

Distraction, Multitasking and Time Management



Is media multitasking an important modern-day skill or a disruptive and damaging habit?

Many of us can relate to the experience of being interrupted by a digital intrusion while we are trying to focus on another task: A cellphone vibrates to alert us to a new text message, or lights up on the table in front of us in response to a new email, or pierces a quiet work environment with its familiar ringtone. Instantly, we shift our focus – maybe just momentarily – to attend to the message. Even when cellphones are out of reach, working on a computer can mean the constant pop-up of calendar notifications or the ping of new email messages. Or, we may actively seek out distractions and temporarily divert our attention from work because of the lure of social networking sites, news articles, or our favorite blogs or online shops.

The fact that technology can pull attention away from other tasks is not only a problem for kids, it's one most adults can relate to as well. But questions about technology's distracting potential are especially relevant in the context of parenting, since we want to make sure we're doing our part to support effective habits.

On one hand, the technology isn't going anywhere. Some parents feel like kids may benefit from learning how to work around of digital disruptions, since they're going to need this skill for their entire lives. On the other hand, the stakes are high: We don't want kids to develop enduring bad habits in the process, and we certainly don't want their learning or schoolwork to suffer. Today's case focuses on the challenge of managing technology's disruptive potential. We're going to consider two articles that describe what the research says about multitasking and implications for media multitasking youth.

The Case, Part 1

The following excerpts appeared in an article written by Bob Sullivan for NBC News titled "Students can't resist distraction for two minutes... and neither can you."

Multitasking has been the subject of popular debate, but among neuroscientists, there is very little of that. Brain researchers say that what many people call multitasking should really be called "rapid toggling" between tasks, as the brain focuses quickly on one topic, then switches to another, and another. As all economics students know, switching is not free. It involves "switching costs" — in this case, the time it takes to re-immense your mind in one topic or another.

Researchers say only the simplest of tasks are candidates for multitasking, and all but one of those tasks must involve automaticity. If you are good at folding laundry, you can probably fold laundry and watch TV at the same time, for example.

Overestimated abilities

Despite this concern among brain scientists, many people overestimate their ability to multitask, such as the college student who thinks he can text and listen to a lecture simultaneously. He cannot, says brain expert Annie Murphy Paul, who writes "The Brilliant Blog."

“Multitasking while doing academic work — which is very, very common among young people — leads to spottier, shallower, less flexible learning,” Paul warned in a recent column. (...)

(...) Larry Rosen, a professor at California State University-Dominguez Hills, published a study in the May issue of *Computers in Human Behavior* that attempted to quantify how often students of all ages are distracted by technology while studying. Even under ideal circumstances, the results were dismal.

Rosen’s observers followed 263 students into their normal study environments — bedroom, library, den — and told them to work on an important school assignment for 15 minutes. Even knowing they were being watched, the students couldn’t resist texting or using social media. So-called “on-task” behavior started declining at about the two minute mark, and overall, only 65 percent of the time was used on schoolwork.

“We really assumed we set up a situation where people would try to impress us,” said Rosen, an expert in the psychology of technology. “Frankly, I was appalled at how quickly they became distracted.”

(...) “Yes, we text in class, but if my grade in that class is and A or a B I don’t see why it’s a problem,” wrote one student to Paul.

It’s a big problem for both students and adults, Paul counters, for plenty of reasons. Assignments inevitably take longer when learners split their time between tasks, she says. All that task-switching wears out the brain and makes learners more tired and less competent. Most important, several studies have shown that information learned while partially distracted is often quickly forgotten, so the learning is tragically shallow.

The key to transferring new information from the brain’s short-term to long-term memory is a process called “encoding.” Without deep concentration, encoding is unlikely to occur, explained Nicholas Carr in his book “*The Shallows: What the Internet is Doing to Our Brains.*”

The Case, Part 2

The next sections provide a little more background on what the research says on multitasking and digital technologies, with a particular focus on young, developing brains. The excerpts are from Dalton Conley's article "Wired for distraction: Kids and social media."

(...) 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.

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.

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.

Consider

- What is the biggest “digital distraction” for you? Are there any strategies you’ve found particularly helpful?
- What do you observe that seems to be most challenging for your child in terms of distraction and time management?
- What strategy or policy do you think would most help in supporting your child in those challenging moments?
- The case focuses particularly on the issue of time management and schoolwork. Are there other times when digital tools distract, for example in terms of sleeping or concentrating on other social interactions?
- How might strategies or “best practices” for helping teens avoid distraction differ in non-schoolwork situations?

What About Music?

In the case of listening to music while studying, the picture is a bit murky. The documented benefit of music relates to its mood-boosting capacity, which can certainly have its own advantages for an adolescent about to dive into hours of grueling homework at the end of a long day. When it comes to focus and performance, however, the benefits are less clear. Some studies find that some types of music (for example, without words) may help some people with focus and performance under some types of task conditions – but other studies also find that music is detrimental to focus and performance. What do all of these conditional conclusions mean? Most likely they mean that there is variation in how music influences processing and performance, and letting your child experiment thoughtfully with different conditions (e.g., music, no music, music without lyrics; music for some types of homework, like math problems, but not others, like memorization) can help him or her learn more about their own personal style.

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Technology isn't going anywhere. But multitasking — specifically media multitasking — is a concern. Some parents feel like kids may benefit from learning how to work around disruptions, since they're going to need this skill for their entire lives. On the other hand, research shows that media multitasking can have a negative impact on school performance.

- **Try an experiment.**

It's important to develop a strategy to help your kids focus and tune out distractions. If the strategy is successful, it can become a good habit. When you figure out what strategy you want to try (see the tip below for some ideas), propose an experiment. Say: "I've noticed that you get distracted by your phone during homework. I get distracted by my phone when I'm trying to work, too. Let's try an experiment." Then, explain the strategy you would like them to try. You may want to set a specific amount of time for the experiment as well (e.g., "We'll try this for three days" or "We'll try this on Tuesdays and Thursdays"). It can also be helpful to offer to try the experiment together — and doing a joint-experiment gives you an easy entry point for conversations during and after to explore what worked and what didn't.

- **Get some distance from the distraction.**

Many kids describe how a constantly buzzing cell phone distracts them from their work. But they have difficulty turning it off, for fear of missing out. After discussing it with your child, consider these solutions:

- **Get some physical distance from your phone.** Leave it in another room or put it in a drawer or box that isn't within arm's length.
- **Turn it on silent.** And keep the phone facedown on the table.
- **Take breaks for tech.** After a certain amount of homework time, or after an assignment is completed, take 15 minutes to check and respond to messages.

- **Try self-regulation apps to eliminate distractions.**

Learning to self-regulate is an essential skill. But kids often need support — and in fact, they often welcome tech solutions that help them manage their time. There are a number of apps designed to help people focus. Some apps let you block certain websites for a set amount of time. With others, you can whitelist and blacklist sites. For example, you can still use Wikipedia to read about mitosis, but you won't be able to get on Facebook. Some teens like such self-regulation apps because they are taking responsibility for setting rules for themselves. They allow teens to stay in the driver's seat, recognizing and managing the benefits and pitfalls of a 24/7 digital life.

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Digital Dilemmas are brief hypothetical situations and corresponding questions designed to foster cross-generational conversations about different aspects of adolescents' digital lives. Use this fictitious scenario, based on real-life stories, to spark a conversation at home with your children and open up the discussion about these very important topics.

Ticking Clock

Carrie was sitting at her family's dining room table studying for a history midterm that she had coming up. She promised herself 2 days ago that she was going to study for a couple hours each night until the exam, which was now the next day. Carrie really needed to do well on the test: at her school, the rule was that students could only compete in sports events if their grades were high enough. Carrie was supposed to play in tennis regionals at the end of the month, but she needed to boost her history grade by 8 points. The last couple of days were not very productive, so Carrie was really feeling the crunch. She tried to focus, but the material was just so boring. Before long, Carrie found herself scrolling through her newsfeed instead of her World War I study guide. Then, her phone buzzed next to her and she looked down and noticed she had 22 text messages in her group text. This was not going well. Carrie flipped her phone on silent, turned it upside down and decided to see if she could find any interesting history videos about World War I on YouTube. An hour later, Carrie had gotten totally pulled into a series of Epic Rap Battles of History, but had made no progress on her studies.

- ❓ Does this story seem realistic? Why or why not?
- ❓ Do you ever find yourself distracted when you're trying to do homework or study? What distracts you the most?
- ❓ What advice would you give to Carrie about how to minimize distractions and focus?
- ❓ Carrie turns her phone upside down to try and minimize the distraction. Is this a useful strategy? Why might it help (or not help)?