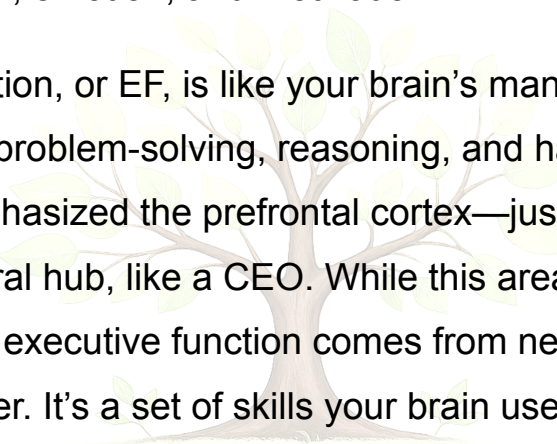


What is Executive Function?

Have you ever tried to finish something but kept getting distracted? Maybe you forgot those verification codes on your phone and need to check them again. Or perhaps you find it hard to stop doing something fun when it's time to switch tasks. If so, you're not alone.

All of these situations involve executive function—along with other systems like attention, emotion, and motivation.

Executive function, or EF, is like your brain's management system. It helps with planning, problem-solving, reasoning, and handling daily life. Earlier research emphasized the prefrontal cortex—just behind your forehead—as a central hub, like a CEO. While this area is important, we now understand that executive function comes from networks across the brain working together. It's a set of skills your brain uses, not a single spot in your brain.



Executive function helps you navigate tasks—supporting you in getting started, staying focused, adjusting, and finishing what you begin. This includes starting tasks, maintaining attention, stopping when needed, remembering details, managing impulses, and adapting when things change.

Executive function has three main building blocks: working memory, inhibitory control, and cognitive flexibility.

Working memory lets you hold and use small bits of information for short periods, like when you remember a verification code just long enough to enter it.

Inhibitory control helps you pause, resist impulses, and manage your attention and behavior, even when something tries to pull you away. For example, you might ignore background noise to listen to someone or stay focused on a task despite distractions.

Cognitive flexibility means being able to shift your thinking and adapt to new situations or rules. For instance, you might switch to a new task or use new information to solve a problem differently.

Other executive function skills, like reasoning, planning, prioritizing, and organizing, develop from these three main building blocks.

There's more to executive function than just skills. It's also part of a bigger self-regulation system that connects with our emotions, motivation, and surroundings. Our bodies are always regulating—not just thinking.

This means executive function can change depending on things like stress, sleep, emotions, and your environment. If you can't do something today that you managed yesterday, that's normal. Struggles with executive function aren't just about ups and downs—they also depend on your situation.

We aren't born with fully developed executive function. It grows over time and is shaped by genetics, early experiences, stress, and support systems. Even as adults, these factors still affect us. Things like poor sleep, not getting enough nourishment, limited movement, stress, loneliness, and

feeling overwhelmed can all make executive function harder. That's why people who usually don't have trouble with executive function might sometimes forget things, make more mistakes, lose focus, or feel irritable.

So what does this mean for everyday life? It's important to support your brain by reducing mental overload, using tools and reminders, matching tasks to your energy, adjusting your environment, and setting boundaries that support your goals. If something isn't working, it's not just about trying harder—it's about finding strategies that work for you.

References

Blair C. Educating executive function. *Wiley Interdiscip Rev Cogn Sci*. 2017 Jan;8(1-2):10.1002/wcs.1403. doi: 10.1002/wcs.1403. Epub 2016 Dec 1. PMID: 27906522; PMCID: PMC5182118.

Diamond A. Executive functions. *Annu Rev Psychol*. 2013;64:135-68. doi: 10.1146/annurev-psych-113011-143750. Epub 2012 Sep 27. PMID: 23020641; PMCID: PMC4084861.

Nigg JT. Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *J Child Psychol Psychiatry*. 2017 Apr;58(4):361-383. doi: 10.1111/jcpp.12675. Epub 2016 Dec 30. PMID: 28035675; PMCID: PMC5367959.

Zink N, Lenartowicz A, Markett S. A new era for executive function research: On the transition from centralized to distributed executive functioning. *Neurosci Biobehav Rev*. 2021 May;124:235-244. doi:

10.1016/j.neubiorev.2021.02.011. Epub 2021 Feb 11. PMID:
33582233; PMCID: PMC8420078.

