



## Screen Time and the Brain

### Digital devices can interfere with everything from sleep to creativity

Original Harvard Medical School article by Debra Bradley Ruder

Whether we like it or not, digital devices are everywhere. Some of us can barely put them down, even when we're with cherished family and friends. While these devices can enhance learning and build community, they can also interfere with everything from sleep to creativity.

It's not how long we're using screens that really matters. It's how we're using them and what's happening in our brains in response.

The growing human brain is constantly building neural connections while pruning away less-used ones, and digital media use plays an active role in that process. Much of what happens on screen provides "impoverished" stimulation of the developing brain compared to reality, he says. Children need a diverse menu of online and offline experiences, including the chance to let their minds wander.

Boredom is the space in which creativity and imagination happen.

A good night's sleep is also key to brain development, and Harvard Medical School researchers have shown that using blue light-emitting screen devices like smartphones before bedtime can disrupt sleep patterns by suppressing secretion of the hormone melatonin.

Many teens who stay up late texting are not only getting less shut-eye, they're also lacking the deep REM sleep essential for processing and storing information from that day into memory. So even if they stay awake in algebra class, they may not remember what happened in class yesterday.

We don't want to be in a moral panic because kids are staring at smartphones. We need to be asking, what's happening when they're staring at their smartphone in terms of their cognitive, social, and emotional development? As with most things, it will probably be a mix of positive and negative. Going forward with our eyes open, how can we enhance the positive and mitigate the negative

#### Digital Media Tips:

- Beware of digital media distraction. Half of all kids and three-quarters of parents feel the other is distracted when talking to each other.
- Have regular sit-downs, screen-free meals with your children.
- Put down your device. Be present with others. Observe the world around you. Let your mind wander.
- Avoid blue light-emitting screen use before bedtime.
- Play online games with your children rather than forbidding them. Learn how to play from them and, as you play, help them think about what they're seeing and doing on screen.
- Help your children plan how to spend their time, focusing on important and favorite activities to avoid sliding into the screen abyss.