Even Small Distractions Derail Productivity

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As you're sitting at your desk trying to finish an important report before a big meeting you're peppered with small interruptions: Your phone buzzes with texts about what to eat for dinner, you get incoming emails from your boss, and somebody swings by to ask you a question. You've only been working on your report for about an hour, but you've already been interrupted half a dozen times.

Plenty of research has shown that distractions cause people to take longer to complete a task, but now a team of psychological scientists from George Mason University has found that interruptions don't just take up time, they also degrade the overall quality of people's work.

"Previous work on interruptions has focused on the impact interruptions have on the ability to resume the primary task as measured by time and errors," the researchers write. "The goal of this study was to investigate the effect that interruptions have on the overall quality of the primary task work product."

Lead author Cyrus Foroughi did his own anecdotal study on how many interruptions he experienced on

a quiet Monday morning: “In those two hours, I received five text messages, one phone call, about a dozen messages on Gchat and six emails. A fellow graduate student wandered into my room twice to strike up a conversation. Oh, did I mention this all occurred from 8 a.m. to 10 a.m. on a Monday, on campus, in July? At this time, the campus is barren, and it is one of the least likely times to be interrupted outside of the weekend.”

With this experience in mind, the researchers were interested in how interruptions affect the overall quality of a person’s work.

“To study this topic, we needed a task whereby quality could be defined beyond the number of errors made or time to complete the task,” Foroughi and colleagues explain. “We selected a complex, creative thought task that mirrors a common real-world task, outlining and writing an essay.”

In two small studies, around 50 college students were asked to write three essays based on standard college essay prompts created by the College Board. Participants were given 12 minutes to plan and outline their essays on paper, and then were given 12 minutes to actually write their essays using a computer and keyboard.

While they working on their essays, the students were interrupted at random intervals with sets of unrelated puzzle tasks, like solving math problems or unscrambling words. Participants were instructed to complete as much of the interruption task as possible during each of the 60-second interruptions before switching back to working on their essays. These interruptions occurred during two of the three essays so that each participant completed an essay under each of the three conditions (i.e., no interruptions, interruptions during the planning phase, and interruptions during the writing phase).

The essays were then assessed by two trained graders based on a 0-6 scale drawn from the College Board Essay Scoring Guide. The researchers also analyzed the total number of words written and participants’ accuracy on the interruption tasks.

In both of the interruption conditions the essays received significantly lower ratings compared with the control condition — on average, interrupted students received scores that were about half a point lower on the rating scale.

In a second experiment, participants were given 20 minutes instead of 12 to write their essays.

“No participant scored higher when interrupted compared to the no-interruption condition, in either experiment. Nearly everyone who was interrupted did worse. In fact, 96 percent of the participants performed worse, and 4 percent stayed the same,” Foroughi explain in a post on LiveScience.

The analysis also showed that when participants had to contend with interruptions they typically wrote down fewer total words, particularly when they were interrupted while in the act of writing – not just planning – their essays.

It’s not exactly clear why this happens. It’s possible that it just takes time for people to re-focus their attention and thoughts back on their original task, but there’s also evidence that working memory processes play an important role in our ability to bounce back from interruptions.

In a review on working memory capacity and multitasking, a team of researchers from the Georgia Institute of Technology led by Christopher Draheim explain how individual differences in these cognitive skills can impact job performance and safety in vital ways.

“Having the best personnel in many of these jobs is important because failure has major consequences, not just economically but in terms of human life,” Draheim and colleagues write in *Perspectives on Psychological Science*. “Knowing that limited attentional resources in working memory is linked to this ability can help employers select the best candidates to minimize potential losses and provide both employers and applied psychologists with the knowledge to create job situations in which task switching is facilitated, minimizing the potential for mistakes.”

References

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