



DISCOVERING THE VIRTUES OF A WANDERING MIND

By JOHN TIERNEY Published: June 29, 2010

At long last, the doodling daydreamer is getting some respect.



In the past, daydreaming was often considered a failure of mental discipline, or worse. Freud labeled it infantile and neurotic.

But now that researchers have been analyzing those stray thoughts, they've found daydreaming to be remarkably common — and often quite useful.

Consider, for instance, these three words: eye, gown, basket. Can you think of another word that relates to all three?

Mind wandering, as psychologists define it, is a subcategory of daydreaming, which is the broad term for all stray thoughts and fantasies.

thoughts, that's mind wandering.

During waking hours, people's minds seem to wander about 30 percent of the time, according to estimates by psychologists who have interrupted people throughout the day to ask what they're thinking.

"People assume mind wandering is a bad thing, but if we couldn't do it during a boring task, life would be horrible," Dr. Smallwood says.

You'd be stuck contemplating the mass of idling cars, a mental exercise that is much less pleasant than dreaming about a beach and much less useful than mulling what to do once you get off the road.

"While a person is occupied with one task, this system keeps the individual's larger agenda fresher in mind," Dr. Klinger writes in the "Handbook of Imagination and Mental Simulation."

Of course, it's often hard to know which agenda is most evolutionarily adaptive at any moment. If, during a professor's lecture, students start checking out peers of the opposite sex sitting nearby, are their brains missing out on vital knowledge or working on the more important agenda of finding a mate?

But mind wandering clearly seems to be a dubious strategy, if, for example, you're tailgating a driver who suddenly brakes. Or, to cite activities that have actually been studied in the laboratory, when you're sitting by yourself reading "War and Peace" or "Sense and Sensibility."

If your mind is elsewhere while your eyes are scanning Tolstoy's or Austen's words, you're wasting your own time. You'd be better off putting down the book and doing something more enjoyable or productive than "mindless reading," as researchers call it.

Yet when people sit down in a laboratory with nothing on the agenda except to read a novel and report whenever their mind wanders, in the course of a half hour they typically report one to three episodes. And those are just the lapses they themselves notice, thanks to their wandering brains being in a state of "meta-awareness," as it's called by Dr. Schooler,

He, and other researchers have also studied the many other occasions when readers aren't aware of their own wandering minds, a condition known in the psychological literature as "zoning out." (For once, a good bit of technical jargon.)

"It's daunting to think that we're slipping in and out so frequently and we never notice that we were gone," Dr. Schooler says. "We have this intuition that the one thing we should know is what's going on in our minds: I think, therefore I am. It's the last bastion of what we know, and yet we don't even know that so well."

The frequency of zoning out more than doubled in reading experiments involving smokers who craved a cigarette and in people who were given a vodka cocktail before taking on "War and Peace." Besides increasing the amount of mind wandering, the people made alcohol less likely to notice when their minds wandered from Tolstoy's text.

In another reading experiment, researchers mangled a series of consecutive sentences by switching the position of two nouns in each one — the way that "alcohol" and "people" were switched in the last sentence of the previous paragraph. In the laboratory experiment, even though the readers were told to look for sections of gibberish somewhere in the story, only half of them spotted it right away.

To measure mind wandering more directly, Dr. Schooler and two psychologists at the University of Pittsburgh, Erik D. Reichle and Andrew Reineberg, used a machine that tracked the movements of people's eyes while reading "Sense and Sensibility" on a computer screen.

By comparing the eye movements with the prose on the screen, the experimenters could tell if someone was slowing to understand complex phrases or simply scanning without comprehension. They found that when people's mind wandered, the episode could last as long as two minutes.

Where exactly does the mind go during those moments? By observing people at rest during brain scans, neuroscientists have identified a "default network" that is active when people's minds are especially free to wander.

But during some episodes of mind wandering, both networks are firing simultaneously, according to a study led by Kalina Christoff of the University of British Columbia. Why both networks are active is up for debate.

Another school of psychologists, which includes the Santa Barbara researchers, theorizes that both networks are working on agendas beyond the immediate task. That theory could help explain why studies have found that people prone to mind wandering also score higher on tests of creativity, like the word-association puzzle mentioned earlier.

To encourage this creative process, Dr. Schooler says, it may help if you go jogging, take a walk, do some knitting or just sit around doodling, because relatively undemanding tasks seem to free your mind to wander productively.

"For creativity you need your mind to wander," Dr. Schooler says, "but you also need to be able to notice that you're mind wandering and catch the idea when you have it. If Archimedes had come up with a solution in the bathtub but didn't notice he'd had the idea, what good would it have done him?"

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