



4 Executive Functions Explained



Kortex
ADHD COACHING





Executive Functions Explained

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Kortex ADHD Coaching helps individuals with ADHD by enhancing executive function skills, and working with their brains and not against it.

Kortex ADHD Coaching also supports parents struggling with their child's ADHD, fostering better understanding, consistent routines, and organizational skills.

4 Executive Functions Explained

Think of your brain's executive functions as all the skills needed to successfully ski down a mountain. Just as skiing requires multiple coordinated abilities, executive functions are a set of mental skills that help you plan, focus, and execute daily tasks.

Planning & Organization: Just as planning your route and gear is essential before hitting the slopes, executive functions are crucial for planning and organizing tasks in daily life.

Similar to choosing runs that match your skill level and deciding the best line to take, executive functions help you break down complex tasks into manageable steps and create effective plans.

Working Memory: While skiing, you need to hold multiple pieces of information in mind simultaneously – the terrain ahead, your speed, your body position, and other skiers' locations. This mirrors how working memory lets you hold multiple pieces of information while completing a task.

Cognitive Flexibility: Just as a skier must adapt to sudden changes – like an icy patch or another skier – cognitive flexibility allows you to switch between tasks and adjust to new situations. You might need to quickly change your planned route or adapt your skiing technique.



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Inhibitory Control: Skiing requires knowing when to speed up and, crucially, when to slow down or stop. This is like inhibitory control, which helps you resist impulses and think before acting. Just as an overeager skier might get into trouble by going too fast, poor inhibitory control can lead to impulsive decisions.

Task Initiation: Standing at the top of a run requires overcoming that initial hesitation to push off – similar to how task initiation helps you start activities despite feeling reluctant or overwhelmed.

Self-Monitoring: As you ski, you're constantly monitoring your performance – your speed, form, and direction. This mirrors how executive functions help you evaluate your progress and adjust your approach to tasks.



4 Executive Functions Explained

Executive Function #1

PLANNING

Planning is a crucial executive function that serves as the brain's roadmap for completing tasks and achieving goals. It involves thinking ahead, organizing steps, and preparing for potential challenges.

As an executive function, planning includes . This **creating a mental roadmap for tasks or goals, setting priorities, managing time effectively, sequencing steps to achieve desired outcomes, and anticipating potential obstacles and solutions in advance** cognitive skill is essential for navigating daily life efficiently and successfully.

The impact of strong planning skills is far-reaching and significantly influences various aspects of life. It enhances productivity by helping complete tasks more efficiently and reducing wasted time and effort.

People with strong planning skills often find it easier to navigate complex tasks and maintain a balanced life, while **those who struggle with planning may experience more stress, missed deadlines, and difficulty achieving their goals.**



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Executive Function #2

COGNITIVE FLEXIBILITY

Cognitive flexibility is a key executive function that allows us to adapt our thinking and behaviour in response to changing situations. **It's like being able to switch gears in your mind quickly and smoothly.**

Imagine you're driving a car. Sometimes you need to speed up, other times slow down, and occasionally make unexpected turns. **Cognitive flexibility is similar - it helps you "navigate" through different tasks, problems, and social situations by adjusting your approach as needed.**

Cognitive Flexibility involves:

- Shifting attention between different concepts or tasks
- Considering multiple perspectives or solutions
- Adapting to new rules or unexpected changes
- Thinking creatively to overcome obstacles

For example, when solving a puzzle, cognitive flexibility allows you to try different strategies if your first attempt doesn't work. In social situations, it helps you adjust your behaviour based on social cues or cultural norms.

Cognitive flexibility develops throughout childhood and continues to improve into adulthood. It's crucial for learning, problem-solving, and social interactions.



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Executive Function #3

INHIBITORY CONTROL

Inhibitory control is like having a skilled brake system in your brain.

Just as a car needs good brakes to stop at red lights and avoid collisions, your brain needs inhibitory control **to stop unwanted thoughts, actions, and impulses. It helps you pause before speaking, resist distractions, and think before acting.**

Imagine you're driving a car. You see an interesting billboard, but you need to keep your eyes on the road. Inhibitory control is what helps you resist the urge to look at the bear while driving. **It's your brain's way of saying "not now" to impulses that could interfere with your important tasks.**

People with ADHD often experience challenges with inhibitory control, which can manifest in several ways:

- Speaking out of turn or interrupting others because the brain struggles to "put the brakes" on the impulse to share thoughts immediately
- Difficulty staying focused on tasks when more interesting distractions appear
- Acting on impulses without considering consequences, like buying items without checking the budget first
- Struggling to resist immediate rewards in favour of longer-term goals

This is a neurological difference in how the brain's "brake system" functions.

Various strategies and supports can help strengthen inhibitory control over time, much like how a driver can learn to be more skilled at using their car's brakes effectively.



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Executive Function #4

WORKING MEMORY

Working memory functions like a digital clipboard for the brain—a temporary space where we consciously hold and manipulate information. **As a vital executive function, it serves as the mind's juggler, balancing multiple pieces of information while we engage with them.**

Visualize your working memory as a bustling airport control tower:

- **Monitoring Multiple Planes:** Just like a controller tracks several aircraft at once, working memory manages various pieces of information.
- **Real-Time Updates:** The controller continually adjusts their mental map as planes move, reflecting how working memory refreshes with new data while discarding outdated information.
- **Coordinating Actions:** Controllers guide planes to avoid conflicts. In the same way, working memory coordinates different information to tackle problems and inform actions.
- **Limited Capacity:** An air traffic controller can oversee only a certain number of planes simultaneously. Similarly, working memory typically handles 4 to 7 items at a time.



WORKING MEMORY

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