

Understanding mind-wandering could shed light on mental illness

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Credit: Human Brain Project

If you think the mind grinds to a halt when you're doing nothing, think again.

A University of British Columbia-led review of mind-wandering research, published in the November issue of *Nature Reviews*

Neuroscience, proposes a new framework for understanding how [thoughts](#) flow, even at rest.

The authors argue that their new framework could help better understand the stream of consciousness of patients diagnosed with mental illnesses like depression, anxiety and attention deficit hyperactivity disorder (ADHD).

"Mind-wandering is typically characterized as thoughts that stray from what you're doing," said Kalina Christoff, the review's lead author and a professor in UBC's department of psychology. "But we believe this definition is limited in that it doesn't capture the dynamics of thought. Sometimes the mind moves freely from one idea to another, but at other times it keeps coming back to the same idea, drawn by some worry or emotion. Understanding what makes thought free and what makes it constrained is crucial because it can help us understand how thoughts move in the minds of those diagnosed with mental illness."

In the review, the authors propose that thoughts flow freely when the mind is in its default state—mind-wandering. Yet two types of constraints—one automatic and the other deliberate—can curtail this spontaneous movement of thoughts. Reviewing neuroscience literature from more than 200 journals, the authors give an account of how the flow of thoughts is grounded in the interaction between different brain networks—a framework that promises to guide future research in neuroscience.

This new perspective on mind-wandering could help psychologists gain a more in-depth understanding of [mental illnesses](#), said review co-author Zachary Irving, postdoctoral scholar at the University of California, Berkeley, who has ADHD.

"Everyone's mind has a natural ebb and flow of thought, but our

framework reconceptualizes disorders like ADHD, depression and anxiety as extensions of that normal variation in thinking," said Irving. "This framework suggests, in a sense, that we all have someone with anxiety and ADHD in our minds. The anxious mind helps us focus on what's personally important; the ADHD mind allows us to think freely and creatively."

Within this framework, spontaneous thought processes— including mind-wandering, but also creative thinking and dreaming— arise when thoughts are relatively free from deliberate and automatic constraints. Mind-wandering is not far from [creative thinking](#).

"We propose that mind-wandering isn't an odd quirk of the mind," said Christoff. "Rather, it's something that the mind does when it enters into a spontaneous mode. Without this spontaneous mode, we couldn't do things like dream or think creatively."

More information: Kalina Christoff et al, Mind-wandering as spontaneous thought: a dynamic framework, *Nature Reviews Neuroscience* (2016). [DOI: 10.1038/nrn.2016.113](https://doi.org/10.1038/nrn.2016.113)

Provided by University of British Columbia

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