



BRAIN HEALTH BOOST



Development of Executive Function Key to Brain Healthy Life

*The Brain Health Initiative (BHI) is working to develop brain healthy communities, creating a culture that promotes brain health protective factors and decreases risk factors, thereby improving brain health, optimizing brain performance, and preventing and fighting brain illness across the lifespan for the Florida Suncoast region and beyond. **Executive function is the basis of how we manage our daily lives, allowing us to prioritize our tasks, plan for the future, and relate to other people. Today, we will look at how executive function challenges affect us throughout the stages of life.***

Executive function is a general term that describes the skills that help us focus, plan, regulate emotions and behaviors, work toward goals, adapt to new situations, and engage in abstract thinking. Harvard University’s Center on the Developing Child envisions executive function as the brain’s air traffic control system. Imagine a busy airport with simultaneous arrivals and departures. Then think of your brain with all the thoughts and stimuli swirling around at the same time.

Someone, or something, must manage all that activity. Enter executive function. Unfortunately, no one is born with all the components of executive function. We are born with the potential to develop these skills throughout life. And the skills continue to develop, and then eventually decline, through adulthood into our golden years. How we sustain our executive function plays an important role in whether we reach whatever personal or professional goals we may have set for ourselves.

It all begins in childhood. By age 3, most children are using simple executive function skills. A burst of executive function development happens between age 3 and 5. The prefrontal cortex in the brain connects to other brain regions. These connections become more efficient later in childhood into adolescence and young adulthood.

[A report from Harvard University’s Center on the Developing Child](#) says, “The critical factors in developing a strong foundation for these essential skills are children’s relationships, the activities they have opportunities to engage in, and the places in which they live, learn, and play.” Where there is not a strong executive function foundation, children may struggle with impulse control

and experience tantrums or fail to thrive in school because of poor organization, time management, and memory skills.

Executive function, especially related to working memory and planning ability, continues to develop through adolescence and into early adulthood, with another boost occurring between ages 15 and 23.

As we age, certain executive functions decline at different rates, based on structural and functional changes in the brain. According to a report in the journal *Nature*, “aspects of short-term memory decline from 18 years of age, working memory declines in the 30s, and vocabulary peaks in the 40s or even later. In contrast, other aspects of cognition, such as autobiographical memory and semantic knowledge, remain relatively stable across adulthood.”

In adulthood, those who are forced to face several chaotic, stressful and/or threatening situations simultaneously, or who may be under the influence of drugs, find it difficult to use the skills they have to cope with such circumstances. This manifests in adults who have trouble analyzing their problems, exploring options, or setting priorities for moving forward.

WHAT YOU CAN DO TODAY TO PROTECT YOUR BRAIN HEALTH

There are several intervention strategies to strengthen executive function in adults:

- **MISPLACING ITEMS.** Disorganization and failing to keep track of things is a common executive function challenge. **Strategy:** To avoid feeling overwhelmed, declutter and maintain a tidy workspace and living space.
- **LOSING THE THREAD OF A STORY.** You may forget key details or the order of events when you try to recount an event. **Strategy:** Write down notes of important dates, reminders, and rules in a designated notebook that is always handy.
- **FAILING TO GET STARTED ON A PROJECT.** Executive function helps us organize our thoughts and time. You might struggle to get a long-term project started or become overwhelmed by more than one task. **Strategy:** Manage time with to-do lists that prioritize upcoming deadlines and when you might need to start on a larger project.
- **FEELING IMPATIENT.** You might be easily distracted or feel as if you have to rush from task to task. **Strategy:** Use meditation, yoga, or deep breathing exercises to relax and remain calm.
- **RUNNING LATE.** You may not be able to successfully manage your time and tasks, often making you late to social engagements. **Strategy:** Set reminders and alarms to give plenty of time to prepare for events.
- **FINDING COMPLEX INSTRUCTIONS DIFFICULT.** If there is a long string of steps to a project, you may be overwhelmed. **Strategy:** Break out each task and finish it before moving on to the next step.
- **LASHING OUT.** You may have poor impulse control or have trouble keeping your emotions in check. **Strategy:** Imagine someone you admire and imagine how they might handle a stressful situation.

BE BRAIN HEALTHY and adopt a lifestyle that includes thoughts, behaviors, emotions, responses, and language that promote brain health protective factors:

- Stress resilience
- Nutrition
- Physical activity
- Sleep
- Social connection
- Emotional wellbeing
- Meaning and Purpose
- Cognitive stimulation and creativity
- Engaging with nature
- General health
- Positive impacts

About the Brain Health Initiative (www.brainhealthinitiative.org)

The Brain Health Initiative (BHI), a 501(c)(3) nonprofit, uses a cutting-edge approach to protecting brain health, promoting brain performance, and preventing and fighting brain illness across the lifespan. The BHI is building brain healthy communities, cultures that foster brain health protective factors and address risk factors, thereby improving brain health and optimizing brain performance outcomes for the Florida Suncoast region and beyond. Join the ***Be Brain Healthy*** movement, ***because brain health matters, and lifestyle makes a difference.*** To view all Brain Health Boosts [click here](#).