

Parents are often concerned that their child is spending too much time on their iPad, iPhone or other electronic device and wonder if screen time affects their brain development and maturation. Parents also wonder if it is addicting because they have difficulties limiting the amount of time their children spend on these electronic devices and they are looking for guidelines to help them set boundaries with their kids when it comes to screen time. Yes, screen addiction is a real thing.

In the past, children were more physically active than they are now. They were out riding their bicycles, playing sports, building forts and creating imaginary games and returned home both physically and mentally exhausted. The emergence of technology, all competing for our children's attention, has changed this. According to the American Academy of Pediatrics (AAP), today's children are spending an average of seven hours per day on entertainment media. These are hours that children spend not moving, and movement is necessary to achieve optimal sensory and motor development. Technology is also affecting the ability to focus, concentrate, pay attention, build vocabulary and

communicate with other human beings.

For example, a story narrated by a smartphone or similar device is different than a parent reading a story to their child at bedtime. When a parent reads from a storybook, the child must process the parent's voice into words, visualize complete pictures and exert cognitive skills to understand and follow the storyline. The electronic device essentially does the thinking for the child by feeding words, images and pictures simultaneously to the reader, resulting in the use of less mental effort. This constant stimulation can lead to mental or cognitive weakness or laziness.

Studies have shown that screen time causes changes in brain chemistry. The most notable is the release of dopamine, which is known as the "pleasure chemical" or "feel-good" neurotransmitter and plays a starring role in motivating behavior.

Dopamine stimulates the parts of the brain that process rewards and create positive emotions like satisfaction and enjoyment, so when you experience something fun and enjoyable, dopamine is released in the pleasure circuits of the brain, rewarding and driving you to engage in that activity again.

With electronic devices, what happens is positive or rewarding social stimuli - in the form of images of laughing faces, positive recognition by our peers, and messages from loved ones - will result in a release of dopamine, reinforcing whatever behavior preceded it and causing the brain to seek out more of that behavior. While there is nothing inherently addictive about iPads or iPhones themselves. smart devices have provided us with a virtually unlimited supply of social stimuli and instant gratification. Although not as intense as a hit of cocaine, for example, every notification - whether it is a new text message, an Instagram "like" or a Facebook notification - has the potential to be a positive social stimulus and dopamine influx. The more dopamine that is released while we are on our screens, the more time we will spend on these screens seeking the next dopamine "hit." It then becomes harder and harder to stop looking at email or checking to see if you have a message or a new text.

Classic symptoms of addiction in general include the inability to stop using the substance and when the

## substance interferes with life and relationships. For screen addiction, the signs are not much different:

- Loss of interest in other activities.
- It preoccupies them and it is all they can think or talk about.
- Inability to control its use.
- You have tried to limit screen time but it causes problems.
- Interference with socialization or inability/ unwillingness to socialize (with peers, at dinner table, etc.).
- Family arguments over screen use.
- Usage of device is increasing.
- Screen time is the only thing that boosts their mood or makes them happy.
- Sneaking around or hiding usage of device throughout the day (i.e. bedtime).

What can we do about this? The AAP recommends that parents monitor their child's media "diet" and limit screen time to no more than one to two hours per day for children and teens. Here is a summary of their guidelines:

Avoid use of screen media other than

video-chatting for children younger than 18 months.

- If you choose to introduce media to children 18-24 months, find high-quality programming and co-view and co-play.
- Limit screen use to 1 hour per day of highquality programs for children age 2-5 years.
- Create a family media plan with consistent rules and enforce them for older kids.

## Some ideas to reduce screen time include:

- No usage of phones, tablets, etc. one hour before bedtime. Children respond well to routines and consistency so your media plan could consist of no electronics past a certain time.
- No electronic devices in the bedroom. Screens emit a bluish-white light that tricks the brain into thinking it is daylight - even when used at night - and suppresses the release of the hormone melatonin, which is important for maintaining and regulating our sleep-wake cycle.
- Have all charging stations in the family or common areas of the home so children do

not take the devices to bed.

- Lock the screen or place the remote in an inaccessible area.
- Establish "screen free" zones or days, weekend-only devices, or screens only allowed for family activities.
- Allow your kids to get "bored" without electronics so they learn to entertain themselves, think creatively and develop communication skills with other people, rather than constantly being entertained by their device.
- Change the mindset that preventing screen time is a punishment. Your kids will be happier in the long run if you are more engaged and doing activities with them.
- Do not use a device as a babysitter.
- Teach balance and set limits early on.
- Govern your own screen time. Lead by example for your family. .

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