HEALTH PROFESSIONALS FOR SAFER SCREENS

SAFER USE- SAFER DEVICES

A HEALTH BRIEFING ON THE EVIDENCED RISKS OF SMART DEVICES AND SOCIAL MEDIA IN SCHOOL-AGE CHILDREN: SUMMARY

As health professionals, we frequently observe the harm that smart devices, such as smartphones and iPads, and social media inflict on school-age children in our clinics. Unlike other internet-enabled devices, smart devices pose unique risks, particularly in how children access unsafe or inappropriate content through social media and various websites. The design of both smart devices and social media is inherently addictive, making it difficult for children to resist usage due to their still-developing impulse control and rational thinking. This is a rapidly changing area with new products and features added to existing products with no regulatory oversight. For example, the Royal Society for Public Health's (RSPH) report[1] into childhood social media use in 2017 did not include "TikTok", which by 2023 had become the second most popular site used by UK children (53%).[2]

An ever-growing body of research highlights the numerous harms associated with smart device and social media use. We have categorised these harms into broad areas, though it is important to recognise that they overlap and impact not only the child but also their family and community. This document focuses on school-age children and young adults (ages 6 - 22). For information specifically on the effects of screen use in early childhood, please refer to our dedicated report here.

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Our advice as health professionals is that the risks are overwhelming, increasing, and outweigh any benefits. It is imperative that we initiate a public health campaign to raise awareness about these harms and to adopt the **precautionary principle for the safety of our children**.

Developmental Impact

Each developmental stage has unique vulnerabilities that are negatively affected using smart devices and social media. Children's brains demonstrate tremendous neuroplasticity and rapid growth which is shaped by their interactions and stimuli in the world around them. The quality, source and content of those stimuli is incredibly important for children to reach developmental milestones. Unfortunately, there are many harms to normal development when smart devices and social media supplant real-world, human interaction.

The chart (Figure 1), produced by Ofcom, highlights key developmental milestones in a child's life and their relationship with the digital world.[3] In the following paragraphs, we will explore several crucial areas of development that are negatively affected by smart devices and social media.

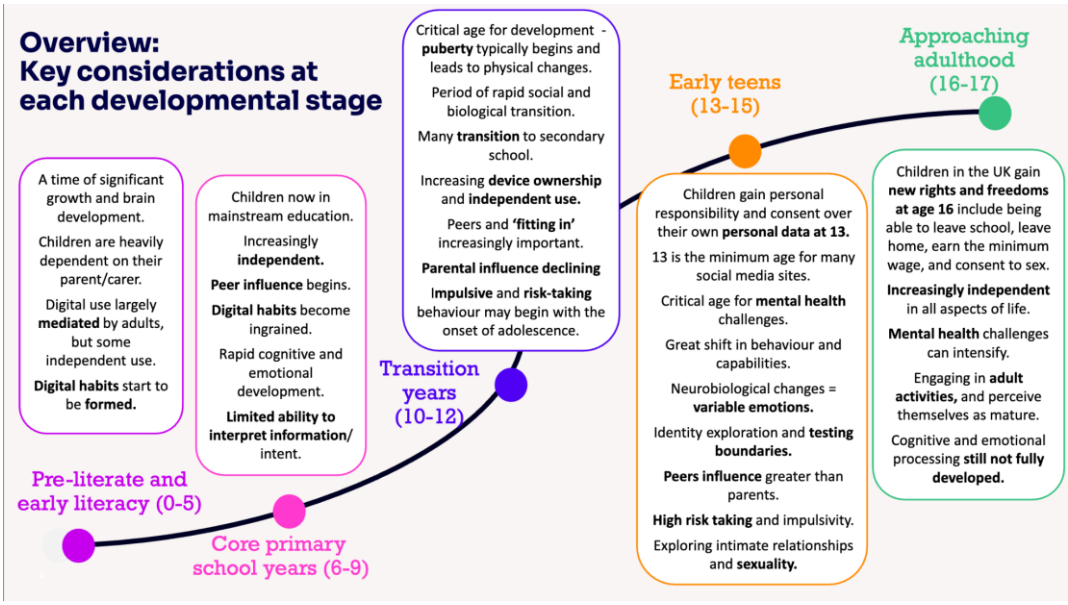

Figure 1

- **Addictive by design**

Smart devices and social media are designed to be addictive. Smart device features – brilliant colours, sounds, vibrations, filtered images, swipe mechanisms, push notifications – are designed to reward us and stimulate the release of dopamine – the same chemical people feel when they fall in love.[4] The manufacturers and app makers use that "younger users, who are particularly sensitive to reinforcement in the form of social reward and have minimal ability to self-regulate effectively," can be habituated to apps like TikTok in less than 35 minutes.[5] They use techniques such as streaks, popularised by Snapchat, to keep adolescents in their apps and returning to their apps.[6]

Since smart devices and social media are relatively new technologies, the clinical community has needed time to study and diagnose this previously non-existent behavioural addiction in children. Researchers have identified a number of behavioural addictive disorders namely Problematic Social Media Use (PSMU) and Social Media Use Disorder (SMUD).[7] This mimics symptoms found in other addictive disorders such as inability to control usage, prioritisation of usage over other responsibilities, continued use despite negative consequences and withdrawal symptoms.

Children are particularly drawn to smart devices. Smart devices and social media quickly pacify uncomfortable emotions, offering an escape from sorrow, stress, and reality. This mirrors other forms of addiction, where a substance (e.g. drugs) or behaviour (e.g. gambling) serves as an unhealthy coping mechanism. These behaviours may provide short-term relief but ultimately

result in significant long-term harm.[8]

Throughout the world and in the UK, our children are behaviourally addicted to smart devices and social media. A study by researchers at King's College London estimated that one in four children and young people use their smart devices in a way that is consistent with a behavioural addiction.[9] In the UK, 14% of children spend more than 7 hours on electronic devices, the average being 3 hours and 20 minutes outside of school.[10] The WHO Health Behaviour in School-Aged Children (HBSC) study (Figure 2) surveyed children between the ages of 11-15 in Europe, central Asia and Canada during 2021-2022 and found that in the UK, *90% of the children were at least active users* defined as using social media daily, *45% were at least intense users* defined as having using social media almost all of the time throughout the day and approximately *14% qualified as having problematic addictive-like social media use.*[11]

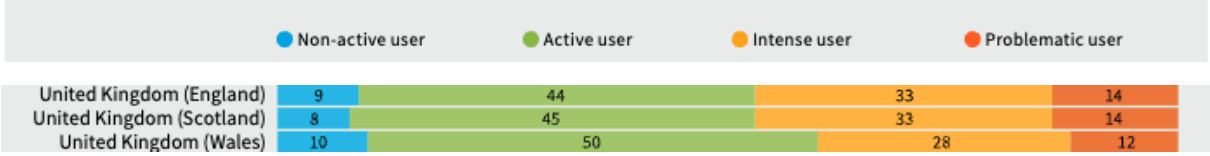

Figure 2

All children using smart devices and social media are at risk for the various harms outlined below. While these harms are often dose-dependent, meaning children with behavioural addictions may be more susceptible, it is important to emphasise that negative effects also occur with low levels of exposure. Similar to other addictions research shows that the earlier a child is exposed to smart devices the greater the risk of dependence.[12]

- **Emotional and Social Development**

Smart devices and social media usage increasingly replace face-to-face interaction with digital substitutes, which can hinder a child's emotional and social development, leading to feelings of social isolation.[13] During school years, children are developmentally driven to seek social connections and learn from their peers.[14] Face-to-face, in-person social connectivity is crucial for health and well-being and is far superior to digital communication. [15] [16]

Research has shown that face-to-face interactions play a crucial role in mental health, helping children develop social awareness through cues such as body language, tone of voice, eye contact, clothing, and physical distance.[17] [18] [19] Emotional skills like empathy are cultivated through repeated, real-world interactions, allowing children to see how their actions impact others. [20]

Dr. Vivek Murthy, the US Surgeon General, has noted that children are struggling to develop the social skills needed to feel confident around others and navigate new situations. While this issue is partly attributed to school closures, Dr. Murthy primarily points to the impact of screens and the lack of real-time interactions.[21] In fact, fewer than 30% of young people reported that their phones helped them learn good social skills.[22]

Children in the UK are falling behind their international peers in socio-emotional skills, which are essential for regulating emotions and decision-making. A report by the National Foundation for Educational Research (NFER) found that England ranks among the bottom ten of 31 countries assessed in PISA 2022 for these skills, including curiosity, perseverance, emotional control, stress resistance, empathy, and cooperation.[23] This is concerning, as socio-emotional skills are strong predictors of success in academics, work, and life.[24] [25]

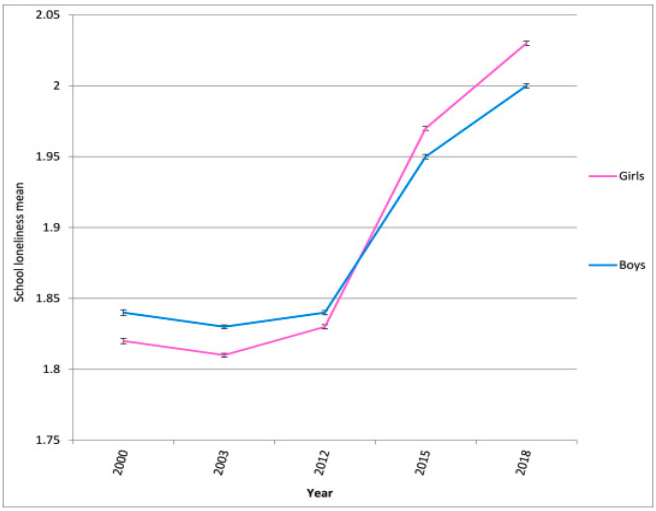

Figure 3

At the same time, children in the UK and around the world are experiencing rising levels of loneliness. [26] [27] School loneliness, which is defined as feeling disconnected or isolated from peers and the school environment—even when surrounded by others—has been linked to low well-being and depression during adolescence.[28] The PISA data also shows that between 2012 and 2018, the number of adolescents reporting school loneliness doubled, a trend strongly associated with high smart device and internet use (Figure 3).

- **Mental Health**

The mental health of our children and young people has deteriorated in the last decade,[29] and there is increasingly clear evidence that links smart device usage as a major contributor to this decline.

Problematic smart device use (PSU) is linked to youth mental health, with nearly half of 13 to 16- year-olds with PSU reporting symptoms of anxiety (44.4%) compared to 26.4% without PSU and over half of 13-16-year-olds with PSU reported symptoms of depression (55.6 %) compared to 35.8 % without PSU.[30] This was confirmed by the ongoing BrainWaves work, which found a linear relationship between higher rates of anxiety and depression and time spent networking on social media sites.[31] Problematic social media use was associated with lower general life satisfaction and all psychosomatic complaints, with the strongest association for having a bad mood or feeling irritated.[32] A recent study highlighted the distinction between smart device usage and overall screen time. It found that excessive use of smart devices was linked to anxiety or depression, whereas general screen time was not.[33]

A recent randomised control trial of 125 healthy students found that the intervention group reduced their daily screentime to less than 2 hours for a 3-week period. During that period, significant post-intervention effects of small to medium size were observed on well-being, depressive symptoms, sleep quality, and stress. Significant group differences were found post-intervention for depressive symptoms, sleep quality, and stress. When the intervention was removed, screentime increased, and the well-being markers returned to their previous levels. The researchers say that the results suggest a causal relationship, rather than a merely correlative one, between daily smartphone screen time and mental health.[34]

The age at which a child first has a smart device is correlated with worse mental health outcomes. The younger the age of having a first smart device, the worse the mental health that the young adult reports today (Figure 4). [35] It has been shown that girls with high usage of the internet at 15 are more likely to have anxiety issues at 17. The evidence indicates that this is not bidirectional – it is not that girls with higher anxiety are drawn to the internet, but that higher internet usage leads to higher levels of anxiety.[36]

Figure 4

Suicide and self-harm are the most extreme manifestations of mental health struggles, often triggered by negative interactions, events, and exposure to harmful content on social media platforms. [37] Over the past decade, there has been an increase in youth suicide attempts, deaths by suicide, and non-suicidal self-injury. Nearly half of the rise in annual suicide-related behaviours between 2009 (17%) and 2017 (21%) can be attributed to the growing use of digital media.[38] [39]

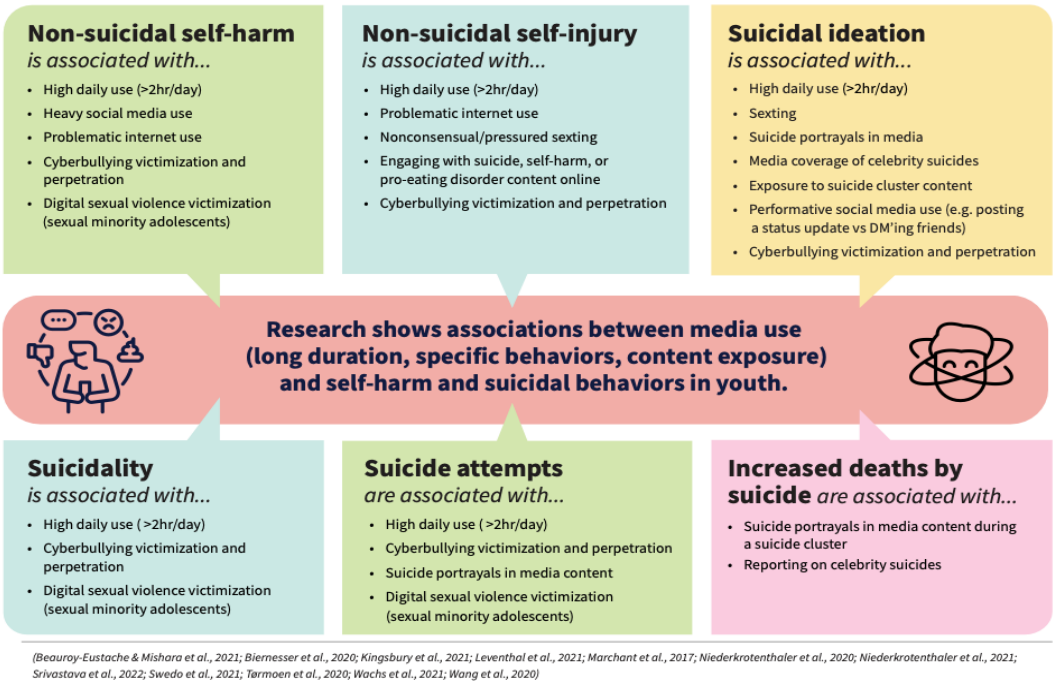

Figure 5

- **Academic achievement**

Smart device use in school-aged children is linked to lower language and maths scores.[40] [41] The PISA (Programme for International Student Assessment), a global evaluation conducted every three years with 15-year-olds, has shown a steady decline in scores across all subjects,

including reading, mathematics, and science (Figure 6). [42] The impact of smart devices and social media on academic performance is multifactorial, involving digital distractions, the loss of paper-and-pen learning methods, and altered brain development.[43]

Digital distractions in the classroom are detrimental to the educational attainment of many children. A comprehensive study involving nearly 150,000 students from 16 countries has demonstrated that increased smart device usage during study sessions significantly undermines learning and academic achievement. [44] The mere presence of a smart device can siphon away limited cognitive resources, leaving fewer available for critical tasks and impairing cognitive performance. Experimental results illustrate that individuals achieve lower test scores when their phones are in the room than when they are left elsewhere. [45] [46]

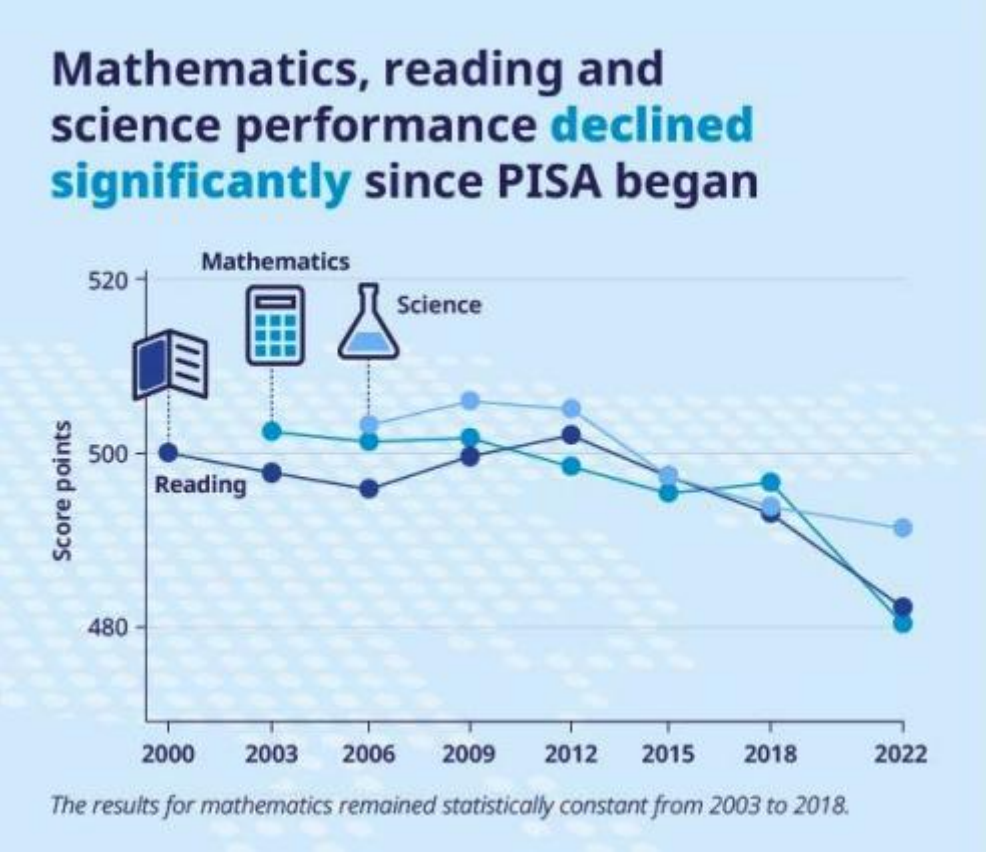

Figure 6

In addition to digital distractions, the medium through which information is delivered—whether print or digital—also affects learning outcomes. Studies have shown that school-age children demonstrate deeper reading and better comprehension of printed text, whereas they exhibit shallower reading and poorer comprehension of digital text. [47] [48] Furthermore, daily use of digital devices in the classroom is inversely related to reading comprehension scores.[49]

Evidence suggests that handwriting on paper is a more effective learning modality than digital devices. The physical act of handwriting promotes better memorisation of new words.[50] Writing by hand increases information retention, retrieval, and memory storage by engaging more brain activity. The key factor appears to be the tactile and spatial properties of writing on paper. A study found that participants who wrote notes by hand retained information better than those who typed on a laptop, even when the handwritten notes were fewer in number. [51] Handwriting encourages a stronger conceptual understanding, forcing students to process and summarise information rather than merely transcribing it verbatim. Since handwriting is slower and more deliberate, students must actively engage with the material, enhancing their learning.

- **ADHD & ADHD-related Behaviours**

The link between media use and ADHD-related behaviours was confirmed over 10 years ago when a meta-analysis of 45 empirical studies (including 12 longitudinal studies), analysed a combined sample of over 155,000 participants aged 0-18.[52] It concluded a moderate positive association between media use and attention challenges. This tells us that as media use increases for children, so do their attention challenges. Small positive associations were also found between media use and overall ADHD-related behaviours, as well as impulsivity more narrowly.) Boys were found to be more susceptible to the effects of media use on ADHD-related behaviours than girls. The data analysed here was based on TV and video gaming in a largely pre-smartphone era.

A 2019 study also included child use of computers, tablets, and mobile phones. A measurement of 2,232 five-year-old children showed that having more than two hours per day of screen time was significantly associated with ADHD behaviours (7.7-fold increased risk).[53] These children were 5.9 times more likely to show clinically significant attention problems. These results held when adjusting for parenting stress.

Looking at school-aged children and teens, there is a significant positive correlation between time spent with electronic media and attention problems.[54] Participants with ADHD were shown to use screen-based media for an average of 4.5 hours on a school day, which was nearly two hours more than their peers without ADHD symptoms.

The most recent systematic review, which focused on 28 studies published within the last 10 years, showed reciprocal associations between digital media and ADHD symptoms.[55] Children with ADHD symptoms appear more vulnerable to developing high or problematic use of digital media. Later severity of ADHD symptoms is also linked with the amount of digital media use.

- **Atypical Sensory Processing**

A child's sensory functioning impacts all areas of life. Research has recently started to look at how this may differ with screen use. Young children have been the main focus to date, with clear evidence of associations between screen use and sensory challenges.

Results from a US sample of 1,471 pre-school aged children found that viewing of television or video on any device at 12 months old led to the child being twice as likely to experience low registration (i.e. not readily perceiving sensory stimuli in their surroundings, commonly described as uninterested in their environment and apathetic).[56] This continued for 18-month-old children, who additionally showed increased risk of sensory avoidance if they had had greater screen exposure. For two-year-old children, greater screen exposure was associated with higher sensory seeking (i.e., actively searching their environment for sensory experiences, commonly described as restless, noisy, and easily bored), sensory sensitivity (i.e. react more quickly and strongly to sensory input, commonly leading to overwhelm), and again avoidance of sensory input. Subsequent studies have since replicated these associations.[57]

The association between screen exposure and sensory difficulties continues with age. Three-year-olds show higher sensory seeking, which is associated with greater direct and background screen use.[58]

When toddlers are used to high levels of sensory stimulation from screens, everything else appears dull or uninteresting in comparison. The child is, therefore, less motivated to explore their environment and seek interactions, missing important learning and development opportunities.

Looking at adolescents with typical development and well-being, moderate positive associations have been found between smartphone use and low registration, sensory sensitivity, sensation seeking, and sensation avoiding, as shown in Figure 7. This tells us that as an adolescent's smartphone use increases, so do their sensory challenges in these four areas.[59]

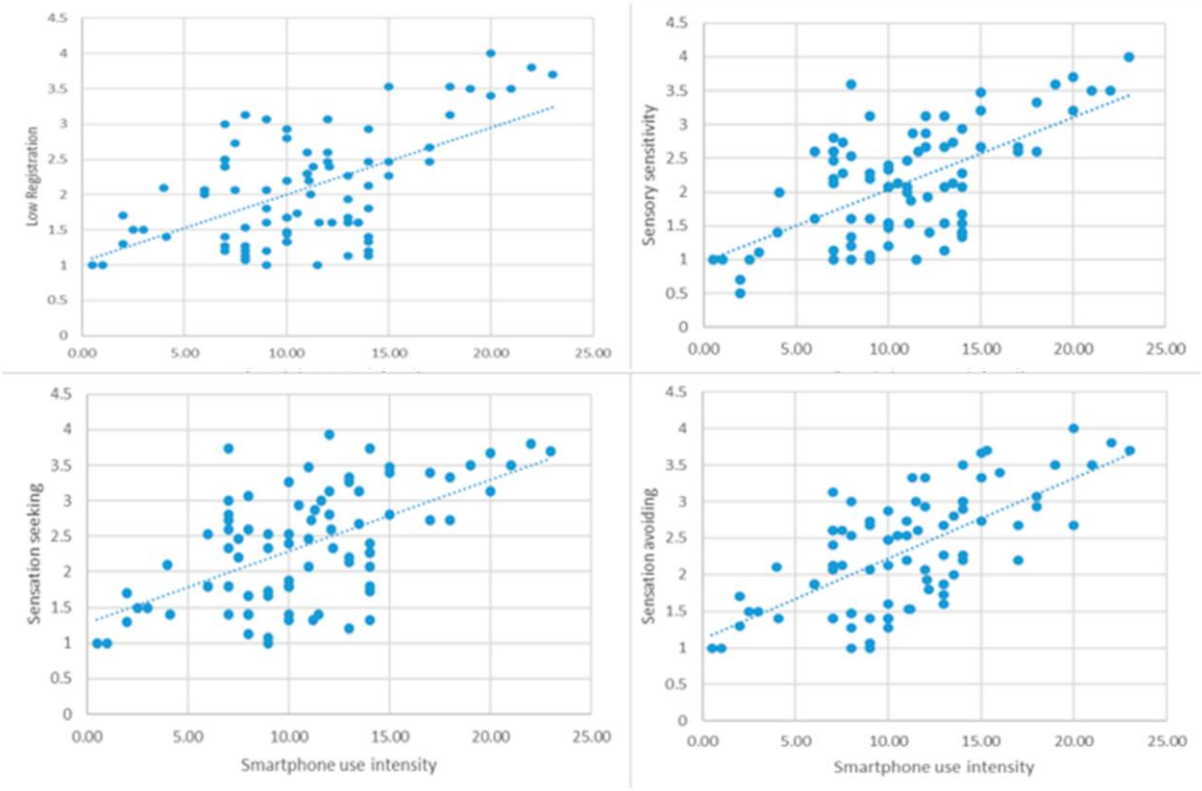

Figure 7

- **Autism Spectrum Disorder**

Research has shown that autistic children and adolescents are exposed to more screen time than neurotypical peers and typically use screens from a younger age. [60] [61] Due to their high screen time usage, autistic children experience adverse effects such as increased sedentary behaviour, sleep difficulties, attentional deficits and reduced parent-child reciprocal interaction. [62] Thus, there is clear evidence that screen time recommendations should be adapted individually to support parents and autistic children in using screens safely.[63]

Overuse of screens can reduce access to face-to-face interaction, turn-taking in conversations and observing real-life social scenarios, which are essential for building communication skills and encouraging perspective-taking.[64] These are areas of difficulty for many autistic children and young people, which are exacerbated by screen time. Studies have shown that reducing screen time and increasing social engagement in families and peers show significantly positive outcomes for autistic children.[65]

It has become increasingly more difficult for school staff to identify learning difficulties or neurodivergence in pupils, as they could be masked or replicated by the effects of excessive screen use.[66]

Physical Impact

- **Changes in the brain structure**

Increasing research shows that problematic smart device, internet and social media usage can physically change the brain in several ways.

White matter is vital for processing information in the body, as it connects different regions that send and receive signals. It is important for our ability to focus, learn, solve problems, and maintain balance while walking. Individuals with smart device dependency tend to have significantly lower white matter integrity in specific areas such as the superior longitudinal

fasciculus (SLF), superior corona radiata (SCR), internal capsule, external capsule, sagittal stratum, fornix/stria terminalis, and midbrain structures.[67]

Moreover, young people with smart device addictions have been found to have concerning changes in specific neurotransmitters. GABA is the main inhibitory neurotransmitter, which slows down brain signals, and glutamate (the main component in Glx) is the major excitatory neurotransmitter. Studies have shown increased GABA levels in subjects with internet and smart device addiction, and this may be associated with the downregulation of anterior cingulate cortex functions, including impulsiveness control during the decision-making process under conditions of risk. These raised GABA levels disrupt the balance with the excitatory neurotransmitter Glx. Changes in these neurotransmitters can lead to drowsiness, anxiety, and depression, as well as affect vision and motor control.[68]

A longitudinal study showed that adolescents who habitually checked social media had divergent brain development, shown on fMRI scanning, compared to those who reported lower smart device engagement.[69] These changes in neural sensitivity to the anticipation of social feedback were important brain networks associated with emotional salience, motivation, and cognitive control. These changes could have significant long-term impacts on psychological adjustment to social situations and again show how the smart device is the perfect facilitator of 'habitual checking behaviours', which we increasingly realise to be harmful and are changing the function and development of adolescent brains.

- **Eyesight**

Excessive smart device usage is linked to the high rates of myopia and astigmatism in children.[70] The prevalence of myopia in children has grown from 24% in 1990 to 36% in 2023, and this trend is expected to continue.[71] While smart devices are linked to a 30% higher risk of developing myopia, when this is combined with excessive computer use, the risk increases to approximately 80%. [72] [73]Every additional hour of screen time daily increases myopia risk by 21%. In children already diagnosed with myopia, an extra hour raises the risk of progression by 54%.[74]

- **Eating Disorders**

The prevalence and economic burden of eating disorders in the UK have significantly increased over the past decade. NHS Digital has reported a substantial rise in eating disorders among children and young people of both sexes between 2017 and 2023. [75] Using the Developmental and Wellbeing Assessment (DAWBA) tool, a 2023 study found that 75% of young women and 50% of young men aged 16 to 25 reported experiencing eating disorder symptoms. [76] In 2020, the social and economic costs associated with eating disorders in the UK were estimated to be between £7.5 billion and £11.2 billion.[77]

Social media, problematic smart device usage and eating disorders.

Social media contributes to the exacerbation and development of eating disorder symptoms through perpetuating unrealistic body standards, acting as a platform for aggressive marketing by the food and diet industry, [78] [79] and through targeted algorithms that show harmful content, including "toxic eating disorder" content.[80]

A recent UCL study corroborated the link between social media and eating disorders. Lead author Alexandra Dane writes, "Through the lens of social media, someone else can always look better, skinnier, or prettier… The outcome is a population of young people at risk of corroded body image, gaping discrepancies between their actual and 'polished' online selves, and an increased likelihood of engaging in compensatory disordered eating behaviours".[81]

A large longitudinal study of 9- to 14-year-olds found that increased total screen time, social media use, and problematic screen use were associated with a higher prevalence of eating disorder symptoms in early adolescence. Each additional hour of total screen time and social media use was linked to higher odds of fear of weight gain, self-worth being tied to weight,

compensatory behaviours to prevent weight gain, binge eating, and distress related to binge eating two years later. Furthermore, both problematic social media and smart device use were associated with higher odds of all eating disorder symptoms. The link between problematic internet use and increased eating disorder symptoms, as well as body dissatisfaction, was observed across all genders.[82]

Interestingly, one study found that increased eating disorder symptoms and body dissatisfaction were linked to total phone usage rather than Instagram use specifically. [83]This suggests that phone usage, beyond just social media exposure, may contribute to eating disorder symptoms. Indirect effects, such as sleep deprivation or reduced in-person socialisation, could play a role in this association. Additionally, problematic phone use in this population may also be connected to using fitness trackers and dieting apps.

Importantly, there is evidence that young people with eating disorders are more likely to be shown harmful content by social media algorithms. A new study specifically examining TikTok algorithms found that young people with eating disorders about those without eating disorders were 142% more likely to see an exercise video as the next video in their feed, 146% more likely to see an appearance-oriented video, 335% more likely to see a dieting video, and 4343% more likely to see a "toxic eating disorder" video.[84] A "toxic eating disorder" video is a video that directly encourages disordered eating behaviours (e.g., "thinspo" or "proANA" videos). The extent of the exposure to such videos was much higher than the extent to which users "liked" the videos, suggesting that other metrics of passive usage (e.g., lingering on a video, rewatching a video), rather than direct engagement, are used by social media companies to increase exposure to such videos in this population. In the same study, participants with eating disorders reported they had much more difficulty in stopping themselves from using TikTok despite finding these videos directly harmful.

Social Media, body image and commercial pressure

The pressure of social media, the constant recording of life and the comparative culture have led to increased body image concerns and cosmetic surgery. Heavy use of these platforms, especially amongst young women, increases the likelihood of girls aspiring to cosmetic surgery as a solution to perceived body image issues. [85] Almost three-quarters of teenage girls think that social media creates more pressure for people to look a certain way, and this is now echoed in boys, with 52% of boys saying that influencers on social media create pressure to use cosmetic procedures to change their appearance. Globally, 34% of men and 31% of boys have stopped themselves from eating, binge eating, or skipping meals to achieve their ideal appearance. 27% have adopted unsafe exercise behaviours, such as exercising more than their body can handle.[86] The skin care routines and trends popularised on social media drive younger children and teens to use complicated and expensive skincare products, which are not suitable for their skin and can cause long-term damage.[87] Acne rates among young people in the UK were among the highest globally. There was a steady increase in cases of 0.27% a year on average over three decades. By 2021, 14.6% of adolescents and young people were diagnosed with acne – a 7.4% increase from 1990.[88] It has been suggested that this is partly due to inappropriate skincare routines.[89]

- ## Chronic diseases

There is growing evidence of a strong association between screen time, including smart device use, and childhood chronic diseases as shown in Figure 8. [90] [91] [92] A large prospective study involving 7,105 adolescents found that each additional hour of screen time per day was linked to an increased risk of obesity and diabetes. These conditions, typically seen in adults, when onset in childhood, elevate the risk of other chronic illnesses such as hypertension, liver disease, psychological issues, and poor overall health in adulthood. [93] [94] [95] The proportion of adolescents living with overweight or obesity in England has increased by 50% from 2008-2010 (22%) to 2021-2023 (33%).[96]

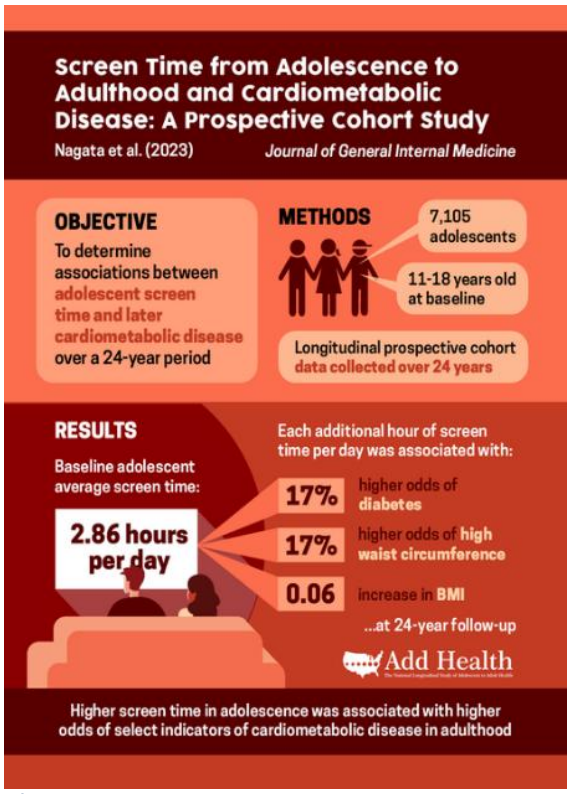

Figure 8

- **Musculoskeletal disorders**

When standing upright, the average adult human head exerts a force of 5kg on the spine. However, when it is leaning forward (as shown in Figure 9), looking at a phone, the force exerted can reach up to 48kg. This leads to increased tension headaches, muscle spasms and other neck and muscle problems.[97] This is the equivalent of a seven-year-old child draped around the neck. This has led to an increase in children and adults with tension headaches, muscle spasms and bone spurs.

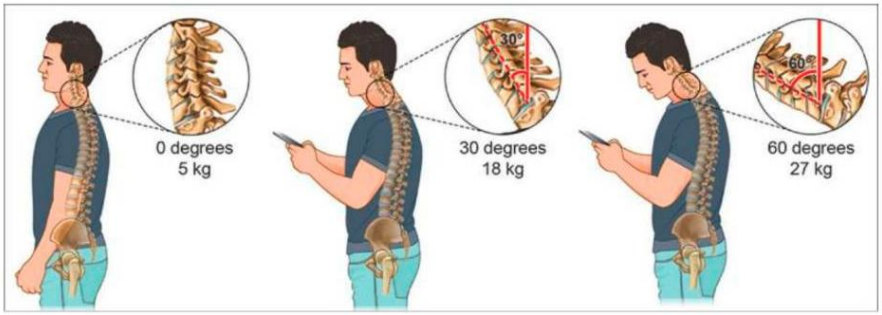

Figure 9

Children and young people who use smart devices for more than 60 minutes daily are ten times more likely to develop musculoskeletal symptoms than those who don't. It is even higher for those who use it lying down. [98] The physical health issues that come with the overuse of smart devices include problems with the text neck, wrist, and back. [99]

- **Sleep issues**

Quality sleep is critical for a child's healthy development, and its absence drives untoward behaviour, impaired learning and impedes overall wellness. Smart devices displace sleep, distorting sleep patterns and impacting the ability to fall or stay asleep. Unsurprisingly, there

is a strong and consistent association with bedtime media use and inadequate sleep quantity, poor quality, and excessive daytime sleepiness (Figures 10 and 11).[100]

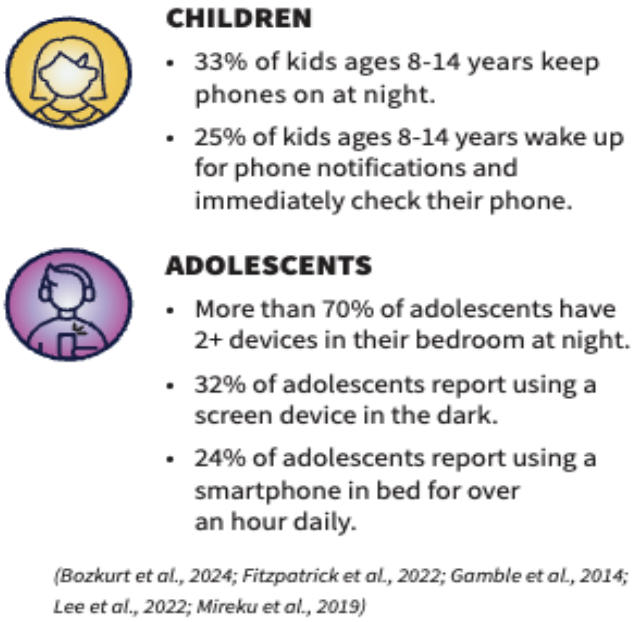

Figure 10

This is true for all ages, from pre-schoolers to adolescents. [101] [102] [103] A recent randomised controlled trial of 4810 children aged 12 to 16 who attended 55 different schools found that girls' screentime displaced sleep and was associated with increased symptoms of depression over nine months. [104]

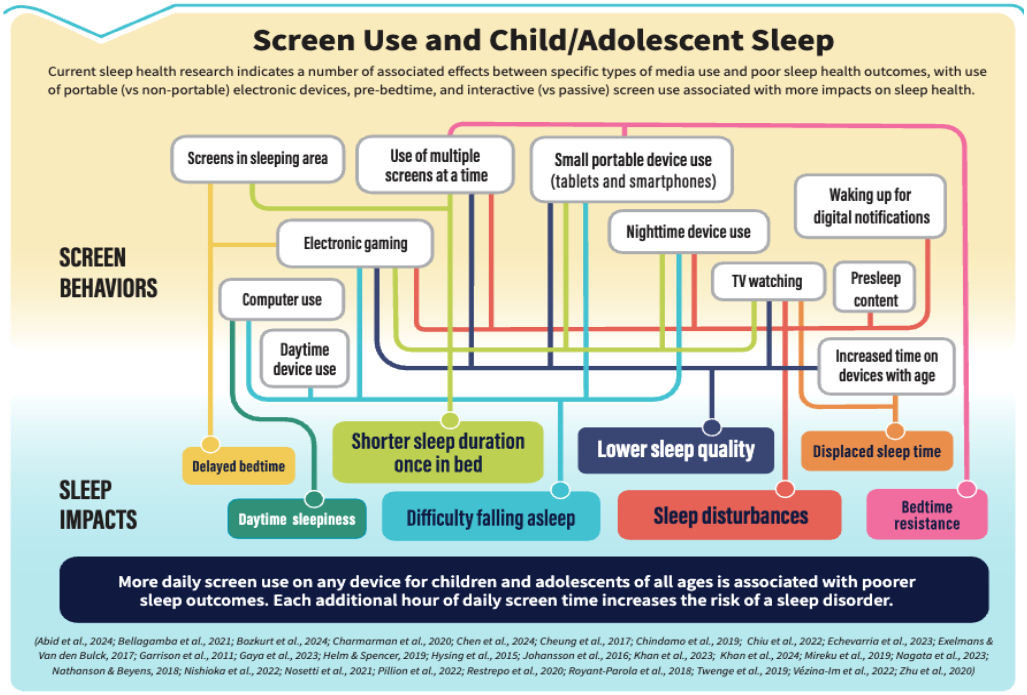

Figure 11

External Harms

- **Cyberbullying**

Cyberbullying is the use of digital platforms—such as social media, messaging apps, online forums, or gaming communities—to harass, intimidate, humiliate, or threaten others. It can

take many forms, including spreading rumours, sharing private information without consent, sending hurtful messages, or engaging in persistent online harassment. Unlike traditional bullying, cyberbullying can occur at any time, from anywhere, and can be ongoing, as children remain connected on social media long after school hours. The prevalence of cyberbullying is highest among adolescents, and its short- and long-term consequences include poor mental and physical health, as well as reduced academic performance (Figure 12).[105] [106]

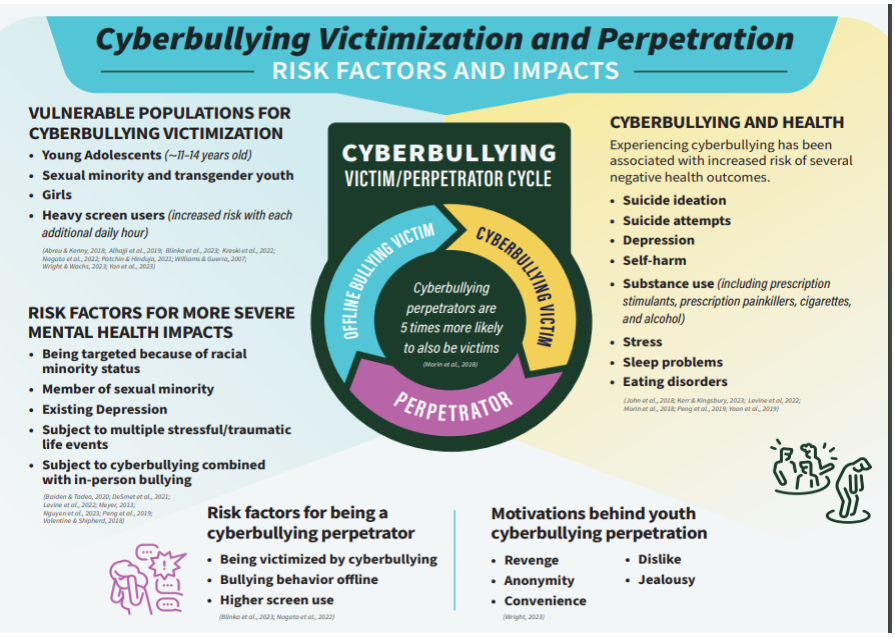

Figure 12

- **Viral social media challenges**

Social media challenges (SMCs) are an ongoing concern as some are extreme and pose serious dangers. While many challenges are relatively innocuous, some like the blackout challenge have led to unintentional deaths internationally and in the UK. [107] School-aged children are particularly vulnerable due to their developmental stage, which makes them more susceptible to social pressure. This increased vulnerability heightens their risk of engaging in risky behaviour and being influenced by how these challenges are portrayed in the media.

SMCs rely on user-generated content, typically in the form of videos or images shared on platforms like TikTok. Their design encourages sharing, using platform algorithms and features like hashtags to maximize visibility and engagement. [108] These algorithms can amplify harmful challenges while built-in reward systems and content recommendations further drive participation. [109]

- **Child sexual exploitation, abuse, and the production and distribution of child sexual abuse material (CSAM)**

When children have access to a camera, a messaging app, and the internet, there is a severe risk of child sexual abuse material. The ubiquity and size of the smart device have significantly added to this. In a sizeable UK-based survey, a quarter of those aged 12-17 surveyed said they had received an unwanted sexual photo or video. In this age group, these unwanted photos came more often from a stranger than from someone they knew. The mean average age at which respondents surveyed received their first sexual image from someone was 14.[110]

Sending and receiving a sext is illegal for under-18s in the UK. Whilst we know that this is unlikely to result in a criminal conviction for most children, there is increasing anecdotal evidence of police involvement in schools for these sorts of crimes. Regardless of conviction rates, these significant police involvements in schools are alarming and traumatic for students and their families. [111]

The rapid growth of access to a smart device and the ability of children to film themselves easily in privacy has led to an exponential increase of self-generated Child Sexual Abuse Material (CSAM) – images and videos – generated and shared by children themselves – with 92% of content removed containing "self-generated" child sexual abuse material. It continues to increase, and the number of children involved is getting younger, including children aged 7-10 in 2023, up 65% from 2022 (104,282 in 2023 vs 63,057 in 2022).[112]

- **Youth crime and extremism**

Nearly 40% of robberies in London were for mobile phones in 2023.[113] In 2020, 500 children were mugged a day in the UK - almost all for their mobile phones.[114]

At least 27,000 children, with as many as 4,000 in London alone, are believed to be trapped in county lines across the UK. Smart devices are critical to this epidemic of child criminal exploitation, which is being fuelled by gangs who use social media to target, groom, coerce, and track the movements of vulnerable children online as young as 11. Between 2017 and 2022, online grooming crimes surged by 82%, with 73% involving platforms like Snapchat, Facebook, Instagram, and WhatsApp.[115]

Nearly one in five people arrested for terrorism-related offences in the past year were children aged under 18. These included some as young as 12 or 13 who were being investigated by police because of their potential involvement in terrorism. They account for 18.9% of arrests [116] compared to 2.4% a decade ago. The Met Police attribute this rise to social media, saying, “You have the combination of the overt social media and then the closed messaging apps ……. We would never have seen 12-year-olds and 13-year-olds exposed to the things they are now exposed to. Social media, messaging apps, and connectivity are impacting homes, communities, and, as we have seen over the summer, the streets.” Over half of the 7,000 people referred to counter-terrorism police are children, including primary school age.[117]

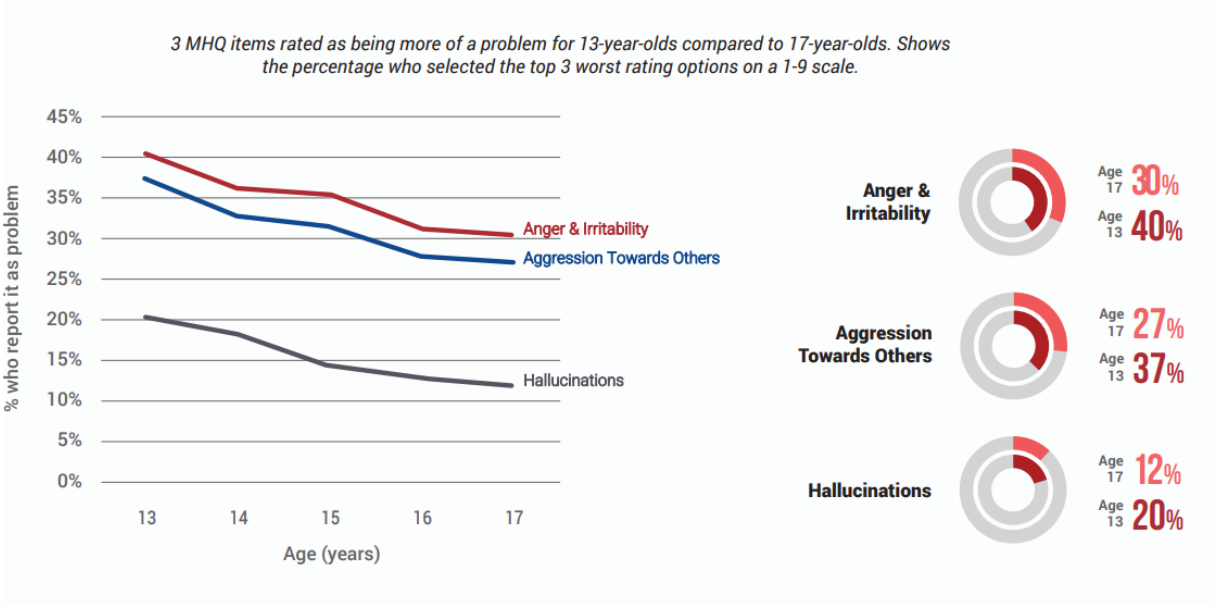

Figure 13

The earlier a child is given a smart device, the higher the likelihood that they report aggression, anger or even hallucinations. It is mainly an issue in younger teenagers, although the numbers in 17-year-olds are high (Figures 13 and 14).[118] [119] The viewing of violent content online goes beyond the screen. 80% of teens who encounter weapons-related content on social media say it makes them feel less safe in their local communities, with 68% of viewers less likely to venture outside and 39% admitting to being more likely to carry a weapon. Over 2/3rds of teens who perpetrated violence in the past year say that social media played a role in their behaviour.[120] The vast majority of teenage violence trials have online viewing of violence or radicalisation within them; examples are Blundells, Brianna Ghey and Olly Stephens, to name a small selection.

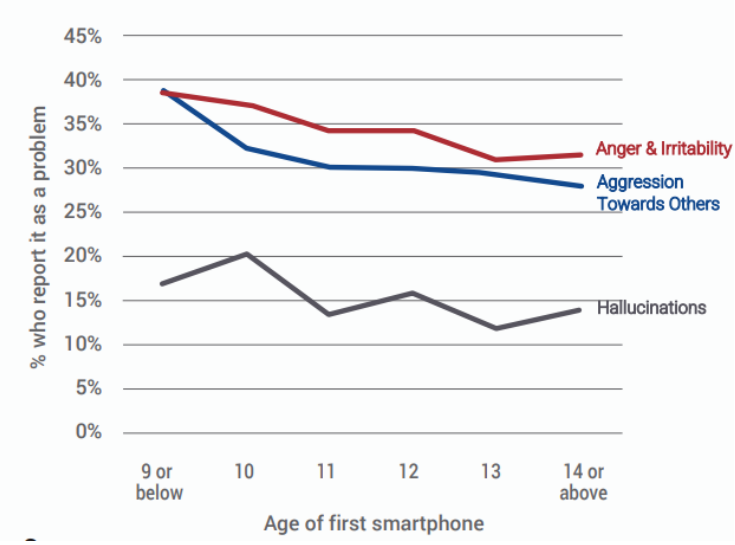

Figure 14

Europol warning about the rise of online cult communities dedicated to extremely violent child abuse

The phenomenon of violent online exploitation, specifically pressuring young people to join cult communities, has grown significantly in recent years. The emergence of a variety of groups leveraging digital platforms which normalise acts of extreme cruelty, extort victims and radicalise individuals into performing acts of violent extremism poses a serious threat to public safety. Their primary targets are minors and vulnerable youth, who are identified and groomed on mainstream online platforms and manipulated through psychological coercion. Through this coercion, the perpetrators enforce compliance and control the victims. Online extortion group members employ various tactics to perpetrate their criminal activities.

On social media, perpetrators analyse social media behaviour and deliberately target minors who already show some indication of vulnerability, and as they would be easier targets to groom and manipulate. The most preferred targets are particularly vulnerable minors between 8 and 17 years old, especially LGBTQ+, racial minorities and those struggling with mental health issues, such as depression and suicidal ideation. Online communities for self-help or support dedicated to individuals impacted by those issues have also been identified as fertile ground for identifying new victims. In some cases, perpetrators infiltrate these online mental health support communities to identify and recruit vulnerable young people.[121]

Incelosphere promoting violent and hateful ideology

The term “incel,” short for “involuntary celibate,” refers to predominantly male online communities that blame women for their members’ personal struggles and promote hateful and violent ideologies. These often include support for rape, paedophilia, homophobia, violence, racism, misogyny, antisemitism, self-harm, and suicide (Figures 15 and 16).[122]

A comprehensive study of the largest incel forum, based on traffic data, revealed its international reach, with the UK ranking second only to the USA in visitor numbers. As of 2022, the forum received 2.6 million monthly visits, had 136,000 YouTube subscribers, and amassed 24.2 million YouTube video views. Many forum members are under 18, and despite a stated minimum age of 15, there is no age verification process.

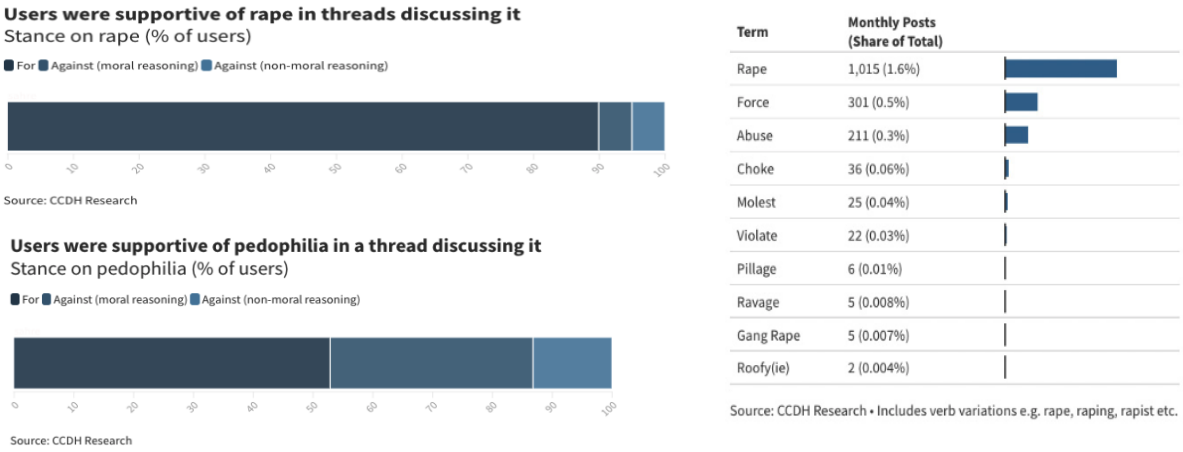

Figure 16

- **Financial sextortion**

Smart devices and social media platforms provide dangerous, private connectivity between children and perpetrators of financial sextortion. Financial sextortion is a form of online extortion in which scammers or criminals threaten to expose sexually explicit images (often nudes or semi-nudes), videos, or messages unless the victim pays them money. It combines elements of sextortion (coercion through intimate content) and financial fraud. Although many victims do not report these crimes, current data shows a sharp rise in financial sextortion cases. Reports to the US National Center for Missing & Exploited Children (NCMEC) doubled from the previous year, reaching 26,718 cases in 2023. In response, the UK's National Crime Agency issued an alert in 2024 to raise awareness and address the growing threat.

While all school-age children are vulnerable to this crime, a large proportion of victims are teenage boys aged 14-17. The threats often involve the risk of exposing intimate images to the victim's social network, leading to the perceived devastating impact on their lives. The consequences for victims are severe, including the spread of images, ongoing harassment even after payment, and significant mental health effects such as depression, anxiety, and thoughts of self-harm. In some cases, perpetrators encourage victims to harm themselves, and tragically, some children have taken their own lives in response to the pressure. [123] [124] [125] [126] These crimes are initiated on social media platforms, where criminals have direct access to children. They are often carried out on these platforms or secondary destinations like WhatsApp, iMessage, and FaceTime (Figure 17).[127]

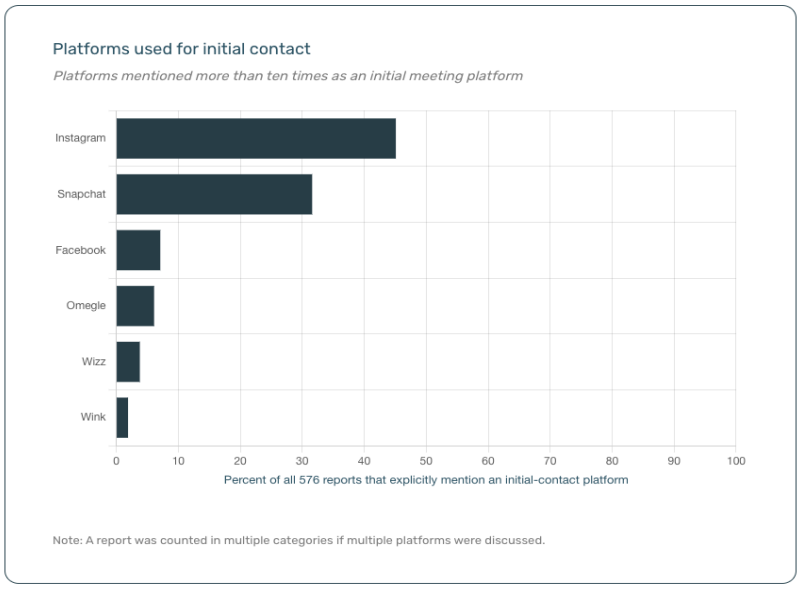

Figure 17

- **Exposure to targeted marketing by corporations and criminal networks**

Social media companies generate profit through their sophisticated, personalized marketing, which provides corporations and criminal networks direct access to children. These companies target young audiences with addictive products such as alcohol, tobacco, and weapons, while criminal networks exploit the platforms to sell illicit drugs. [128] [129] [130]

Social media has significantly expanded the reach of criminal drug networks, particularly among teenagers and young adults. [131] Numerous studies in the UK have shown that gangs, both in urban and rural areas, view social media platforms as essential tools for drug trafficking and gang recruitment. [132] [133]In a survey of 16 to 24-year-olds, one in four reported seeing illicit substances advertised on social media. Commonly advertised drugs include cannabis, cocaine, MDMA, and Xanax, and these promotions often occur on popular platforms like Snapchat, Instagram, and Facebook. [134]

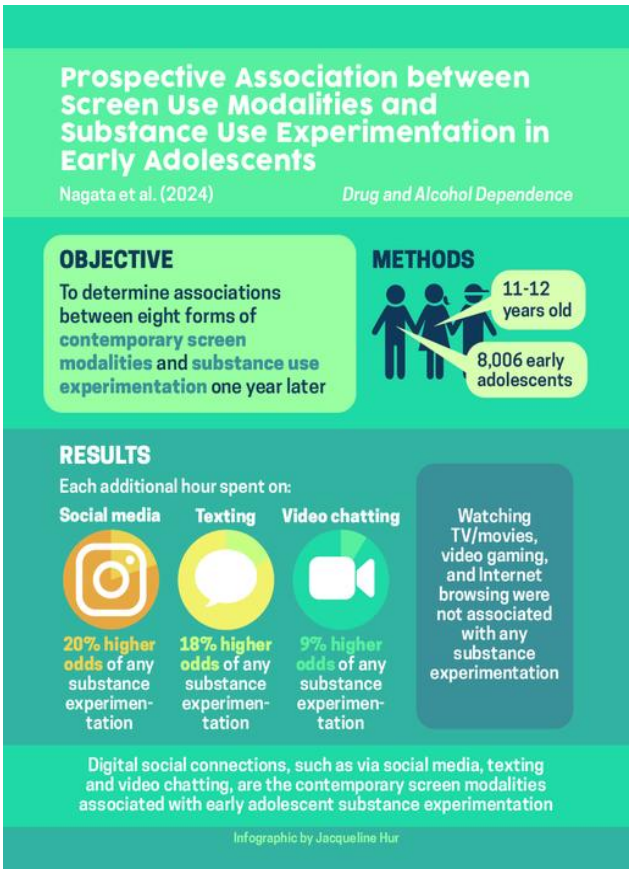

Figure 18

"*social media has normalised drugs amongst young people, with social media's algorithmic functions more likely to recommend similar accounts, further exposing young people to illicit substances online."*[135]

Pervasive child-targeted advertising of addictive substances on smart devices and social media is linked to early childhood experimentation with illicit drugs (Figure 18). [136] This is particularly concerning given the neuroplasticity of the school-age child's brain, which makes it especially vulnerable to developing substance addictions. This vulnerability is a key reason why advertising addictive substances to children has been regulated in traditional advertising media.

Restoring Childhood and Empowering Future Generations

The pervasive use of smart devices among children is not just a shift in habits—it is a loss of childhood experiences and a barrier to future opportunities. As screen time replaces crucial real-world interactions, young children miss essential developmental experiences.

Recent findings paint a concerning picture: by ages 7 to 8, children are already spending nearly three hours per day on their phones outside of school, a figure that rises to an alarming five hours by ages 15 to 16. Almost 40% of parents report that screen time disrupts family life.[137]

"The overwhelming weight of evidence submitted to us suggests that the harms of screen time and social media use significantly outweigh the benefits for young children…Government needs to do more across departments to protect them from addiction, online harms and the mental health impacts of extensive use of devices". [138]

- Education Select Committee report

This growing issue demands urgent intervention. Safeguarding children's well-being calls for a collaborative effort from policymakers, educators, families, and health professionals to create a healthy environment in which children can thrive, protected from the harms of smart devices and social media.

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