

The benefits of daydreaming

, you spend between a third and half your waking hours daydreaming. That may sound like a huge waste of time, but scientists think it must have some purpose, or humans wouldn't have evolved to do so much of it. So to what's going on here, let's take a closer look at the mind-wanderer in chief: the bored teenager.

Wouldn't it be cool to discover something, anything. Like even this plant. Just to be one of those explorers who sails around drawing stuff for years on end and everyone thinks they're a genius. But does anyone even do that anymore? Is there anything left to discover? And would I be tough enough to deal with the dysentery or scurvy or piranhas or whatever? I barely have the to make it through track practice... but I will. , I'll have the discipline to show up before sunrise and practice. I'll win all my races. Winning will become so easy, I'll other events just for fun. And once I'm in the Olympics, they'll have no choice but to crown me team captain, which I will accept. And will I be nasty to the teammate who yelled at me? No. I'll just calmly say, "hope you're in a better mood."

Okay. Yours and other people's daydreams might sound or feel something like that. Let's see what was going on. To see what parts of the brain are active when you're doing a task, or thinking, or daydreaming, scientists use brain imaging techniques that show increased blood flow and energy in those areas.

These brain areas are active, working together and communicating with each other. Taken together, they're called the executive network. When your mind starts to , a different set of brain areas becomes active. These areas the default mode network. The name default mode makes it sound like nothing is going on. And in fact, for many years, scientists associated this pattern of activity with rest. But a closer look that these are the brain areas involved when we revisit a memory, when we think about our plans and hopes, and yes, when our minds are wandering off on a wild daydream. The mind can wander to unproductive or places and over negative past events, like an argument. It can also wander to neutral, everyday matters, like planning out the rest of one's afternoon. But where mind-wandering really gets interesting is when it crosses into the realm of free-moving associative thought that you aren't directing. This kind of mind-wandering is associated with increases in both ideas and

positive emotions, and the evidence suggests that daydreaming can help people find new ways to reach their goals and navigate relationships and social situations.

Scientists think there may be two essential parts to this process: a generative phase of free-flowing ideas and spontaneous thoughts, which is part of the default mode network, followed by a process of selecting, developing, and pursuing the best ideas from that generative burst, driven by logical thinking thanks to the executive network. A host of imaging studies suggest that these two networks working in sync is a crucial condition for creative thinking. Taken together, the evidence clearly suggests the logical nature of the executive network and the imaginative realm of the default mode network are closely related. And as you can see, the executive network is still playing a role when the default mode network is doing its thing during daydreaming.

In teenagers, the prefrontal cortex and other areas involved in executive function are still developing, but teens are perfectly capable of thinking through their problems and goals, especially when given space to do so on their own.