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Why Distraction Is So Dangerous And What We Can Do About It

Consider a few statistics:

In 2011, 1.3 million auto accidents in the U.S. involved cell phones – about 23% of all crashes.

Also in 2011, 3,331 people were killed in crashes involving a distracted driver, compared to 3,267 in 2010.

For drivers 15-19 years old involved in fatal crashes, 21% of the distracted drivers were distracted by the use of cell phones.

Text messaging while driving makes the chance of an accident 23 times more likely.

Sending or receiving a text takes a driver's eyes off the road for an average of 4.6 seconds; at 55mph, that's the equivalent of driving the length of an entire football field, blind.*

Apart from those statistics, which hit home for many of us, also consider the recent [high-speed train wreck in Spain](#) in which the driver admitted to using a cell phone prior to the crash and didn't see or hear the train's alerts that he was going far too fast – about twice the allowable speed – resulting in a wreck that claimed the lives of 79 people.

The message is clear: distraction can be deadly.

To untangle the science behind the stats, I wanted the perspective of an expert on attention and contacted [Daniel Simons](#), professor in the Department of Psychology and the Beckman Institute for Advanced Science and Technology at the University of Illinois. He's best known to the world as co-author of the famous "[The Invisible Gorilla](#)" study (and YouTube phenom) and co-author of the [bestselling book](#) of the same name. He is also founder and president of [Viscog Productions](#), a company that produces and distributes DVD presentation tools that help teachers and speakers illustrate the limits of visual perception and attention.

Dr. Simons and I had an email discussion about the dangers of losing focus, the limits of attention, and what we can do to help ourselves in a world increasingly saturated with appealing distractions.

DiSalvo: It seems more and more we're hearing about accidents—frequently fatal accidents—resulting from loss of attention. A major example is the recent train wreck in Spain, in which it appears that the driver was distracted and didn't realize he was moving at roughly twice the allowable speed. He's now being charged with 79 counts of homicide. What has your work in this area revealed about why we're so prone to distraction, and not "seeing" what's right in front of us, even when the potential consequences are severe?

Simons: Much of my work focuses on failures of awareness, cases in which we fail to notice what's right in front of us. For the most part, our tendency to miss unexpected events even when they are seemingly obvious derives from the limits of attention. We have a remarkable ability to focus attention, and that ability underlies our ability to avoid distractions and accomplish our goals. However, our ability to focus has consequences—aspects of our world falling outside that focus are more likely to be missed, particularly when they are unexpected. Those limits are nothing new—

we've always had them. What I find most interesting about these limits is our lack of awareness of them. Our intuitions about what we will and won't notice often are wrong, and it is those mistaken intuitions that have consequences. If you think you will notice anything unexpected, that important objects or events will capture your attention, you won't take the proactive steps necessary to increase your chances of noticing.

In a society that is adding more and more electronic distractions to our lives all the time, what does the science tell us we can do to manage these ever-more appealing distractions—especially those that are increasingly “in our face”?

I don't think such distractions change our brains or make us dumber. They provide another engaging source of information, one that is likely to occupy the focus of our attention. And, given that attention is limited, the more attention we devote to gadgets, the less we have available to spot unexpected dangers. In part, the danger again comes from our lack of awareness of our own limits. When we're distracted, we don't notice that we're distracted.

Do you think we'll eventually adapt in the face of failure—perhaps by our brains wiring around our impediments to become better at managing distractions—or are we just more likely to see increasing accident stats and more loss of life every year? There's a limit to the amount of adaptation we can have—no intervention is likely to radically change the limits of attention. Any improvements will involve tweaks at the margins of our abilities. What we can do is take steps to limit the consequences of those distractions when they matter most. Perhaps those problems can be addressed through technology (e.g., finding a way to prevent texting by a driver while still permitting it by passengers). But, doing so requires better recognition of the risk in the first place.

What's your position on multitasking? It's a term we hear all the time but the science doesn't seem to support it being anything but a platitude. Is it real or illusory?

For the most part, people can't truly multitask without costs. All of us juggle multiple demands on our time and multiple goals. But, for the most part, we do that by switching among the demands on us rather than truly multitasking. True multitasking involves using the same cognitive mechanisms simultaneously for different purposes. It's the mental equivalent of talking, humming, and whistling at the same time – not doable, and we know it. The problem with multitasking is that people don't have great intuitions about which activities require the same cognitive mechanisms. It turns out that having a conversation on a phone and driving interfere with each other—we can't do both at the same time without one or the other (or both) suffering. But, on their surface, it's not intuitive why such skills might tap the same underlying abilities at the same time. Multitasking is most dangerous when we don't realize we're doing it.

Has the now well-known gorilla experiment that you co-authored had a significant effect on how people “look” for that which we're prone to not see? I could see it being used in medical training, for example, to train medical professionals to see crucial things in MRI scans that they might otherwise miss.

The [video](#) is used in many fields for safety training. Critically, though, learning about that video won't magically improve your ability to see the unexpected. If you devote attention to spotting unexpected things, you're taking attention away from *expected* things. And that's not good. It would be better for your doctor to devote attention to common risks rather than rare ones. Focused attention works really well, and nothing we can do will allow us both to focus efficiently and remain alert to every possible unexpected event.

Even if we can't train people to notice everything, we can improve our intuitions about what we will and won't notice. And, by helping people identify those situations in which they might miss something, we can perhaps improve noticing. When I speak with groups of professionals about these limitations, I focus on improving our intuitions about our limits and on the ways we can adapt our behavior to minimize the consequences of our limitations.

If you had to suggest three things that people can or should be doing in their lives to manage distractions and strengthen their attention, what would they be?

I don't think we can substantially "strengthen" our attention. We can take steps to limit the consequences of inattention. The first step is to recognize that nobody can see everything and that we mostly see what we expected to see. If you're a bicyclist and you're approaching an intersection with cars turning left, you should assume that the drivers will not see you—they're looking for cars. If you see a driver talking on a cell phone, you know that they have less of their attention devoted to driving, so they are more likely not to see you.

If you can overcome the intuitive belief that you'll notice anything important, then you can take steps to minimize the consequences of attention limits. For example, you'll stop talking on the phone when you drive. And, if you know that you'll be tempted to use your phone, turn it off or put it in the back seat so that you can't use it while driving. Again, these are not ways to improve attention, but they are ways to minimize the consequences of distraction.

** Statistics at the beginning of this article were sourced from [Distraction.Gov](#), the official US government website on distracted driving, and [Textinganddrivingsafety.com](#).*

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