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Review Article

Screen use in children and adolescents: Developmental risks, benefits, and educational implications

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Abstract

The "war against screens" — the intense parental and societal pushback against children's and adolescents' excessive use of smartphones, social media, tablets, and games — was lost from the outset. Modern life is inseparable from screens; even closed communities fail at total prohibition. Cross-national parent movements (Wait Until 8th, Smartphone Free Childhood) and policy responses (age restrictions, phone-free schools in Australia, Brazil, Europe, etc.) reflect these worries. Practical guidance centers on the Surgeon General's "5 Ds" (Discuss, Do, Delay, Divert, Disconnect) and family media plans rather than prohibition. Historical roots of techno-skepticism are traced to Weizenbaum (1976) and Dreyfus. Part 2 focuses on doomscrolling ("catastrophe scrolling") – compulsive consumption of distressing news. Evolutionary negativity bias, amygdala activation, and dopamine loops sustain the behavior. Gifted adolescents are particularly vulnerable due to intellectual hyperarousal, high empathy, and still-maturing self-regulation. Preliminary group interventions using gradual behavior shaping show promise in reducing the habit. Part 3 dismantles the popular notions of "brain rot" (Oxford Word of the Year 2024) and Spitzer's "digital dementia." Neither is a clinical entity; rigorous evidence for permanent cognitive atrophy from screen use is lacking. Content and context matter far more than the medium itself. Paradoxically, technology use in older adults is associated with lower cognitive-decline risk. Both terms remain useful only as red flags for problematic, addictive patterns that impair sleep, mood, and functioning. Overall, screens cannot be eliminated, but intentional limits, high-quality content, protected sleep, real-world activities, parental modeling, and platform accountability can substantially mitigate risks. The goal is not victory in a lost war, but wiser coexistence.

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Introduction

Digital screens are no longer merely entertainment tools for children and adolescents; they have become essential environments for learning, communication, socialization, and access to information. However, this transformation has also created a significant dilemma for child development. Recent research indicates that screen use effects cannot be explained solely by duration; content quality, timing, social context, and patterns of problematic use are also important determinants (Onorati et al., 2026). While concerns are increasing about the negative effects of social media use on adolescents' sleep, productivity, and mental health (Faverio et al., 2025), the OECD (2025) highlights developmental risks such as cyberbullying, harmful content, and online exploitation alongside the opportunities offered by digital environments. Conversely, recent reports indicate that digital environments can also provide important benefits for

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information seeking, creativity, and social connectedness (Ofcom, 2026). Therefore, the central question today is not whether children should use screens, but how they can develop a healthy, safe, and developmentally beneficial relationship with them.

This article examines current debates surrounding screen use among children and adolescents in three sections. The first addresses concerns and potential solutions related to screen use, the second focuses on doomscrolling, particularly among adolescents, and the third discusses "brain rot" and "digital dementia." Thus, the effects of screen use on child and adolescent development are evaluated from a balanced and evidence-based perspective.

Part 1: Parents' lost war against screens

"The War Against Screens" is a widely used informal description of the intense, global parental and societal pushback against children's excessive use of screens – especially smartphones, social media, tablets, and video games. Parents worldwide describe daily conflicts over devices, and many have organized into movements demanding stricter limits or outright delays in access. However, this war was lost from the start. Living in a modern world means living with screens, among screens, and being served in almost all areas of life by screens. Even in close communities, such as the Mormons in the US or Jewish Ultra-Orthodox in Israel and elsewhere, prohibition of screens has not been completely successful: in many cases, members of these communities use screens, especially televisions and smartphones, secretly, or find a way out of these communities. In this article, I will present the partially justified fear of screens expressed by educators, politicians, mental health professionals, and parents, and some solutions that may bring down the flames of the heated war against screens, as well as explain the phenomenon of doomscreening, which should be minimized if not diminished, and the false "brain rot" assumption, which was developed more than a decade ago and is still alive and kicking, despite having no solid proof of its existence.

The roots of the controversy regarding computer use

The roots of the controversy over computer use lie much earlier, in the 1980s. It is commonly attributed to the philosopher Michael Polanyi, the Hungarian-British physician and polymath scientist, who, following a meeting with the Russian Bukharin [Nikolai Bukharin] in London, began his transition from physical chemistry, which had been his field of occupation until then, to questions related to the philosophy of science and epistemology (e.g., Polanyi, 1958). However, we will make a quick jump to the 1980s, when questions about the harms of computer use rose to center stage among scientists from various disciplines, as well as philosophers and educators.

According to Weizenbaum (1976), the computer scientist who created the famous ELIZA program, computers are powerful tools for calculation. However, they cannot and should not replace human judgment, wisdom, compassion, or moral decision-making. He warned against the dangerous illusion that computers can fully simulate or replace human thinking and human responsibility. His main arguments were as follows:

- Computers excel at formal, logical, rule-based operations, but they lack true understanding, context, intuition, emotion, and ethical judgment. Human intelligence is deeply embodied, cultural, and experiential — qualities that cannot be reduced to algorithms
- Weizenbaum was surprised to discover that people treated the simple ELIZA program – a simulator of a Rogerian therapist — as if it were a real person. This led him to see how easily people anthropomorphize machines and are willing to transfer human responsibility to them.
- Weizenbaum attacked the hubris of artificial intelligence researchers who thought that machines could replicate, or even surpass, human intelligence. He saw this as a kind of modern alchemy – an attempt to turn something mechanical into something living and wise.
- Weizenbaum had social and ethical concerns. He feared that handing over important decisions (in medicine, law, war, or politics) to computers would endanger society's humanity. He worried about promoting a mechanical view of man that would harm human dignity and freedom, and he anticipated that computing language ("input," "output," "processing") would seep into everyday thinking and reduce complex human reality to technical problems.

- The central danger Weizenbaum saw was that society would move from human judgment, which includes values, ethics, and wisdom, to calculation alone, which would be efficient but soulless. In this transition, he saw a threat to humanity's very essence.

Weizenbaum's central message was that computers are excellent servants but dangerous masters. In his view, it was necessary to draw a clear line: to use them for what they are good at, such as data processing and routine tasks, but not to entrust them with domains that require human qualities, which he called "real," such as empathy, moral choice, and wisdom. The greatness of this book, in my opinion, lies in its timing: before computers spread into every home, when it was still possible to stop, or at least restrain, the negative effects Weizenbaum pointed out. Also, at the time of its publication, the book contained both technical criticism and a passionate humanistic warning. However, what is most interesting to me is that the book remains relevant today, with a slight change: the warnings against the "computer" can be applied to artificial intelligence and its uses, and used in discussions of AI ethics, automation, and technology's impact on society.

Another contemporary of Weizenbaum who warned about the dangers of computer use and later – of artificial intelligence was Dreyfus (Dreyfus, 1972, 1979, 1986; Dreyfus & Dreyfus, 1992). Dreyfus was a philosopher who criticized the artificial intelligence of his time. According to his argument, human intelligence is based on unconscious processes, intuition, and "being-in-the-world" (embodiment) that formal rules cannot capture; therefore, computers cannot replace "real" human thinking. He also expressed skepticism about technology's limits and anxiety about potential harm to human abilities. In the first edition of Dreyfus's book (Dreyfus, 1972), the most basic and sharp criticism appears; the criticism is mainly of the symbolic artificial intelligence of the 1960s, while presenting strong philosophical arguments influenced by Heidegger [Martin Heidegger, 1889-1976], Merleau-Ponty [Maurice Jean Jacques Merleau-Ponty, 1908-1961], and Polanyi [Polányi Mihály, 1891-1976], and it provoked sharp controversy in the field of artificial intelligence. Dreyfus's criticism was perceived as a "betrayal" in the AI field, and he was accused of pessimism, misunderstanding technology, and even "anti-scientific" views. Dreyfus himself wrote (Dreyfus, 1992) that his book provoked a great deal of hostility in the artificial intelligence community; he was called a "Luddite," meaning an opponent of technological change, "anti-scientific," and even a traitor. Prominent researchers such as Minsky (1970; Minsky & Papert, 1969, 1988) and Papert (1980) attacked his pessimistic view of the uses of computers and the "takeover" by artificial intelligence.

At this point of the expansion of personal computer use, which was still far from its peak, but loud voices were heard from the best philosophers, educators, and cultural figures who had great influence on their generation, it was still possible to seize the bull by the horns — that is, to limit the use of the home computer and supervise the limitation, especially among children and teenagers. At the same time, it was possible to avoid using the computer as much as possible, at the expense of shared family activities and, especially, of other enriching, healthier activities for body and soul. However, the trend reversed. The computer became a convenient, cheap, and quiet "babysitter." Moreover, around 2020, with the outbreak of the Coronavirus Pandemic and the imposition of lockdowns, almost every child already had their own screen, and many children had access to additional screens on other devices. The horses had long since left the stable.

However, it is not the fact that almost every child today has their own screen that has made the computer and its use enemy number one for parents. The computer was, and remains, a tool, and its use — or its harmful use — is the enemy. Bad or harmful use is, for example, one that does not impart knowledge, does not help expand the spectrum of creative activities, but "sticks" the user in the passivity of watching others play, encourages the use of games that cause loss of time sense, failing to meet schedules, sometimes accumulating knowledge on topics that are not age-appropriate, exposure to sex and violence prematurely — or distortion of images, stories, images, and videos that are not reality-appropriate.

The very transformation of the screen into an entity without which one cannot do is addiction. However, a person with an addiction cannot help another person with an addiction quit. Moreover, a large part of the parents who complain about their children's computer addiction are themselves addicts who cannot quit or, worse — do not even try. Some of them fail to see that their children behave like them. They "must" have the computer and do not accept that

their children are already "must." In many families, the phone is literally on the table; sometimes even a larger screen, like a tablet or laptop, is present during meals, including shared ones, not to mention a television screen within sight of those sitting at the table. Moreover, this is just one example of the "integration" of screens even during the little "family" time that many families have in shared home activities. Most parents justify their constant attachment to their phones "around the clock" by work commitments on the one hand and the need to maintain contact with their children on the other. However, some have difficulty understanding, perhaps accepting, that as long as this is the situation at home, the chances that their children will behave differently are very low. Even when explaining to parents that a smoking teacher cannot be seen as credible if he explains to his students that "smoking is bad," there is no expectation of success in implementing advice that is not accompanied by personal example.

Due to the escalation in computer use and the massive penetration of AI into our lives, I saw fit to briefly describe the history of the introduction of screens and the unsuccessful attempts to warn about their problematic aspects. In the next post, I will focus on warnings about "virtual dementia" (Spitzer, 2012), with an emphasis on doomsday prophecies – some of which we do not yet know will come true, some that have come true, and some that are false.

Various views of the war against screens

"The War Against Screens" gains momentum every year, and spreads in more and more countries. Parents' worries because of accessive use of screens is divided into several "sub-concerns": worry about social life, which for many children shrinks dramatically, while for others it mainly takes place around the computer; worry about the daily routine, which usually gets disrupted due to late and irregular bedtime, followed by a delayed wake-up time that makes running the household difficult and raises fears about the ability to engage in any group activity that starts, like school, in the early morning hours; worry due to lack of physical activity and future/potential damage from getting used to a sedentary lifestyle; worry due to little sports, excessive eating, mainly snacks and processed, ready-made food; and another worry, that the brain will atrophy. This concern stems from the lack of need to engage in activities that, until the appearance of the computer and its "takeover," occupied a significant part of every person's daily routine and mental activities, such as memory – for example, remembering phone numbers or addresses, or spatial orientation skills – abilities whose necessity has greatly diminished with the appearance of Waze and its widespread use not only for driving but also for walking navigation.

The "rear-guard battle against the computer" now, with the expansion of AI use, reaches a new stage.

There is the fear of "brain atrophy" or "digital dementia," a fear that has preoccupied many parents, and not only them, for over a decade.

Parents' reasons for fighting against their children's use of screens

There are five main reasons parents fight against their children's screen use.

- Displacement of sleep, physical play, face-to-face interaction, and outdoor activity
- Mental health effects (anxiety, depression, loneliness, body-image issues), particularly linked to social media.
- Addictive design of apps and platforms.
- Exposure to harmful content, such as cyberbullying, pornography, or self-harm material.
- Loss of childhood independence and real-world social skills.

The main screen-related sleep problems children and adolescents face include not getting enough sleep, difficulty falling asleep, and waking up too early to use screens. Many parents are familiar with these issues. While some families can control "time in front of screens" during childhood, it becomes much more complicated in adolescence. According to the U.S. Surgeon General's Advisory on the Harms of Screen Use (Kunz, 2026), by adolescence, many youths spend more time on screens than sleeping, exercising, or engaging face-to-face with family and friends. Pew Research survey (Cone, 2025) found that 76% of the 3,054 eligible examinees from the American Trends Panel, parents of 13-26-year-olds, believed enough sleep was a priority.

In a study of 1,391 US 13-17-year-olds and their parents, Faverio et al. (2025) found that "teens are far more likely to say social media hurt rather than help their sleeping habits and productivity, which are both crucial for well-being,

according to experts." 45% said that social media sites hurt the amount of sleep they get, and 40% said it also hurts their productivity, while only 9% said it helped. In addition, Faverio et al. (ibid.) found that girls were more likely than boys to report harm to sleep.

According to Faverio (July 10, 2025), more than half of teens visit YouTube and TikTok at least daily, with some saying they are on the sites "almost constantly; about half of teens (48%) say social media has a mostly negative effect on people their age, up from 32% in 2022, and fewer now see social media as having a mostly positive effect: 11% say this, down from 24% in 2022; 45% of teens say in 2025 that they spend too much time on social media, compared with 27% in 2023 and 36% in 2022. In addition to ~40% teens say using social media hurts their productivity, and 45% say this about their amount of sleep, 22% say it hurts their grades, and 19% say it hurts their mental health (19%). For each, fewer say social media helps. Parents are more likely than teens to blame social media for negatively impacting teen mental health. On the other hand, about three-quarters say social media makes them feel more connected to their friends, 63% think social media gives them a place to show their creative side, and around a third of teens say they at least sometimes get information about mental health on social media.

In a position paper for the European Academy of Pediatrics, Onorati et al. (2026) present evidence that early and prolonged screen exposure, including TV, smartphones, tablets, computers, social media, and gaming, is a major public health concern for children and adolescents. It displaces sleep, physical activity ("green time"), play, and real-world social interaction, with dose-dependent risks that rise notably beyond ~2 hours of discretionary (non-school) daily screen time. Effects are generally modest at the individual level but significant at the population level. COVID-19 accelerated the problem (screen time rose ~52%). They present in detail the five main areas that negatively influence highly engaged individuals with screens. These areas are:

Physical health: *Increased sedentary behavior*, including higher risk of obesity, overweight, hypertension, insulin resistance, and cardio-metabolic problems; *myopia* and elevated *intraocular pressure*; *musculoskeletal issues*, such as neck/back pain, possible idiopathic scoliosis; *migraine*s and *poorer* overall *sleep quality*, and *reduced physical activity* and outdoor/nature time, which normally support motor development, neurodevelopment, and hormone regulation beneficial for cognition.

Sleep disturbances: Prolonged or evening/night-time screen use is consistently linked to *poorer sleep quality, delayed sleep onset, shorter duration, more frequent nightmares*, and *circadian disruption*, via blue light suppressing melatonin and via arousing content, and sleep disruption acts as a key mediating pathway that worsens obesity risk, myopia, behavioral problems, and academic performance.

Cognitive, socio-emotional, and mental health impacts: *impaired cognitive and socio-emotional development*, executive function, language/speech development, especially with early/unsupervised exposure; altered social interaction, increased irritability, emotional dysregulation; higher risk of *depression, anxiety-related issues,* and *poorer long-term academic performanc*e; risk of *problematic/addictive media use*, including gaming disorder elements, especially with uncontrolled prolonged use of social networks and devices, and *displacement of real-world play, creativity, and supportive human relationships*.

Contextual and equity issues: higher risk in low-income families, with authoritarian/permissive parenting styles, or when screens are used to manage children's emotions; protective factors: positive parent–child relationships, consistent supervision, co-viewing, high-quality educational content, and overall child well-being, and content quality, timing (especially before bedtime), context (solo vs. co-viewed), and type of use matter as much as total duration.

Policy and practice gaps: existing national/international guidelines recommend age-based limits and high-quality content, but there is **substantial variability across countries** and **no unified European strategy**; limited implementation and coherence of recommendations, and need for coordinated action involving paediatricians, educators, policymakers, and families.

Mental health effects (anxiety, depression, loneliness, body-image issues), particularly linked to social media.

Excessive screen time is associated with several mental health problems, particularly **depression** (e.g., Li et al., 2022; U.S. Surgeon General's Advisory 2026), anxiety (e.g., Teague et al., 2026; U.S. Surgeon General's Advisory (2026),

sleep disturbances (e.g., U.S. Surgeon General's Advisory, 2026), stress, lower well-being, and (especially with social media) issues like loneliness, fear of missing out (FOMO), reduced self-esteem, and body-image concerns (ibid). Effects appear across children, adolescents, university students, and adults. However, they are often small-to-moderate in size, and the relationship is frequently bidirectional (mental health difficulties can also drive more screen use). Type of use, content, timing (especially evening/bedtime), and whether use is passive or problematic matter more than total hours alone.

Addictive design of screens, apps and platforms

The addictive quality of screens is framed as **by design** rather than accidental. Platforms operating in the attention economy are incentivized to maximize time on device. The combination of endless content streams, variable rewards, social pressure, and frictionless continuation produces compulsive checking and prolonged use that many users (especially young people) later regret. The "addictiveness" of screens is not primarily a clinical addiction in the traditional sense, but the result of deliberately engineered design features that exploit psychological vulnerabilities. These features are especially potent for children and adolescents because their brains are still developing (particularly reward sensitivity, impulse control, and self-regulation).

Xiano et al. (2025) reported that high or increasing addictive screen use, whether on social media or on a phone, is associated with a 2- to 3-times greater risk of suicidal behaviors and elevated internalizing symptoms, such as anxiety or depression, and suicidal ideation or even behavior in adolescents. The research indicates that the nature of addictive engagement, rather than total screen time, is the primary driver of these mental health risks.

The Core mechanisms of the "addictiveness" are:

Removal of natural stopping cues. Features such as infinite or at least endless scroll and continuous autoplay eliminate natural endpoints. Users never reach a clear "end," so deciding to stop requires active effort rather than happening automatically. This creates a "bottomless bowl" effect that prolongs engagement far beyond intention (Flayelle et al., 2023; Montag & Elhai, 2023; Radesky et al., 2022).

Variable, unpredictable rewards. Likes, comments, new content, notifications, and algorithmic recommendations operate on a variable-ratio reinforcement schedule – the same principle that makes slot machines highly compelling. The unpredictability of the reward keeps the brain's dopamine system engaged in a cycle of anticipation and checking (e.g., Galvan, 2010; Flayelle et al., 2023; Montag et al., 2024; Spear, 2011; Telzer et al., 2026). According to Galvan (ibid.), Spear (2011) and Telzer et al. (2026) (ibid.) note that adolescence is characterized by heightened reward sensitivity. They note that because the adolescent brain is particularly sensitive to uncertain rewards, unpredictable social feedback, such as likes or notifications, reinforces repeated social media use more strongly than it does in adulthood.

External triggers that pull users back. Push notifications, badges, streaks, and "someone is waiting for you" messages act as external prompts that interrupt other activities and create a sense of urgency or fear of missing out (FOMO). These are designed to re-engage users at psychologically optimal moments (Montag & Elhai, 2023; Wiesböck et al., 2026).

Social and parasocial pressure. Quantified social feedback (likes, views, streaks), ephemeral content (stories that disappear), and character-based pressure in children's apps create obligations to respond or return. For adolescents, whose brains are highly attuned to social rewards and peer evaluation, these features are particularly powerful (Telzer et al., 2026; Radesky et al., 2022; Mallawaarachchi et al., 2025).

Low-friction, high-engagement interfaces. Designs that reduce the effort required to continue (one-thumb scrolling, autoplay, seamless recommendations) while increasing the effort required to disengage (hard-to-find exit options, navigation constraints) make prolonged use the path of least resistance (Flayelle et al., 2023; Monge Roffarello et al., 2023).

Immature self-regulation and metacognition. Younger users have greater difficulty monitoring time, recognizing when they have "had enough," or overriding automatic habits (e.g., Blakemore & Choudhury, 2006; Casey et al., 2008; Maza et al., 2023; Steinberg, 2008; Telzer et al., 2026).

Prevalence of manipulative features in youth-oriented products. Studies of apps used by preschoolers and school-age children find high rates of time pressure, attractive lures, navigation constraints, and parasocial pressure (Lanette et al., 2018; Mallawaarachchi et al., 2025; Radesky et al., 2022).

Exposure to harmful content, such as cyberbullying, pornography, and self-harm material)

The Media Use and Attitudes Report, 2025–2026, of the United Kingdom's Office of Communications, the government-approved regulatory and competition authority for the broadcasting, telecommunications, and postal industries, claims that Parents' primary concern remains exposure to age-inappropriate/adult or sexual content (69% concerned, 44% very concerned (OFCOM, 2026)

The OECD (2025) summary describing children's life in the digital age documents risks of cyberbullying, online exploitation, exposure to harmful content such as self-harm material, and pornography as part of broader mental-health harms; these are all evolving risks in digital spaces.

It is interesting, though, that parents' attitudes towards their children's excessive use of screens can be roughly divided – according to the published literature – into three categories:

In the US, it is substantially negative, with parents focusing on its harmful aspects. The most striking data showing this is: "Eighty percent say social media harms outweigh the benefit" (Cone, 2025). In the OECD, it is more balanced, with negative aspects clouding the positive ones; but in the UK: "Parents have concerns about various aspects of their child's online activity, but many still feel that the benefits outweigh the risks" (Ofcom, 2026, p. 7). Though UK parents have their concerns about the risks,

> *Overall, more parents agree than disagree that the benefits of being online outweigh the risks. We ask about three types of online activity: gathering information online, playing games, and using social media. Two-thirds (66%) of parents of 3-17-year-olds agree that the benefits outweigh the risks of gathering information, with 13% disagreeing. Over half (56%) say the benefits of playing games outweigh the risks, while 16% disagree. The picture is more ambivalent for using social media; 46% agree, and 34% disagree. For parents of online 8-12s, the responses are reversed: one third (33%) agree that the benefits outweigh the risks, but 48% disagree.* (ibid., p. 8)

Loss of childhood independence and real-world social skills

Haidt (2024), the most famous scholar writing about the "great rewiring" of childhood, argues that replacing independent outdoor play and face-to-face interaction with phone-based childhood leads to a loss of autonomy, real-world social skills, and resilience. According to him, the rapid spread of smartphones and social media (roughly 2010–2015) rewired childhood, contributing to sharp rises in adolescent anxiety, depression, and self-harm. He proposes four norms: no smartphones before high school, no social media before 16, phone-free schools, and more unsupervised real-world play. The book has sold millions of copies and directly inspired parent campaigns and policy changes worldwide. This theory is supported by developmental psychology and cross-national data trends.

In their review of Haidt, Padmasri Deka & Choudhury (2026) also mention the decline of independent, play-based childhood because of this substantial change, drawing on developmental psychology, neuroscience, and cross-cultural research. According to them (ibid.), Haidt (2024) argues that children's wellbeing depends on autonomy and in-person social interaction, which are increasingly replaced by digital immersion.

As the Nationwide Children's Hospital survey (2015) showed, as kids spend more time on screens, a new national survey conducted by Ipsos on behalf of The Kids Mental Health Foundation, founded by Nationwide Children's Hospital, identifies parents' greatest fears about screen time. This is often framed as a shift from a "play-based childhood" to a "phone-based childhood." The intensity of the parental reaction has led some observers to call it a moral panic. In contrast, others (and many parents themselves) view it as a necessary corrective to genuine developmental and public-health risks.

Thus, apart from theoreticians and scholars, **Parent-led movements** against screen time for youth have appeared in many countries since the beginning of the third millennium, for example:

The Wait Until 8th: an American national, parent-led movement in the United States that empowers families to delay giving children a smartphone until at least the end of eighth grade. It uses a community pledge system that activates

only when 10 families in the same grade and school commit. It was funded in 2017 by a mother of three; in August 2026, it already included 155,000 families whose parents promised to withhold full access through the end of 8th grade (e.g., Murray, 2025; Wait until 8th).

Smartphone Free Childhood. A British movement with international offshoots. Began in 2024 as a WhatsApp group of British mothers; grew to hundreds of thousands of parents across dozens of countries advocating delayed smartphone and social-media access. These groups turn individual family struggles into collective action so that "I am the only one without a phone" is no longer true. By August 2026, the self-reported number of its members was about 350,000 (e.g., Hudson, 2025; *Smartphone Free Childhood*, n.d.; 'We wanted to change the norm on smartphone use', 2024).

Policy and institutional responses reflecting parental pressure have been accepted in multiple countries. For example:

Australia was the first country to ban social media accounts for under-16s (Online Safety Amendment, Social Media Minimum Age, Act 2024)

Many more countries decided upon phone-free school policies or proposed social-media age restrictions.

The Brazilian Federal Government published the *ECA Digital / Digital Statute for Children and Adolescents (Law n. 15.211, 2025), which* established new rules to protect children and adolescents in the digital environment. The law imposes obligations on digital platforms to prevent and mitigate risks to children, including provisions on parental supervision, age assurance, electronic games, and commercial advertising. The law requiring accounts under 16 to be linked to a legal guardian, stronger age verification, and bans on addictive features such as infinite scroll for minors was published next year *(*Almeida & Ferreira, 2026).

The Danish Ministry of Children and Education proposed *a school smartphone ban and a social media ban under 15, with possible parental consent from 13 (*Associated Press, 2025). It signed an Agreement on mobile-free primary and lower secondary schools in 2025 (Denmark: Agreement on mobile-free primary and lower secondary schools, and school-based leisure time facilities, 2025).

Ireland fully banned the use of mobile phones in primary schools during the school day, and restricted use in post-primary school (Department of Education and Youth, 2025).

Greece announced that a social media ban for under-15s will take effect on January 1, 2027 (*Greece to ban social media for under-15s from 2027*, 2026).

Similar rules have been taken place in the Netherlands: no social media under 15; first smartphone from group 8 / ~11–12 years (Dutch Government / Ministry of Education, 2025), Hungary: Decree restricting use of mobile phones and smart devices in schools, up to grade 12 (Bird & Bird, 2026; Hungarian Government, 2025); in *France* (French Parliament backs social media ban for children under 15), where the Law banning social media for under-15s will be in effect from January 2027, Spain, which proposed legislation raising the digital consent age and restricting social media under 16, zero screens under 6, and delaying smartphones (Spain aims to ban social media for children under 16, 2026); and the United Kingdom that proposed that s*ocial media to be banned for under-16s* (2026; Fact sheet, 2026) from spring 2027.

American Academy of Pediatrics (AAP) policy statements (evolving from 1984/1990s television guidance through 2016 "Media and Young Minds" to the 2026 digital-ecosystems statement). The AAP has moved from strict hourly limits toward more nuanced guidance focused on content quality, context, sleep protection, and family media plans, while still acknowledging risks of excessive use.

Summary

Parents worldwide experience screen time as a daily battlefield—arguments, negotiations, hidden devices, and guilt. The "war" has two faces:

- Individual family struggles over limits.
- Collective political and social movements seeking structural change (age restrictions, phone-free schools, design regulation of platforms).

- While some scholars still frame the intensity of the reaction as a moral panic, the scale of parental mobilization, the cross-national policy response, and the alignment with observable rises in youth mental-health problems have made "the war against screens" one of the defining parenting issues of the 2010s–2020s.

Parents' concerns about excessive use of screens are based on the following facts:

- Early screen exposure is associated with poorer language development and educational and health outcomes, with concerns extending to long-term sequelae beyond childhood.
- Adolescent risk profiles include mental health and behavioral harms, with particular concern for social media overuse and youth with vulnerable medical conditions.
- Platform design features that maximize "engagement" are framed as contributing to addiction-like use patterns, reinforcing the need for safety-by-design and shared accountability.

According to the U.S. Surgeon General's Advisory (2026), early exposure to screens can lead to developmental and cognitive issues, including poorer language, educational, and health outcomes. For teenagers, there are additional mental health and behavioral concerns, particularly related to excessive or harmful use of social media. There are also emerging worries about the long-term impacts of screen use that extend beyond childhood. Kennedy noted specific concerns that youth today spend more time on screens than sleeping, exercising, or engaging face-to-face with family and friends, leading to "rising rates of anxiety, depression, obesity, and developmental challenges. To solve this problem, collaboration among parents, health and mental health care providers, schools, communities, and local and global authorities is essential.

Potential Solutions and Suggestions

This advisory presents the "5 Ds" framework (Discuss, Do, Delay, Divert, Disconnect) as a practical strategy for families and communities, as well as education, health, and mental health professionals, to reduce harmful screen use. The 5 Ds stand for:

Discuss: Parents and caregivers should talk with youth about what they are seeing, whom they are interacting with, and how they feel. Also, set expectations for all household members for healthy screen use, and use parental controls and household roles.

Do: Parents and caregivers, as well as trusted adults, should model healthy screen-use behaviors and be mindful of how much time they spend on screens and what type of content they consume.

Delay: The longer parents and caregivers can delay giving youth screen time, the better. Establish age-appropriate limits on time of use, device type, and accessible content.

Divert: Parents and caregivers should provide alternatives to screen use, so that it is not the default when children are bored. Redirecting their attention and providing opportunities for healthy activities, such as physical activity, can improve outcomes. The advisory suggests prioritizing desirable activities first, such as chores, homework, music, or sports, before screen use.

Disconnect: Parents and caregivers should create regularly scheduled, screen-free time, such as mealtimes. Youth should also avoid screen time before bed or sleeping next to devices to improve sleep quality. Youth should not be multitasking with screens during activities. Parents and caregivers can also encourage a complete disconnect from certain devices, media, or platforms if they have become a problem.

In addition, for mental health professionals, the U.S. Surgeon General's Advisory (2026) suggests routinely assessing screen exposure, using nonjudgmental counseling, modeling healthy behaviors, and remaining current on evolving devices, media, and platform dynamics.

However, it is by no means suggested to prohibit screen use, but rather to minimize the risks they present for children's and adolescents' mental and physical health.

Part II: Doomscrolling among adolescents, especially among the gifted

Doomscrolling is, unfortunately, familiar to many parents of teenagers – both those identified as gifted and those who have not been identified as such – for several years now.

The literal translation is "doom scrolling"; the commonly accepted translation is "disaster scrolling." In my opinion, a more fitting translation would be "catastrophe scrolling."

Catastrophe scrolling refers to the compulsive consumption of distressing news online. In practice, "bad news" consumption occurs across all media, and it gained momentum with the outbreak of COVID-19, isolation, and lockdowns. It intensified even further since October 7, 2022. Since then, there has been no sign of this consumption receding, though it may manifest differently across age groups and through different media. Among older people, for example, excessive consumption of disasters still sometimes happens via television. Among teenagers, as mentioned, it is almost entirely online, primarily on their phones.

According to Bock (2025), we are "wired" to worry due to deep evolutionary and neurobiological mechanisms. The main reasons are:

Negativity Bias: Our brains have evolved to pay far more attention to negative or threatening information. This was a survival advantage: those who were more alert to dangers—whether from other humans or nature—had a higher chance of surviving and passing on their genes. As a result, negative headlines and bad news receive more attention than positive ones and trigger higher levels of brain activity.

Involvement of the Limbic System and Amygdala: When we encounter distressing news, the amygdala—the center of emotions, including fear—"lights up," sending stress signals and encouraging us to continue "scanning" for threats. Catastrophe scrolling provides temporary relief from hypervigilance and the false sense that, if we stay informed, we can protect ourselves.

Dopamine Loop (Reward Circuit): As with other addictions, each new update releases dopamine, providing a sense of satisfaction and serving as a "reward." This creates a loop: anxiety leads to searching for new information, which in turn provides temporary satisfaction, followed by new anxiety that leads to further scrolling. This makes the behavior very difficult to stop.

According to Bock (2025), prolonged exposure to negative news causes the body to react as if we are in ongoing danger: elevated stress hormones, increased heart rate, fatigue, or feeling "on edge." These sensations contribute to the feelings and disorders often observed in "disaster scrollers," such as anxiety, depression, and sleep problems.

For gifted individuals, compulsively consuming distressing news online can be especially dangerous. A brain accustomed to—and even craving—deep analysis, rich and intense stimuli, rapid pattern recognition, high sensitivity to others, and often highly developed empathetic abilities can relatively easily fall into obsessive loops of information gathering. In cases of natural disasters, epidemics, or wars, this information gathering can easily turn into heightened consumption of catastrophes.

Teenagers, whose brains are not yet fully developed, may be more affected than adults. At the same time, they use defensive mechanisms less effectively than gifted adults who have learned to employ them. Therefore, they are more exposed to compulsive catastrophe consumption than their non-gifted peers and even more than gifted adults.

The intellectual hyperarousal of gifted individuals peaks during adolescence. This arousal is double-edged: gifted teenagers who channel it into various fields of interest achieve high accomplishments at a young age, giving them an advantage in reaching their professional goals. More importantly, it brings satisfaction, enjoyment, confidence in their abilities, and fulfillment of their intellectual needs.

However, the thorn in the side is the risk: the internet is built to create addiction. The higher the risk level in the "disaster" information, the more tempting it becomes to consume. Information overload can cause emotional exhaustion because when gifted teenagers "take things to heart"—as those with high emotional arousal and developed empathy tend to do—it becomes very difficult to function optimally in other areas of life.

The professional literature still offers no guidance on "how to treat gifted disaster-scrollers." Still, initial quantitative experiments already exist on reducing such scrolling among teenagers and young adults. For example, Adella & Siregar (2025) propose group guidance using gradual behavior-shaping techniques to reduce catastrophe scrolling among middle school students.

The guidance is carried out in four stages:

Identifying triggers that cause the behavior, such as boredom, anxiety, or the habit of checking the phone before bed; providing a precise description of the problematic behavior (endless scrolling of catastrophic news); and identifying the outcomes, such as exhaustion, anxiety, or decreased concentration.

Jointly setting goals with the participants: defining a realistic target behavior, for example, limiting scrolling time or shifting to more positive content.

Selecting positive reinforcements: suitable rewards or incentives for every little progress, such as enjoyable activities, group praise, or extra free time.

Planning gradual stages: breaking the change into small, progressive steps so participants do not feel overwhelmed. For example: raising awareness, taking short breaks from scrolling, limiting time, replacing content, and building alternative habits.

The authors recommend groups of 10 students. The described study included only five sessions: one for each of the four stages, plus a fifth for evaluation. The results showed approximately a 60% reduction in catastrophe scrolling time among participants.

In conclusion, it is clear that "something can be done." Although catastrophe scrolling is well known and recognized, and there are still no Hebrew studies on it, it can be addressed while it is still in its early stages. Teachers can implement the technique proposed here in schools with minimal training, and counselors can as well. As in any group therapy, this group can benefit from mutual support and the "desire to excel." Additionally, there is a significant advantage: the group need not be homogeneous. The success of such an intervention can be predicted when all members join out of a genuine desire to significantly reduce the phenomenon that makes their lives difficult and disturbs the peace of all the adults around them.

Part III: "Brain Rot" and "Digital Dementia": What Do They Mean? Is There Evidence for Their Existence?

On "Brain Rot"

In 2024, the word "Brain Rot" was chosen as the Word of the Year by the Oxford Dictionary (brain rot, n.d.; 'Brain Rot' Becomes Word of the Year, 2024; Brainrot: What it means, why children use it, and how to respond as a parent, 2026; Kaushal, 2025; Rufo, 2024). It refers to mental fog, deteriorating cognitive ability, mental exhaustion, and a decline in attention span resulting from excessive doomscrolling (for more on doomscrolling, see, for example, Adella & Siregar, 2025; Bock, 2025).

The term "Brain Rot" describes the content that causes these feelings. However, despite its widespread popularity, no serious scientific article has addressed it. On the contrary, many writers have addressed it as "something that does not exist."

Andrew Przybylski, Professor of Human Behavior and Technology at the Oxford Internet Institute, is frequently quoted when the term "Brain Rot" is mentioned (in almost all cited sources here). However, he has never written a single scientific paper on it. In fact, despite the term's popularity, most researchers admit that it does not exist. In many cases, the opposite is true. According to Fleming (2025), some apps and games actually improve memory, multitasking ability, fluid intelligence, and other cognitive skills.

Regarding screen exposure, he asks: "What does that even mean?" In his view, the screen is merely a medium; what matters is the content. One could just as easily replace "screen" with "page" – it too is only a medium; anything can be written on it.

Between "Brain Rot" and "Digital Dementia"

While "Brain Rot" refers only to degeneration or "rot" due to excessive scrolling of stupid, meaningless, or purely time-wasting content, the term coined by Spitzer (2012) twelve years earlier – "Digital Dementia" (*Digitale Demenz*) – immediately gained an English translation, became a book in both German and English (Spitzer, 2014), achieved wide distribution, and was translated into at least 15 languages.

In the third decade of the 21st century, a "second wave" of research and opinion pieces in the press appeared, some supportive and some critical, from sociological, psychological, medical (especially geriatric), child development, and philosophical perspectives.

The "accusation," whether regarding "Brain Rot" or "Digital Dementia," is directed at **screens**.

On "Digital Dementia"

When discussing "Digital Dementia," one must first explain what it means, then briefly review its history, and only then address whether it actually exists – and if so, to what extent it affects us. Digital Dementia is a non-clinical, popular term coined in 2012 by the German neurologist and psychiatrist Dr. Manfred Spitzer (2012). According to him, Digital Dementia mimics the early signs of traditional dementia but occurs in younger people due to lifestyle factors rather than neurological degeneration.

Common symptoms include:

- Problems with short-term memory and forgetfulness (e.g., relying on devices instead of remembering information)
- Difficulty concentrating or maintaining attention
- Decline in the ability to perform multiple tasks efficiently or process information deeply
- Word-finding difficulties or "tip-of-the-tongue" phenomena
- General "mental fog" or slower cognitive processing

These are sometimes accompanied by anxiety, depression, poor posture due to prolonged screen use, eating disorders, and social isolation.

According to Spitzer, the causes are over-dependence on technology: offloading memory tasks to devices ("use it or lose it"), constant multitasking and distractions, excessive sensory stimulation (especially during brain development in children and adolescents), and a sedentary lifestyle with reduced physical and social activity.

Digital Dementia is not an official medical diagnosis – it is a hypothesis that highlights potential risks of heavy digital use. The term filled a gap that had existed for at least two decades, since home computers and mobile phones became widespread and usage increased dramatically.

Some studies link excessive screen time to attention deficits, memory problems, and structural changes in the brain, especially among young users. There are hypotheses about long-term risks of earlier-onset dementia in Generation Z and especially Generation Alpha. However, these remain warnings for now. Moreover, for Millennials who were not "born with a computer" but were exposed to it from a young age, there is no conclusive evidence of brain changes or early dementia.

Furthermore, the meta-analysis by neuropsychologists Benge & Scullin (2025), which examined 57 studies with data from over 411,000 adults aged 50 and older, found that computer, smartphone, and internet use among older adults may be associated with lower rates of cognitive decline. Technology use appears to strengthen cognitive resilience and support brain health by acting as "mental exercise," maintaining social connections, and providing cognitive tools (GPS, reminders, etc.). The risk of cognitive decline dropped by about 58% among heavier technology users. This effect was comparable to, or even stronger than, that of physical exercise or of maintaining normal blood pressure.

Conclusion and Important Note

Both concepts – "Brain Rot" and "Digital Dementia" – should serve as red flags for educators, parents, and mental health professionals who raise, teach, or treat adolescents. These terms are meaningful when linked to screen addiction and problematic digital use, which can worsen mental health, sleep, and cognitive performance. Unfortunately, this situation is common among many teenagers, including gifted ones who fail to use screens for social connection and instead use them as a substitute for human relationships.

Recommendations for preventing screen addiction – including digital detox, mindful use, physical activity, reading physical books, social interaction, and memory training activities- will be discussed in the future.

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