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## Wired for Distraction: Kids and Social Media

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Most parents who worry about their kids' online activity focus on the people or content their children might encounter: Are they being cyberbullied? Do they have access to age-inappropriate material? Can sexual predators reach them? What I worry about, as a sociobiologist, is not what my kids are doing on the Internet but what all this connectivity is doing to their brains. Scientific evidence increasingly suggests that, amid all the texting, poking and surfing, our children's digital lives are turning

them into much different creatures from us — and not necessarily for the better.

For starters, there is the problem of what some researchers refer to as *continuous partial attention*, a term coined by former Microsoft executive Linda Stone. We know the dangers of texting or talking on the phone while operating a motor vehicle — but what about when forming a brain? A Kaiser Family Foundation report released last year found that on average, children ages 8 to 18 spend 7 hours and 38 min. a day using entertainment media. And if you count each content stream separately — a lot of kids, for example, text while watching TV — they are logging almost 11 hours of media usage a day. ([See the top 10 TV series of 2010.](#))

You (or your children) might think the people who have had the most practice dealing with distractions would be the most adept at multitasking. But a 2009 study found that when extraneous information was presented, participants who (on the basis of their answers to a study questionnaire) did a lot of media multitasking performed worse on a test than those who don't do much media multitasking. In the test, a trio of Stanford University researchers showed college students an image of a bunch of rectangles in various orientations and asked them to focus on a couple of red ones in particular. Then the students were shown a second, very similar image and asked if the red rectangles had been rotated. The heavy media multitaskers were wrong more often — because, the study concluded, they are more sensitive to distracting stimuli than light media multitaskers are.

We have separate circuits, it turns out, for top-down focus — i.e., when we set our mind to concentrate on something — and reactive attention, when our brain reflexively tunes in to novel stimuli. We obviously need both for survival, whether in the wilds of prehistory or while crossing a street today, but our saturated media universe has perhaps privileged the latter form and is wiring our kids' brains differently. "Each time we get a message or text," Anthony Wagner, one of the Stanford study's co-authors, speculates, "our dopamine reward circuits probably get activated, since the desire for social connection is so wired into us." The result, he suggests, could be a forward-feeding cycle in which we pay more and more attention to environmental stimuli — Hey, another text! — at the expense of focus. ([See more about kids' fragile, concussion-prone brains.](#))

Constant distraction affects not only how well kids learn but also how their brains absorb the new information. In 2006, UCLA scientists showed that multitaskers and focused learners deploy different parts of the brain when they

learn the same thing. Multitaskers fire up their striatum, which encodes the learning more like habit, or what's known as *procedural memory*. Meanwhile, those who were allowed to focus on the task without distraction relied on the hippocampus, which is at the heart of the declarative memory circuit that comes into play, say, in math class when you need to apply abstract rules to novel problems. The upshot of the study was that the focusers could apply the new skill more broadly but the multitaskers could not. Multitaskers' reliance on rote habit would be all well and good if we want our offspring to work on assembly lines, but to do the kind of high-level thinking that experts agree will be key to getting well-paying jobs, we'd better exercise our collective hippocampus.

Some technology observers, like Danah Boyd, a fellow at Harvard's Berkman Center for Internet and Society, claim that social media are getting a bum rap and that the real problem lies in the hyperprotective way we parent today. "Over and over, kids tell me that they'd rather get together in person, but then they list off all of the things that make doing so impossible" — like their overscheduled after-school lives or parents' fears of kids navigating the streets alone, she says.

Stone has observed something similar in technology use among adolescents: "When they're with friends, they won't answer their cell phone. And if they get an SMS, they will just answer, 'BZ, L8R.'" Perhaps this is a sign that our kids will be better than we are at learning how to prioritize tasks — something that will come in handy when they become workers and spouses and parents. ([See the dangers of texting behind the wheel.](#))

But I am still concerned about the effect that 24/7 connectivity has on my kids — and on my 11-year-old son in particular. School-lunchroom behavior — gossipy whispers, competition for attention, etc. — now goes on around the clock. There's no downtime, no alone time for him to develop his sense of self.

So what's a good dad to do? I've set some rules that are designed to aid his social and cognitive development: no Facebook during school, and no electronic devices after 9:30 p.m. The latter prohibition is designed to help him get more sleep, which, according to some studies, is when our brains prune connections among neurons, preserving and speeding up the ones that matter and flushing out the ones that don't. "Unfortunately, the new modes of communication and hours spent using them are preventing already sleep-deprived teens from getting any, which affects memory consolidation and behavioral regulation," says B.J. Casey, director of Cornell's Sackler Institute for Developmental Psychobiology. Even if kids get nine to 10 hours of sleep but sustain multiple interruptions — from, say, a buzzing iPhone next to the pillow — they will suffer cognitively and feel tired the next day. Hence my 9:30 rule, which falls into that age-old parenting category: Do as I say, not as I do.

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