Here's a question many have pondered: has the digital revolution made us more or less sedentary? A 2022 analysis 🔗 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7612669/ found that, globally, physical activity levels in 11 to 17-year-olds has remained relatively stable since 2010, with around 80 per cent failing to do the recommended amount of activity. The study's authors concluded that increased

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