

More than Just ‘Zoning Out’ – Psychological Science Examines the Cognitive Processes Underlying Mind Wandering

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It happens innocently enough: One minute you’re sitting at your desk, working on a report, and the next minute you’re thinking about how you probably need to do laundry and that you want to try the new restaurant down the street. Mind wandering is a frequent and common occurrence. And while mind wandering in certain situations – in class, for example – can be counterproductive, some research suggests that mind wandering isn’t necessarily a bad thing.

New research published in the journals of the [Association for Psychological Science](#) explores mind wandering in various contexts, examining how mind wandering is related to cognitive processes involved in working memory and executive control.

[Inspired by Distraction: Mind Wandering Facilitates Creative Incubation](#)

Benjamin Baird, Jonathan Smallwood, Michael D. Mrazek, Julia W. Y. Kam, Michael S. Franklin, and Jonathan W. Schooler

You might be driving home from work, taking a shower, preparing ingredients for dinner and, suddenly – “Eureka!” – you have a new insight into some problem or situation. Anecdotes tell us that people often have these kinds of creative thoughts while engaged in unrelated tasks, but researcher Benjamin Baird and colleagues wanted to subject the phenomenon to scientific scrutiny. The researchers designed an experiment in which they asked participants to perform an Unusual Use Task (UUT), listing as many unusual uses for an item as possible. The participants were then split into four groups – one group was asked to perform a demanding task and a second was asked to perform an undemanding task. The third group rested for 12 minutes and a fourth group was given no break. All participants then performed the Unusual Use Task again. Of the four groups, only the people who performed the undemanding task improved their score on the second UUT test. Participants in the undemanding task reported greater instances of mind wandering during the task, which suggests that simple tasks that allow the mind to wander may increase creative problem solving.

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[What Mind Wandering Reveals About Executive-Control Abilities and Failures](#)

Michael J. Kane and Jennifer C. McVay

While mind wandering might lead to creative insights, involuntary mind wandering can also take us away from the important activities and tasks at hand. In this article, Kane and McVay discuss the

relationships among working memory, task-unrelated thoughts, and task performance. Using both laboratory-based and daily-life assessments, research has shown that people with lower working memory capacity are more likely to mind wander, at least during demanding tasks. This propensity to mind wandering may partly explain why people with lower working memory capacity are also more likely to make errors. Kane and McVay argue that involuntary mind wandering can provide psychological scientists with a unique window into aspects of the mind's mechanisms for cognitive control, including how, when, and for whom these mechanisms fail.

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[The Persistence of Thought: Working Memory May Help to Maintain Task-Unrelated Thinking](#)

Daniel B. Levinson, Jonathan Smallwood, and Richard J. Davidson

Our working memory acts as a sort of mental workspace that allows us to juggle multiple thoughts simultaneously, but what role does it play in mind wandering? Does working memory inhibit or support off-task thinking? Psychological scientist Daniel Levinson and colleagues decided to put this issue to the test. They asked volunteers to perform one of two simple tasks — either pressing a button in response to the appearance of a certain letter on a screen, or simply tapping in time with one's breath — and compared people's propensity to drift off. In both tasks, people with higher working memory capacity reported more mind wandering during the tasks, even though their performance on the test wasn't compromised. But when the volunteers were given a comparably simple task that was filled with sensory distractors, the relationship between working memory and mind wandering disappeared. These results suggest that working memory may ultimately reflect underlying priorities, enabling off-topic thoughts when we don't have many other things to keep in mind.

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[Rest Is Not Idleness: Implications of the Brain's Default Mode for Human Development and Education](#)

Mary Helen Immordino-Yang, Joanna A. Christodoulou, and Vanessa Singh

While moments for reflection may be hard to come by, some research suggests that the long-lost art of introspection — from mind wandering to focused reflection — may be an increasingly valuable part of life. In this article, psychological scientist Mary Helen Immordino-Yang and colleagues survey the existing scientific literature from neuroscience and psychological science, exploring what it means when our brains are 'at rest.' Immordino-Yang and her colleagues believe that research on the brain at rest can yield important insights into the importance of reflection and quiet time for learning.

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