

## 7 Ways to Exercise Your Brain - And Why You Really Need To!

by MICHELE ROSENTHAL

Cognitive brain function peaks in our early fifties, but staying mentally active can prevent brain loss in the years to follow.

If you're over 40, you're not going to like this (and if you're not yet 40, get ready for a reality check): Early in your fifth decade, researchers believe, your cognitive brain performance peaks. From there, it's a downhill slide for the remaining years of your life. The good news is that the brain is highly adaptable; it responds to experiences. In particular, "spaced practice" (repetitive exercise) helps the brain learn, grow, strengthen, and develop. As we age there are ways to combat the reduced function of such mental processes as memory, speed of thinking, problem solving, reasoning, and decision making. Starting to incorporate easy exercises today can help forestall decline tomorrow.

### Can the Brain Reverse the Aging Process?

According to Dr. Sandra Bond Chapman, founder and chief director of the Center for BrainHealth, and Dee Wyly, Distinguished University Chair at UT Dallas, "The world's aging population is growing disproportionately. Our expected lifespan has reached an all-time high of more than 78 years, yet previous research shows cognitive decline may begin in the early 40s.... Until recently, cognitive decline in healthy adults was viewed as an inevitable consequence of aging. [Our] research shows that neuroplasticity can be harnessed to enhance brain performance and provides hope for individuals to improve their own mental capacity and cognitive brain health by habitually exercising higher-order thinking strategies no matter their age."

The finding that global brain blood flow can be increased with complex mental activity suggests that staying mentally active helps reverse and potentially prevent brain losses and cognitive decline with aging.

The research Bond references was conducted at the Center for BrainHealth at the University of Texas at Dallas and published online by Cerebral Cortex. Researchers studied brain changes (using three MRI-based measurements) in a random sampling of

people ages 56 to 71. What they discovered is exciting: Over a 12-week period, participants in hour-long sessions of directed brain training exhibited an expanded ability to create structural connection between parts of the brain related to learning and greater information communication across critical brain regions.

Dr. Sina Aslan, founder and president of Advance MRI and collaborator on the study, adds and explains, "Through this research we are able to see that cognitive training increases brain blood flow, which is a sensitive physiological marker of brain health. Previous research shows brain blood flow decreases in people beginning in their 20s. The finding that global brain blood flow can be increased with complex mental activity, as this study demonstrates, suggests that staying mentally active helps reverse and potentially prevent brain losses and cognitive decline with aging."

In fact, the study shows a more than 8% increase in brain blood flow, which significantly impacts cognitive performance and can help your brain stay young. A followup study a year later confirmed that the gains were maintained. That's good news if you want to boost your mental muscle!

Right about now you may be wondering what you'd have to do in order to reap these benefits. With the stress of an already packed schedule, do you have time to add yet another item to the calendar? Actually, training your brain is incredibly simple and can be done while moving through the tasks of your day.

## 7 Scientifically Proven, Results-Oriented Exercises

Your brain is responsible for five main cognitive functions: executive function, memory, attention, language, and visual-spatial skills. If you already squeeze aerobic exercise into your schedule (studies recommend at least three times per week for an hour), then you have a good routine that's increasing brain blood flow to critical memory centers and improving your ability to remember facts. Adding any of the following cognitive function-building practices will amplify your brain health benefits:

1. **Strategize!** Logic and reasoning skills are the basis for making decisions and considering possible outcomes of your actions. The more you challenge yourself to do these kinds of tasks, the more you deepen the neural pathways necessary for this type of brain function. If you like games, this kind of exercise is right up your alley. Video games and strategic board games (such as chess) are great ways to engage this aspect of brain training. Other options include social interaction or any activity that requires you to identify a desired outcome and then calculate choices and develop a plan to achieve success.

2. **Challenge your memory.** You highlight how important memory is to your cognitive function every time you read, reason, or do any type of mental calculation. Memory is also the first place you'll probably notice your cognitive function faltering. Training your memory is incredibly easy and can be done while you commute or listen to the radio: Commit to learning all the lyrics of a song while you're driving, or memorize a poem while sitting on the bus. Don't commute? Force yourself to do a task by memory. For example, wash your face and brush your teeth with your eyes closed, or learn to perform a task with your nondominant hand.

3. **(Re)focus your attention.** Attention is one of the foundational elements of cognition and it decreases with age. Your ability to place your focus (and hold it there), however, allows you to concentrate and be productive despite distractions, which means this is a part of

your brain function you want to keep sharp. Increasing this brain ability is as simple as changing your routine. Ninety-eight percent of what you do every day is habit; changing the routine guarantees your brain has to pay attention. There are two ways to work this part of your brain muscle: (1) Identify what you do by rote day after day and change it. That can mean taking a different route to work or school or changing your exercise routine (i.e., do the exercises in reverse order); (2) When you combine activities that require cognitive function, you force your brain to do more in the same amount of time. For example, cook and listen to talk radio or an audiobook, or drive while making a list of groceries in your head.

4. Reset your brain. As important as it is to be able to pay attention, sometimes it's even better to give your brain a break. Stilling your mind breaks its rhythm, which causes it to refresh. Giving your mind a break allows it to return to tasks later with increased perspective and creativity. You can think of this as a sort of interval training for your brain. Dr. Chapman suggests a "Five by Five" principle "where you take a break from whatever you're doing five times a day for at least five minutes to reset."

Make an effort to process information beyond its superficial level. When you read a book or article (including this one!), share what you learn with someone else. Rather than just recounting the facts, identify and discuss the theme(s) in what you read and how they relate to your life.

5. Buff up your lingo. Language games stimulate your brain to understand, remember, and recognize words. The more you practice fluency in language, the more quickly your brain will retrieve old words and embrace new ones. Taking the time to understand new words in context especially trains your brain to remember them, since you increase the associations linked with the definition. A simple way to engage this process is to read articles outside your normal realm of interest. Rather than reading the business section of the newspaper, read the sports or science section instead.™

6. Synthesize, synthesize, synthesize. According to Keir Bloomer, chair of the Higher Order Skills Excellence Group, "synthesis is the skill of joining up. Essentially, it is the process of forming new knowledge or new ideas by taking different existing ideas and knowledge, sometimes from different areas.... it's a skill that involves activities like linking, connecting, joining together." To exercise yourself in this way, make an effort to process information beyond its superficial level. When you read a book or article (including this one!), share what you learn with someone else. Rather than just recounting the facts, identify and discuss the theme(s) in what you read and how they relate to your life.

7. Take a really good look. One of the most dominant senses your brain uses to understand and encode your experience is your visual sense. Being able to visually analyze your environment gives you many cognitive clues about how to behave within it. Developing this part of your brain muscle can be done in two easy ways: (1) In any setting, pick out three items and their location. When you leave the setting, close your eyes and see if you can accurately remember each item and its location; do this again two hours later; (2) For more of a challenge, try noticing everything you can see in your full range of vision (front and peripheral), then write it all down from recall.

Considered in these micro-elements, the ease of adding brain exercise to your day seems obvious. I think you can handle it, so I'm going to sneak in one more surefire way to bump up your gray matter: Stop multitasking. Constant simultaneous in/output fatigues your

brain and leads to reduced efficiency and productivity. When you need to focus on higher-order thinking (those tasks that really require full access to your brain power), you'll achieve more if you allow your focus to remain uninterrupted for at least 15 minutes at a time.

All this sounds promising, but understanding the concept that your brain can hold off the aging process is a lot like buying a membership to the gym: It only helps if you actually use it. Which means incorporating these ideas into your everyday experience will require a tiny bit of intention on your part. If you've been reading this while also listening to the news on television—an example of combining activities that require cognitive function and thus working out your ability to pay attention—then you've already got a good head start.