

Our Children @ Risk

How EdTech may be harming our children's intellectual and academic health and development



PAA has spent extensive time looking into quantities of writing and research that raise red flags about the impact of the EdTech explosion on our children. What we have found out about the EdTech push alarms us, and should alarm any parent. Our concerns include a set of frightening threats to our children's mental/emotion, intellectual/academic, and physical health. Some of the effects of excessive use of digital devices on children's **intellectual and academic health and development** are listed below.

Intellectual/Academic effects of EdTech

- Interferes with academic performance (30)*
- "Students who use computers very frequently at school do a lot worse in most learning outcomes, even after controlling for social background and student demographics." (48)
- Shrinks the brain, compromises the decision-making center of the brain, leading to delays in neurological development and verbal intelligence, appears to impair brain structure and function (2, 4)
- Screens promote passive reading, interrupt brain processing, discourage neural networking, encourage isolation, and promote controlled content and commercial interests. (12, 29)
- The time spent with technology doesn't just give kids newfangled ways of doing things, it changes the way their brains work. For example...while video games may condition the brain to pay attention to multiple stimuli, they can lead to distraction and decreased memory. (7)
- "The more babies and toddlers engage with screens, the less time they spend in creative play and interacting with parents – two activities known to be educational. (10)
- High speed media content can contribute to [attention deficit](#), as well as decreased concentration and memory, due to the brain pruning [neuronal tracks](#) to the frontal cortex (Christakis 2004, Small 2008). Children who can't pay attention can't learn. (11)
- May result in a "breakdown of cognitive abilities in a way that is more commonly seen in people who have suffered a head injury or psychiatric illness." (5, 18)
- Delayed language acquisition; "every minute your child spends in front of a screen is on fewer minute that he could spend learning from our interactions with him or practicing his interactions with you." (16, 20)
- Toddler screen time is linked to lower math and other academic achievement in later life. (14)
- Adolescents who watch 3 or more hours of television daily are at especially high risk for poor homework completion, negative attitudes toward school, poor grades, and long-term academic failure. (14)
- Students aren't paying a lot of attention in class and learn less when using a lap top: "students engage in substantial multitasking behavior with their laptops and have non course-related software applications open and active about 42% of the time." (23, 24, 25)



*The numbers following each point refer to entries in our EdTech Documentation paper at <http://tinyurl.com/edtechdocu>. Please also see the full set of PAA's reports at <http://tinyurl.com/PAAEdTechreports>.
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