

Our minds drift more as tasks drag on, researchers find

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The longer a person spends on a task, the more their mind starts to wander—regardless of whether the activity is difficult or easy. In fact, toward the end of the task, individuals are typically thinking about something else at least 50 percent of the time, according to a new University of Miami study.

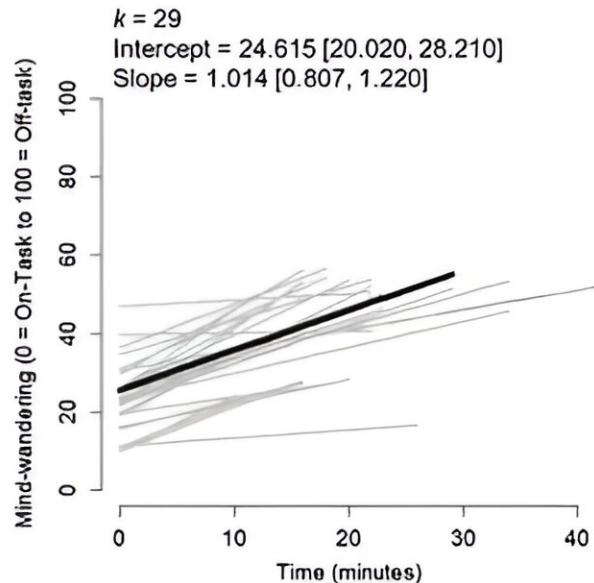
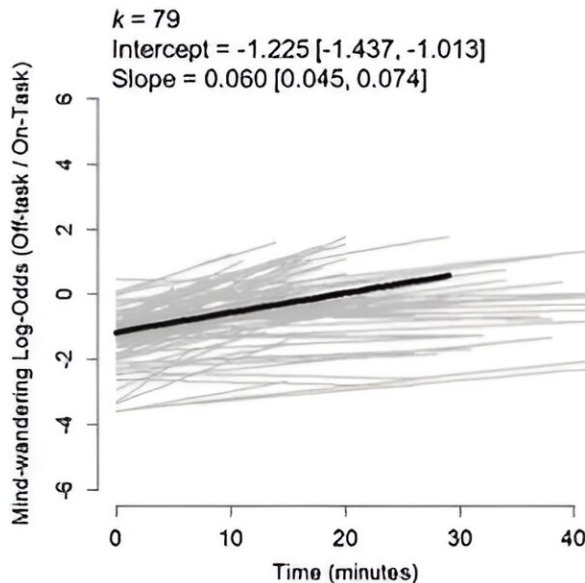
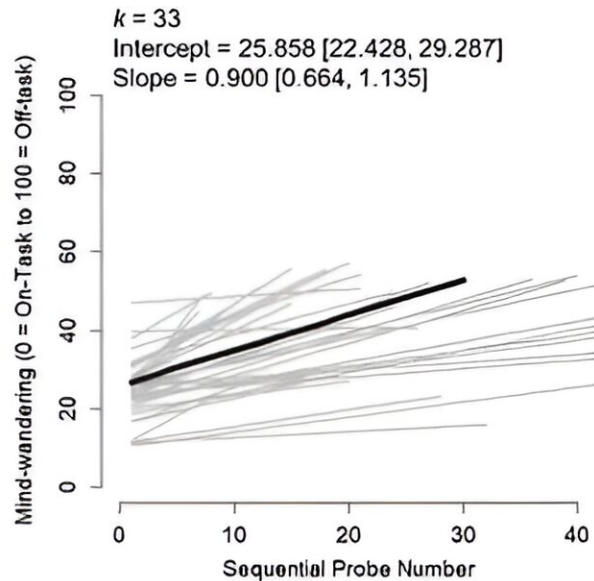
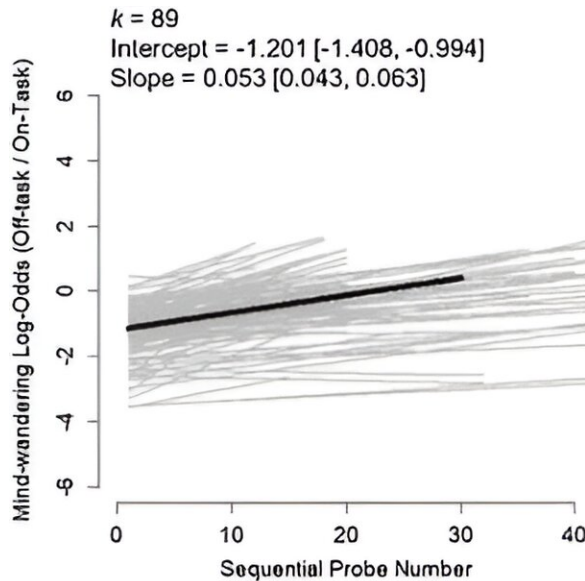
The findings, [published in the journal *Psychological Bulletin*](#), represent the most comprehensive research to date on typical rates of mind-wandering while completing tasks. While some people are better at staying focused than others, everyone's mind tends to wander more frequently over time, the researchers found.

"It was somewhat surprising to us that we didn't see differences in different types of tasks and activities participants engaged in," said lead researcher Anthony Zanesco, a cognitive neuroscientist and postdoctoral associate in the Department of Psychology at the University of Miami's College of Arts and Sciences.

"You might expect that it's harder for people to pay attention during more [difficult tasks](#) or that maybe during easy tasks, people feel bored, and their mind wanders more. However, we didn't find any systematic differences between those types of tasks. Our minds wander more and more regardless of what we are doing."

Working with University of Miami researchers Amishi Jha and Ekaterina Denkova, Zanesco analyzed and combined data from more than 10,000 people who had participated in 68 different mind-wandering studies. Participants in these studies completed tasks of varying types and difficulty while researchers periodically interrupted them to check on their level of focus. These tasks mostly took place in quiet environments with no outside distractions.

"We often blame our phones or social media for why we are distracted. But our minds will drag us off-task even without these external distractions," Zanesco said.



Trajectories Obtained From Linear Growth Curve Modeling Note. Growth curves are plotted as gray lines across sequential probes (top) and time-on-task (bottom) for 52 studies ($k = 89$) using dichotomous mind-wandering probe

ratings and 22 studies ($k = 33$) using continuous mind-wandering ratings. The length of trajectories depicts the range used in each study. Estimates from studies using dichotomous ratings are plotted in log-odds units on the left and estimates from continuous ratings (0 = “on-task” to 100 = “off-task”) are plotted on the right. Lower values indicate less mind-wandering. Meta-analytic intercept and slope estimates and 95% CIs are provided above, and the meta-analytic linear trajectories are plotted as black lines. CI = confidence interval. Credit: *Psychological Bulletin* (2024). DOI: 10.1037/bul0000424

The findings have wide-ranging implications outside the lab. Previous research has indicated that performance tends to worsen over time in tasks that require us to stay focused. But the reasons for this decline are still unknown. Researchers have proposed several possibilities for our short attention spans, including that our minds tend to wander to our thoughts more frequently over time.

ZanESCO and his colleagues investigated this question directly. Their research suggests that our tendency to get stuck thinking about something other than what we are currently doing may be one reason why we struggle to pay attention. Finding effective strategies for curtailing mind-wandering is an important next step.

"This kind of research can make us aware that our attention is vulnerable," ZanESCO said. "It's important that we recognize that our attention can be vulnerable and that we have a strong tendency toward mind-wandering so we can work to guard against it."

The research findings suggest that it might be beneficial to tackle the most important material early on in an academic lecture or meeting, ZanESCO said, when participants' minds are not wandering as frequently. The lecturer or meeting facilitator may also want to pause periodically to remind participants to refocus if their minds have drifted into unrelated

thoughts.

Mindfulness exercises can also help individuals to notice better when their minds have started to wander and to refocus on the task at hand more easily, Zanesco added, citing previous research he and Jha have conducted.

"Our mindfulness [research](#) has found that people report mind-wandering less and are better able to focus after mindfulness training," said Jha, a [psychology professor](#) and the director of contemplative neuroscience for the UMindfulness Initiative at the University of Miami.

"This includes protecting against attentional lapses and mind-wandering in high-stress and time-pressured settings, such as performing surgery, battling a fire, or controlling air traffic, where drifting off-task can have life or death ramifications."

More information: Anthony P. Zanesco et al, Mind-wandering increases in frequency over time during task performance: An individual-participant meta-analytic review, *Psychological Bulletin* (2024). [DOI: 10.1037/bul0000424](#)

Provided by University of Miami

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