

# The Effect of screen time on Children's Behaviour

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## Abstract

As more of their leisure time is spent with screens such as iPhones, tablets, computer games, and television, parents, health experts, and educators are concerned about the impact of screen time on children's well-being. Excessive screen usage has a negative impact on the verbal, emotional, and physical growth of children. Because children and teenagers are naturally drawn to screens, the aim is to teach them how to use them responsibly. Screens may help promote self-esteem and give numerous chances for learning and growth when used with good screen objectives and abilities. Children, especially those above the age of three, respond to interactive programming that is entertaining, suited to them, and stimulates imitation or participation. Dynamic video games may encourage light-to-moderate or acceptable physical exercise in the near future. Families and child care providers may include more physical activity into daily routines by using fun, age-appropriate exercise (e.g., yoga or dance) and fitness apps or videogames. As a result of these concerns, parents are being advised to limit their children's screen time on a daily basis, with particular time constraints for children and a general guideline to minimize screen time in teenagers.

**Key words:** screen time, children;s behaviour

## Introduction

In the last half century, the use of digital media has skyrocketed. It has resulted in an increase in human exposure to long durations of screen time, which is becoming a growing concern. Use of electrical devices to store, generate, or analyse data, as well as the enhancement of interaction and online engagements on social networking sites via the internet, is characterised as digital technology (Vizcaino et al., 2020). Humans require social interaction to survive. Furthermore, social interaction improves mental health. Children who spend so much time next to the television or computer may lose their ability to perceive other people's emotions (Duch et al. 2013). As a result, a youngster may have lower self-esteem, sour relationships, and low self-esteem. Furthermore, research has connected higher levels of early childhood screen exposure to emotional and family issues. Spending too much time on social media before bed can interrupt sleep and cause problems at school, including symptoms that are comparable to attention deficit hyperactivity disorder (ADHD) (Radesky & Christakis, 2016).

Electronic gadget use is a common sedentary behaviour in Western society, especially among young people. Children in Canada and the U.S. spend a total of 7 to 8 hours per day engaging in inactive screen-based activities, greatly exceeding the World Health Organization's recommended daily limit of 2 hours. The incidence of screen use among children and adolescents is worrying, given its known link to obesity, cardiometabolic risk, and diabetes (Kushima et al., 2022). If they're busy playing with an iPad, smartphone, or television, all of which are highly entertaining, it can be challenging to get young children to engage in non-electronic playback time with devices to foster creativity, try to discover outdoors, and actually interact with other children to demonstrate social and communication skills (Domingues-Montanari, 2017).

## Objective

The convenience of current rules to limit screen time for children and high schoolers has been addressed due to a lack of credible evidence on the influence of screen time on wellbeing. There is evidence of a link between screen use and unhappiness in kids, but not for behavioural concerns, anxiety, pressure, or poverty considerations, identity, wellness, or social work.

- To determine if excessive screen usage has a negative impact on the verbal, emotional, and physical growth of children.
- To determine if children and teenagers are naturally drawn to screens; the idea is to teach them how to use them responsibly.
- Screens may help promote self-esteem and give numerous chances for learning and growth when used with good screen objectives and abilities.
- To look at the impact of screen time on children's mental health and behaviour.

## Screens effect on early childhood development and learning

Children, especially those who are under the age of three, develop quickly. Children learn through interacting with their surroundings and by studying and imitating the people in their lives. Overabundance of screen time can impair a child's ability to see and complete the regular tasks that they must do in order to perceive the environment, resulting in "tunnel vision" that can be detrimental to overall development (Kushima et al., 2022). According to research, infants under the age of two learn considerably more from a video than from another person, and it indicates that while children can view the television screen by the age of six months, they do not assimilate the content until they are two years old. They won't be disappointed, and they obviously didn't learn something from whatever is on the screen (Radesky & Christakis, 2016).

Children who spend excess time with computers eat more fast food and eat less fruits and vegetables, as well as getting less sleep and exercise (Stiglic & Viner, 2019). As a result, including healthy lifestyle choices into everyday routines, as well as limiting screen time, is critical. Many of the problems caused by screen use are due to inactivity. The idea is that time spent in front of a screen is time spent not exercising or participating in other physical activity. Children's sedentary behaviour has been related to poor physical, psychological, and mental wellness, and some research has connected screen use to an increase in children's inactive behaviour (Ashton & Beattie, 2019).

## Screen time affects sleep and communication

According to studies, having a shared discussion with children is essential for language development and community participation. In comparison to "passive" hearing or one-way interaction with a screen, in real life, it is the away "conversation" in which youngsters exchange facial characteristics and respond to one another that improves language and communication ability (Przybylski & Weinstein, 2018). As the night falls, sleeping patterns and the creation of serotonin, the sleep hormone, start in. Background light from screens, on the other hand, suppresses melatonin, which can contribute to sleep deprivation. Additionally, watching television and playing keeps both minds and bodies alert and busy, preventing us from falling asleep again (Kushima et al., 2022).

One study determined that children aged 6 to 12 months who'd been exposed to screens in the evening slept much less than those who were not exposed to screens in the evenings. Late-night screen usage can impair sleep in young teenagers and youths, so it's better to keep electronics out of the bedrooms (Radesky & Christakis, 2016). Students' behaviour and cognitive performance at school might be affected by excessive time spent on social media, as well as a lack of sleep, interfering with their capacity to concentrate. Obesity in children has been

linked to excessive screen time and lack of sleep, which can affect self-esteem and contribute to social isolation, as well as increased screen time (Duch et al. 2013).

### Screen time and well-being

There has been inconsistency in research on the relationship between screen time and more mental components of children's well-being. Some studies indicate a link between screen time and low happiness, while others find no link or even advantages from increased screen time (Vizcaino et al., 2020). As a result, others argue that additional study is needed before determining that screen time limitations are acceptable, claiming that valuable physician appointment time should not be allocated to addressing screen time unless there is adequate evidence of meaningful connections with well-being (Przybylski & Weinstein, 2017).

When it comes to prevention, determining the likely causes and consequences of poor emotional well-being is especially important for children and adolescents. Half of all psychological problems are caused in childhood (Holton & Nigg, 2020). As a result, there is an urgent need to identify characteristics linked to mental health issues in this population that can be modified, as most causes (such as hereditary component, trauma, and hardship) are quite difficult to modify. How children and teens use their leisure time is more flexible than the more difficult to change factors of mental illness (Vizcaino et al., 2020).

Children and teenagers are also more likely to have a smartphone (Limniou, Ascroft, & McLean, 2021), allowing them to be using computers in a broader range of situations. This might increase the risk of online addiction, obsessive gaming, or dishonest social media use, all of which have been linked to mental health problems (Satici & Uysal, 2015). Because cell phones may be used during the night or even taken into the bed, they may have a detrimental impact on sleep, leading to decreased sleep duration and/or quality (Marino et al., 2018). Smartphones may also be used during face-to-face social interactions, which may have a detrimental impact on such interactions and lessen their overall positive impact on happiness. Some academics have expressed similar concerns regarding the WHO's definition of gaming illness as a mental health condition, claiming that the links between gaming and psychological well-being are insufficiently strong or consistent to support such a classification (Twenge & Campbell, 2018). Teenagers had stronger links between screen usage in the day and low psychological well-being, than younger children (Figure 1).

### Depression, anxiety and screen time

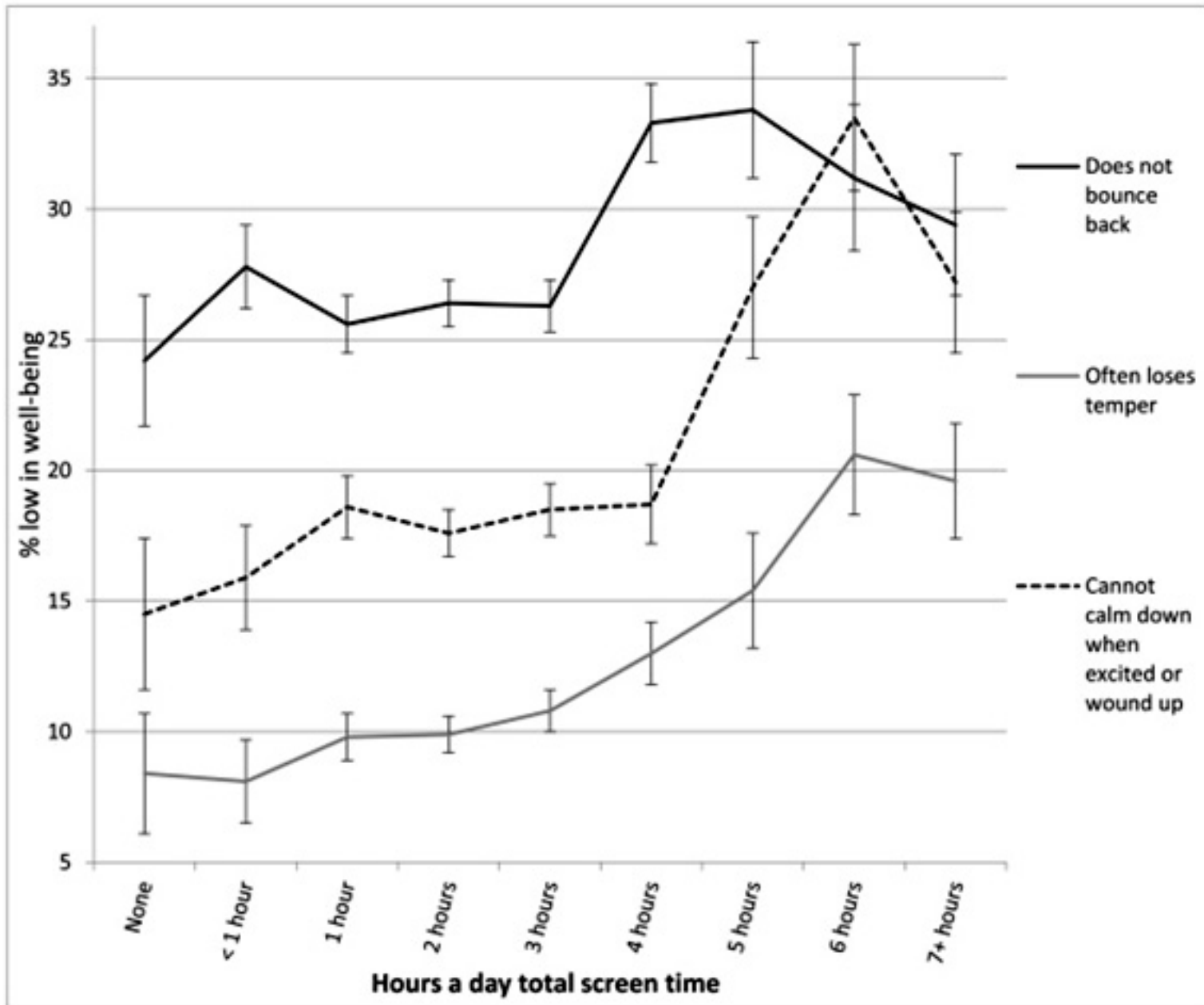
Children and teens who spend a lot of time in front of a screen had worse cognitive health than those who didn't. High-screen users were far more likely to have poor emotion management (losing their cool, arguing excessively, becoming impossible to get along well with), inability to finish activities, a lack of motivation, and trouble making friends (Duch et al. 2013). High users were also perceived by guardians as being much more impossible to prepare for and possessing less self-control, according to Cleland et al. (2018). Adolescents who smoked a lot of marijuana (vs. a little) were twice as likely to identify with depression or anxiety, or to need mental or behavioural health therapy. In 14- to 17-year-olds, moderate screen users were also much more likely to be dissatisfied, to be diagnosed with depression or anxiety, or to require behavioural health therapy. Non-users and low-users of screens did not have substantially different levels of happiness (Karadag & Can Yilmaz, 2022).

Children who used a lot of drugs (vs. a little) were also multiple times more likely to receive a diagnosis with anxiety and depression, or to need psychological or behavioural health therapy (Vizcaino et al., 2020). Moderate screen users were also much more likely than low screen users to be unhappy, and also being treated for depression or anxiety, or to require mental health therapy. The well-being of non-users and low-users of screens was not significantly different. Similarly, research from the United States discovered that computer use and online browsing time were not linked to sadness (Kushima et al., 2022), and that they only predicted higher anxiety among teenagers with an alcoholic father. In youngsters, there is a protective association between computer use and psychological suffering. As a result, the effects of computer use on juvenile mental health are varied, possibly due to methodological discrepancies between researchers (Ashton & Beattie, 2019).

Several studies have revealed no variation in satisfaction or psychological issues comparing youngsters who follow recommended screen usage limits and those who don't. Screen time may have small, favourable benefits on children and teenagers, according to some study (Kushima et al., 2022). According to some researchers, this shifting relationship is due to a 'U-shaped' relationship between screen use and wellbeing, in which using screens for short to moderate periods of time can have neutral to beneficial effects, but using screens for lengthy periods of time can have negative effects. Obesity and insufficient physical activity have been related to screen use (Stiglic & Viner, 2019).

There's some evidence to demonstrate that overall screen time and later depression symptoms have a very tiny to slight positive relationship. This link appears to be regulated by sex and levels of physical exercise. Only a few researchers have revealed evidence of a negative relationship between depression symptoms and screen use (Ashton & Beattie, 2019). The link between screen

Figure 1: Showing the link between Screen usage in a day with psychological well-being (Twenge & Campbell, 2018)



time and sadness differed depending on the type of screen content and how it was used. There was no evidence of a link between watching television and playing video games and developing depression. There was more evidence of a link between using a mobile phone and using a computer/internet and then becoming depressed. There was conflicting evidence of a link between social media use and eventual depression (Karadag & Can Yilmaz, 2022).

However, there's some evidence to indicate that overall screen time is linked to increased anxiety symptoms later on. The evidence on the relationship between anxiety and eventual total screen time was inconsistent, with one research finding no link between the two variables and another finding a link. When looking at individual screen devices or usage, no evidence was found of a link among screen time and anxiety (Stiglic & Viner, 2019).

### Screen time and autism

Many experts are beginning to feel that social environmental variables, such as electronic screen exposure, rather than merely biological ones such as genetic susceptibility, are contributing to the rise in the number of children diagnosed with autism (Ashton & Beattie, 2019). The more time spent in front of a screen, the more visible the autism-like symptoms become. Longer screen time meant less time for play, less time spent with caregivers, and less time for social connections. Furthermore, screen time was linked to language development in children: the younger the age, and the higher the amount of screen time exposure, the greater the influence on language development. Electronic media has been shown to have a harmful influence on language development, according to the study of (Karadag & Can Yilmaz, 2022).

High levels of exposure to tablets, cell phones, and television in youngsters under the age of two has been linked to ASD symptoms even as children grow. Duration of screen time, a postnatal important indicator, may be linked to ASD features and ASD-specific brain morphology. As a result, screen time throughout infancy, a time of fast growth, might be one of the learnt variables linked to ASD (Must et al., 2015). However, only a few randomized trial studies have investigated the link between protracted screen activities and ASD in youngsters. Moreover, since the episode of the COVID-19 pandemic, there has been a significant change in ways of life, with electronic gadgets acting as the primary way to communicate and social contact; as a consequence, children's screen time has increased across the world (Stiglic & Viner, 2019).

One researcher looked at the link between how much time spent on screen time or watching a video and overall self-esteem (Braig et al., 2018). The researcher found no association between time spent watching TV and self-esteem at two-year follow-up. They found that children who began observing less than two hours of video per day as a pattern had a neighbourly association with a concept of self from the beginning to follow-up, but children who

observed more than two hours of TV per day had a negative relationship with alteration in self-esteem from base point (Duch et al. 2013).

According to Karadag and Can Yilmaz (2022), who looked at the relationship between self-esteem and gaming usage, self-esteem was shown to be adversely linked with later frequency of videogame use in this study. Only a few researchers have looked into the link between screen usage and self-esteem. In each case, there was no indication of a long-term link between overall screen usage and self-esteem. According to some research, self-esteem is positively correlated with later device use, and negatively associated with following gaming use, and unrelated to eventual mobile phone use (Duch et al. 2013).

### Discussion

Some of the ambiguity around the consequences of screen use in youngsters may be related to the rapid advancement of technology. There are currently many different types of screens (televisions, computers, tablets, and smartphones) that may be used in a number of ways. As a result, when we discuss children's 'screen usage,' each of them may have a distinct impact. Using screens to keep in touch with peers and relatives may be beneficial for certain children and young adults. While there is evidence that social media may have negative consequences such as creating unhealthy comparisons to others, harassment, or exposure to harmful material, there is also evidence that it can have positive consequences. It is said that it aids youngsters in maintaining touch with others, developing friendships, and allowing them to experiment with new information and ideas (Braig et al., 2018).

According to a meta-analysis of Facebook studies, 'passive use,' or clicking through posts without participating with the material, was shown to reduce quality of life and life enjoyment, but 'energetic use,' or using Facebook to interact directly with each other or produce things, was not linked to these negative consequences, and may have a slight positive effect on emotional wellness (Stiglic & Viner, 2019). This demonstrates that how children interact with television, and also the type of media they use and how long they watch it for, can have a variety of effects on their mental health and well-being. Screens may also be used to actively improve mental health through computerised treatment. Computerized cognitive behavioural therapy (cCBT), for example, has been shown to be useful for children (ages 12 to 25) who are suffering or at risk of enduring mental stress (Karadag & Can Yilmaz, 2022).

It's worth noting that much of the research on screen usage in children and adolescents is cross-sectional, which means they look at the features of a group at a specific moment in time. This makes it impossible to say if screen usage causes particular results, or whether children who use screens frequently are also more likely to have certain physical and psychological consequences as a result of another common factor (Kushima et al., 2022). Childhood

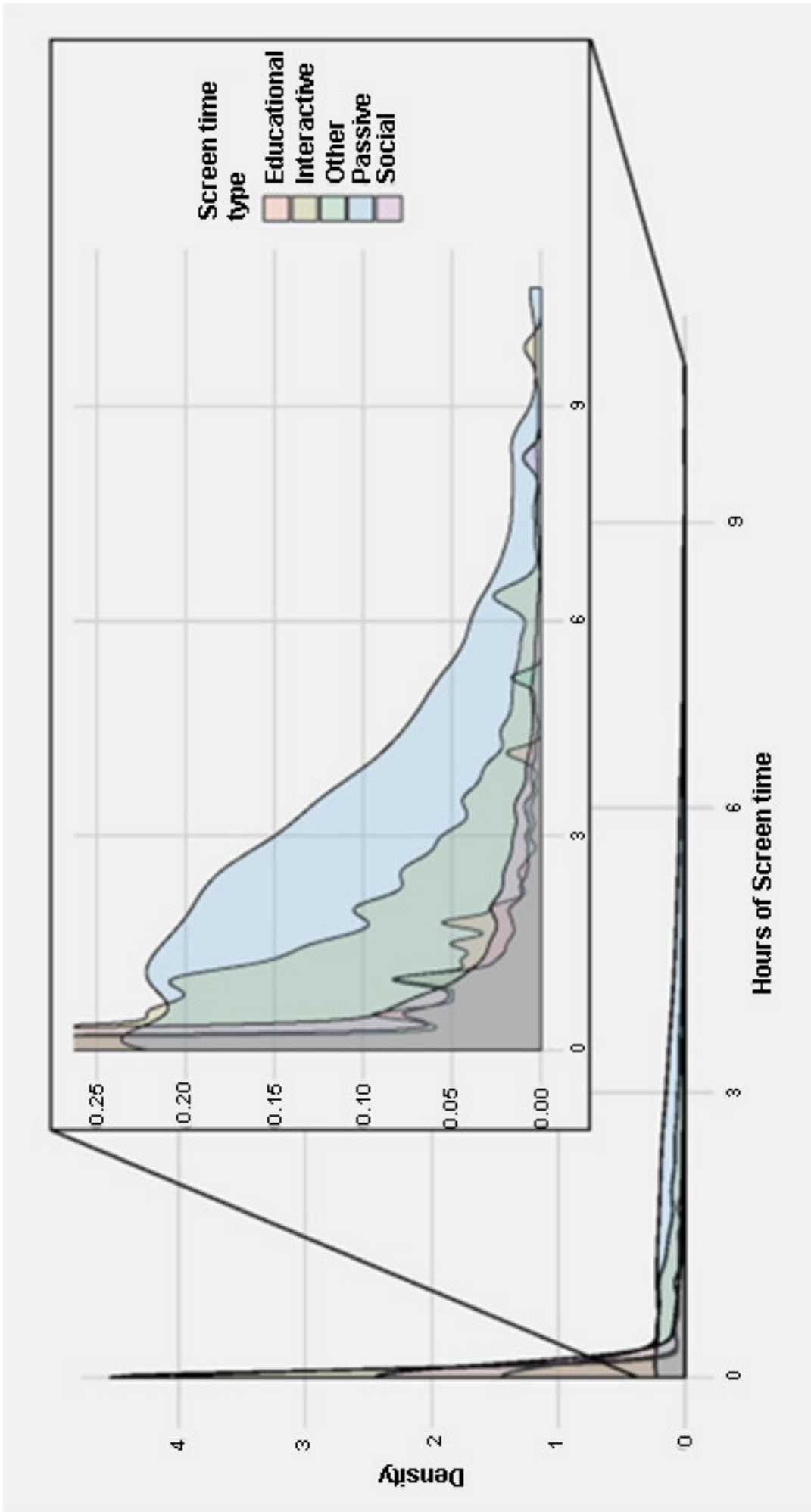


Figure 2: Showing the screen time with time categories Sanders et al., (2019)

and adolescent psychological disorders are expected to become one of the top causes of illness, death, and disability among children globally by 2020, according to the World Health Organization. Depression and anxiety are two of the most common causes of illness burden among teenagers (Patel & Sapovadia, 2020). According to epidemiological research, 5 to 9% of teenagers are clinically depressed, whereas 21% to 50% express low mood, with subclinical rates mirroring depressed mood rates (Stiglic & Viner, 2019). Exploratory analyses revealed that the screen time variables were strongly skewed, particularly for less common screen time categories (e.g., social screen time), where a large majority of individuals had no screen time (Figure 2) (Sanders et al., 2019).

The long-term consequences of screen time on the brains of children or adults due to phones and computers is not yet seen as they have only been widely available and inexpensive for around thirty years. As the use of technology has become more prevalent in children's and adolescent's life, so has interest in how these screen-based gadgets influence their health and wellness, as well as how to properly control and restrict their use (Kushima et al., 2022). Many of the problems caused by screen use are due to inactivity. The idea is that time spent in front of a screen is time spent not exercising or participating in other physical activity. Children's sedentary behaviour has been related to poor physical, psychological, and mental wellness and some researchers have connected screen use to an increase in children's inactive behaviour (Nagata et al., 2021).

There are also concerns that screen time could have an impact on teenage children's sleep, which is essential for physical and mental well-being. Children who are using screens before sleep get fewer hours of sleep, have poorer sleep quality, and are more tired, according to research (Kushima et al., 2022). Multiple studies have identified a relationship between screen use and behavioural and psychological outcomes in children and adolescents, with higher levels of screen use being connected to less physical exercise, a higher level of depression, and a worse feeling of well-being (Karadag & Can Yilmaz, 2022).

The average time spent and the various activities conducted online utilising digital devices are referred to as screen time. Screen time, for example, includes both the use of digital devices for labour (restricted hours of work or educational objectives) and for pleasure and amusement (Kowalski & Limber, 2013). The link between increasing screen usage and lower psychological health in kids might be explained in a variety of ways. Screen time might be used to replace time spent cultivating good interpersonal relationships. Nagata et al. (2021), recognised that children who spend a lot of time on screen-based activity may be distancing themselves socially. Furthermore, it is generally understood that a positive relational orientation is critical to healthy development, and increasing screen time can severely damage attachment connections, consequently impacting mood (Kushima et al., 2022).

Another method might be related to the nature of the screen exposure's content, context, or messaging. Computer/internet use, for example, can expose children to harassment, and despair and anxiety and has been linked to cyber bullying in children (Kowalski & Limber, 2013). Exposure to unreachable pictures that objectify the human body may also lead to emotions of despair and anxiety, according to social comparison theory and materialism theory (Nagata et al., 2021). Children who spend time next to electronic devices also have greater sleeping issues, which may impair their capacity to cope with stress, leading to feelings of despair or worry. Finally, screen time might take the place of time spent on physical exercise, which is troubling given earlier results that physical activity is linked to a reduction in mood and anxiety disorders (Stiglic & Viner, 2019) and increased rates of childhood obesity.

## Conclusion

In conclusion, children's screen time is not passive; digital media may contribute to promoting and support physical activity. Children, especially those above the age of three, respond to interactive programming that is entertaining, suited to them, and stimulates imitation or participation. Dynamic video games may encourage light-to-moderate or acceptable physical exercise in the near future. Families and child care providers may include more physical activity into daily routines by using fun, age-appropriate exercise (e.g., yoga or dance) and fitness apps or videogames. Outdoor physical exercise may be enhanced by using mobile devices with apps for experiencing the natural environment. Quality content bridges the gap between on- and off-screen experiences, encourages interaction with caregivers and peers, and encourages active, imaginative play.

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