



Is it time for our kids to digitally detox?

There's no escaping the fact that we live in a digital age and while it brings with it many advantages, one contentious issue that's emerging is how much screen time we allow our children. How much is too much and what effect is this technology having on them?

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As the pace of modern life places ever-increasing demands on parents' time, it has never been so convenient and easy to use technology to distract, entertain and amuse our children. Some parents place great importance on their offspring becoming tech-savvy and, like it or not, technology has become an integral part of our daily family life. As Orwellian as it sounds, screens are everywhere! Our households and handbags are brimming with iPads, Kindles, Xboxes and smartphones, while Xboxes and apps steadily continue to replace traditional games, TV and even conversation. We have all justified their use to some extent, but is it time to question whether this constant connection to the digital world may be affecting our children's mental and physical health?

Ten years ago South Korean researcher Chung-a first used the term 'digital dementia' after observing a reduction in memory associated with an overuse of electronics. Perhaps he was ahead of himself, as dementia encompasses far more than just memory loss, but his findings were concerning.

In 2011, neuroscientist Manfred Spitzer delved deeper into the theory that persistent stimulation by electronics can cause neurological changes. Alarmingly, he found that repetitive use of digital technology can lead to a breakdown in many cognitive abilities, more commonly seen in established psychiatric illness or head injuries.

SO WHAT ARE THE POTENTIAL PROBLEMS FOR KIDS ASSOCIATED WITH PROLONGED SCREEN TIME?

Children's developing brains are much more sensitive to electronic use than most of us realise and can quite quickly become over stimulated. In the short term, too much electronic interaction can produce physiological changes that hinder frontal lobe activity, the area of the brain responsible for emotional expression, problem solving, memory, language and judgement.

Screen time may be particularly problematic for those aged three and under as it is during this time that there is rapid neurological development. Although there are no official guidelines in the UK, the French government has banned digital terrestrial TV for children under three and Australia and Canada have similar recommendations. The US Department of Health has recommended no screen time for under twos, and most experts agree.

Many parents consider passive screen time, such as film or television, as a guilty pleasure - something to be minimised or denied. But when it comes to interactive screen time some think that because the child's brain is engaged, it is not harmful. But the opposite is actually true. Interactive screen time, when the user interfaces with their device, is more likely to cause a hyper-aroused state and lead to compulsive use and subsequent sleep, mood and cognitive issues. >

HOW DO ELECTRONICS CREATE BEHAVIOUR, SLEEP AND COGNITION PROBLEMS?

There is a growing body of evidence that all electronics and computer games can trigger the 'fight or flight' state, or a heightened stress response. Increases in blood pressure, pulse, and levels of the stress hormone cortisol have been noted hours after playing a video game. While our stress response is vital to our survival to help escape from danger or when extra stamina is needed, we know that continually elevated cortisol levels divert energy away from non-essential bodily processes by slowing digestion and cognition (particularly memory) and weakening immunity. This means that after interactive screen time your child may not be able to digest their food properly or assimilate their nutrients, which can lead to nutritional deficiencies and further health problems.

Prolonged screen time at night can affect sleep because most devices emit short wavelength light (known as blue light), essentially mimicking daylight. This interferes with the body's natural production of melatonin, a hormone responsible for sleep, and creates circadian dysfunction more commonly known as jet lag. However, it is not just sleep that circadian rhythm issues disturb, a whole host of health problems from hormonal imbalances to an increased risk of cardiovascular disease have been linked to disturbances in the sleep-wake cycle. If children are sleep deprived and not fully rested, schoolwork may suffer as poor sleep has been shown to affect learning and memory recall. So playing with that iPad before bed may not be the harmless 'chill out' activity that it seems.

Perhaps most worrying is the thought that many children can get addicted to interactive screen time in the same way as they can to a substance. It has been shown that gaming activates the brain's pleasure circuits by releasing dopamine, sometimes known as the feel-good or reward chemical. A study looked at reward pathways similar to those of cocaine use by assessing changes in brain scans. The concern is that playing computer games may change reward circuitry in a child's brain, starting the cycle of addicted behaviours.

ANY MORE BAD NEWS?

Yes. A by-product of anything electronic is electromagnetic radiation (EMR). EMR is also emitted from Wi-Fi and phones. Tech companies are keen to dismiss any health concerns, but there is compelling evidence that long-term exposure to EMR (particularly microwave radiation, MWR) may pose a significant

health risk, particularly to children. One paper declared MWR a possible carcinogen. Children have smaller heads, thinner skulls and developing nervous systems and so are more vulnerable to the effects of radiation from devices.

SOCIAL MEDIA IS NOT SOCIAL

A further concern is that screen time also reduces our authentic human experience that relies on real connection with each other, our environment and ourselves. An interesting study looking at social interaction and screen time from the University of California in LA in 2014 found that 11-12 year olds who went without any form of screen time for five days did considerably better at reading human emotions than other same-aged children at the same school.

However, it does not take scientific investigations to appreciate the obvious social impact of too much screen time; children addicted to technology are becoming more disconnected with their peers and the world around them and are more likely to be overweight. Time spent interacting with digital media replaces physical activity and outdoor play, depriving a child of the natural mood enhancers found in nature, leading to some psychologists reporting cases of Nature Deficit Disorder. Green time or playtime spent outdoors is vital to children's mental and physical health, resilience and development and should be encouraged wherever possible.

HOW MUCH IS TOO MUCH?

Expert opinion varies on limitations but most agree that children aged two to five years should have no more than an hour of screen time a day, and children aged five to 18 years should have no more than two hours daily. That may seem unworkable for teenagers, especially as computers are required for homework. The real danger with screen time, however, is the non-educational gaming, so computer homework could be discounted.

It's important to realise that each child is unique and some may be more genetically prone to addictive behaviours and mood disorders than others, so monitor any behavioural changes that could be associated with too much screen time on an individual basis. If you think your child may be experiencing negative aspects, such as agitation and distress, when separated from technology, then an electronic fast may be an option.

Victoria Dunkley MD, an integrative child psychiatrist specialising in screen addiction, recommends a three- to four-week period of complete absence from electronic devices



for children exhibiting behavioural and cognitive symptoms. She believes children have so much screen time that simply moderating their usage is not enough. "A complete digital fast allows the brain to have a deep rest, allowing the body clock to reset, hormones to regulate, stress hormones to lower and is so effective as it reverses much of the physiological dysfunction produced by daily screen time."

She thinks that many kids who have problems with cognition and behaviour due to 'digital dementia' may be misdiagnosed with conditions such as ADHD and bipolar disorder. "If a parent is even considering medication it's wise to always try an electronic

fast first because at the bare minimum it might minimise the need for medication and may even eradicate the need," she says.

BUILDING HEALTHIER RELATIONSHIPS

Balancing children's entertainment needs with parents' busy lives is always a challenge, and technology can be a useful tool. But are we becoming too reliant on the digital world, and are we really aiding our children's development, learning and natural curiosity by allowing its omnipresence? For children experiencing the negative consequences of too much screen time, a digital detox may be just the right recipe. ☺