

Brain & Behavior

Studying? Don't answer that text!

Multitasking impairs learning, according to new research by teen brothers

By Sid Perkins 1:00pm, May 21, 2015



Tests show that teens did not learn as well when they were distracted by text messages.

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PITTSBURGH, Pa. — Cell phone use and texting are increasingly common, especially among teens. And that could be a problem. Texting affects learning and performing on tests, a new study finds. On average, students who responded to texts while working got lower scores. This trend held even for teens who felt they could multitask effectively.

Many students think that multitasking has no effect on how they perform in school, says Colter Norick, 17. (Multitasking is when a person tries to do more than one thing at the same time.) So the Montana teen and his 16-year-old brother Colin decided to test that notion.

They recruited 47 classmates at Columbia Falls High School to take part in a two-phase experiment. The goal was to gauge how well these students understood written material. Each participant had to read a paragraph or two about a certain topic, then answer a question about it.

In the first phase, the teen participants had 15 minutes to digest and then answer questions about six readings. Throughout this testing, the volunteers encountered no distractions.

A little later, Colter and Colin had their recruits tackle a new set of readings. This time, the brothers used a computer program to send texts to the volunteers' cell phones every 90 seconds. In each text, a fictional character named "Bob" asked questions that required a reply. One example: What's your favorite type of music?



Results were telling, the Norick brothers found. In theory, volunteers should have scored better, not worse, on the second test because it was slightly easier. In fact, the recruits scored

9 percent worse overall when distracted by incoming texts asking for some response. Only a few students scored as well when replying to texts as they did when undistracted. But importantly, Colter and Colin say, nobody performed *better* during the texting phase.

Research by brothers Colin, 16 (left), and Colter Norick, 17 (right), found that students who respond to text messages while taking a test end up with lower scores. This was true even for students who thought they had done well.
Laura Buitrago/SSP

Colter and Colin presented details of their findings here at the Intel International Science and Engineering Fair. This event was created by the Society for Science and the Public (which also publishes *Science News for Students*). The annual competition is sponsored by Intel. This year, it brought 1,702 finalists to Pittsburgh in mid-May from more than 70 countries.

Boys and girls scored equally poorly while texting, the brothers note. Older volunteers didn't do any better than younger ones. And it didn't matter if a student thought he or she was good at multitasking. On average, the brothers found that even students who were confident of their abilities did just as poorly while texting. Oddly, even though the students remembered less of what they read while texting, most of them answered questions in Bob's texts perfectly.

"Our teachers were very happy to see these results," says Colter. The teens' new data strongly support their teachers' claim that texting while studying is a serious distraction.

Power Words

(for more about Power Words, click [here](#))

multitask To perform more than one task at a time. Computers often do this. People can too, such as when they listen during a meeting and take notes at the same time.

Society for Science and the Public (or SSP) A nonprofit organization created in 1921 and based in Washington, D.C. Since its founding, SSP has been not only promoting public engagement in scientific research but also the public understanding of science. It created and continues to run three renowned science competitions, including the Intel International Science and Engineering Fair (initially launched in 1950). SSP also publishes award-winning journalism in *Science News* (launched in 1922) and *Science News for Students* (created in 2003).

texting The sending of a text message from a mobile (cell) phone.

Further Reading

S. Perkins. "Teens want to make windshield wipers obsolete." *Science News for Students*. May 19, 2015.

S. Perkins. "Teens win big for pollution control and HIV detection." *Science News for Students*. May 15, 2015.

B. Brookshire. "Some teens perform better when they multitask." Eureka! Lab. October 17, 2014.

L. Sanders. "Video games: When granddad wins." *Science News for Students*. September 10, 2013.

Original Meeting Source: C. Norick and C. Norick. The effect of multitasking on reading comprehension in teens. Intel International Science and Engineering Fair, Pittsburgh, Pa., May 12, 2015.

Learn more about the Intel International Science and Engineering Fair (Intel ISEF) from Society for Science & the public.

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