



Neuroplasticity

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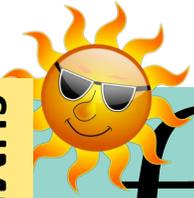
“We do not stop playing because we grow old; we grow old because we stop playing.” ~ Benjamin Franklin



Plasticity & Brain Training

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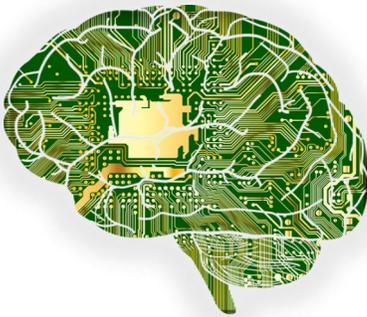
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fit FOR thought



Brain Training...Is It Worthwhile??



Everything you do changes your brain. Even reading this article. Right now, looking at these words is shaping and modifying the connections between neurons inside your head. This process is known as “neuroplasticity” and is fundamental to our ability to learn new skills, keep hold of old ones, and form new memories. That’s the idea behind so-called ‘brain training’ apps.

There are dozens of apps and online courses that claim their “brain training” can make you more agile, but there is usually little scientific evidence to back up those claims. There is also no industry body that certifies brain training programs, which is a problem for consumers.

At Center for Brain Health we recommend “plasticity-based brain training”. This cognitive training engages the brains plasticity-its ability to change chemically, physically and functionally. January 2018, a systematic review and analysis of computerized brain training was published in Neuroscience and Biobehavioral Reviews and concluded that BrainHQ , a plasticity-based brain training program enhances cognitive outcomes and transfers to everyday activities.

There has been a lot of debate in the scientific community about the efficacy of brain training. That’s because scientists have assumed all cognitive training programs are the same. By focusing on specifically plasticity-based training, this new analysis confirms that the specific type of brain training matters.



Julio Cantero, MD
Medical Director
Center for Brain Health

Neuroplasticity: Rewiring Your Brain for Optimal Learning

The ability of the brain to change and reorganize itself and its function is called neuroplasticity. Just as weightlifting and physical exercise builds your muscles when you are learning, the nerve cells in your brain are growing and developing greater connectivity. As we learn, our brain literally remodels itself based on our experiences.

Researchers used to believe that our brains are hardwired at birth. The number of neurons you were born with stay with us throughout our lifespan. Researchers now know that the brain can change, alter, and grow new connections between neurons as an effect of environment, behavior and neural changes.

The stronger the connections, the better the retention and retrieval of information. Neuroplasticity also stimulates neurogenesis, the growth of new neurons particularly in the learning and memory centers.

Neuroplasticity can be both positive and negative. Positive neuroplasticity refers to the physiologic ability of the brain to strengthen dendritic connections, produce beneficial changes, and increase brain reserve. Negative neuroplasticity refers to the same physiologic ability of the brain to atrophy and weaken

dendritic connections, produce detrimental changes and decrease cognitive reserve.

Factors that promote positive neuroplasticity include physical activity, education, social interaction and intellectual pursuits. Factors that promote negative neuroplasticity include poor health, poor sleep hygiene, poor nutrition and lack of exercise.



Exercising or stimulating your brain is highly recommended as part of a brain-healthy lifestyle. When you exercise or stimulate your brain through new or unfamiliar activities, you trigger changes in the brain such as an increase of connections between neurons.

These changes then contribute to an increase in what is called your brain reserve. The more brain reserve, the more resistant the brain is to age-related or disease related damages. Increase in brain reserve results in a delay of symptoms associated with cognitive impairment because the brain now has a compensatory mechanism strengthening other connections and new pathways around neurons that are no longer functioning such as in Alzheimer's disease.



Nicci Kobritz, CEO
Youthful Aging Home Health
Center for Brain Health

How do I Find Plasticity-Based Brain Training Programs?

Science does show that plasticity-based brain training programs do work. So which ones? BrainHQ and competitor Cognifit. Both are based on improving processing speed—speed and accuracy with which the brain processes information. As the brain is working through putting the big picture together, it goes through neuroplastic changes in order to do so. (“neuro” = brain, and “plastic” = the ability to undergo structural changes).

These plasticity-based changes form new neuropathways in your brain—literally changing shape. The new neuropathways can then be called upon to help you process stimuli beyond just the specific methods used in brain training exercises. Therefore, brain training that results in neuroplastic changes works much better than simple memory “brain training” games, which may help you remember where, for example, the red card is hidden, but won’t help you remember the details from that last meeting with your client.

We know that the brain is more plastic when brain chemicals are activated, so the design of these exercises also incorporates attention demands, novelty and rewards to activate those chemicals and drive the chemical and physical changes that produce better functional results.

The result, as the science has shown, is that people who undertake plasticity-based brain training programs notice feeling sharper, quicker, and more able to notice the important details of everyday life—like what someone says in a noisy restaurant, or what’s happening at the edge of your peripheral vision, or what all seven digits of that phone number were.

But if you don’t feel like undertaking scientifically proven brain training programs like BrainHQ or Cognifit, you can prime your brain and spur it into plastic changes by challenging yourself in everyday life. Here are three tips on how to do that:

- Learn a new skill that is outside of your comfort zone
- Take the long way home and notice everything around you
- Get active and eat right

The power of brain training means that the brain can not only learn new tricks, it can restructure itself even in old age. We can all harness the power of neuroplasticity and rewire our brains!

www.brainhq.com—www.cognifit.com



WHAT'S ON YOUR MIND ?

Q I'm getting ready to interview a private duty home care agency. What are the most important questions to ask?

Finding in-home care for your loved ones is no easy task. I applaud you for being prepared!

- *You want to know if they are a certified agency requiring unannounced visits by the State. Quality assurance monitoring by an outside agency responsible for home care services is important.*
- *Caregivers should be insured, bonded and credentialed:*
 - *Verification of social security number: assures your caregivers are who they say they are*
 - *Check state and local criminal records: state criminal background checks are required by law. Local criminal checks will tell you if a caregiver has been arrested and may not be charged. Sometimes this is helpful information depending on the cause of the arrest.*
 - *National sex offender registry*
 - *Motor vehicle check: caregivers are often responsible for transporting clients.*
 - *License verification: current active license*
- *Can you interview multiple caregivers? There is a tendency to match you with their most available caregiver INSTEAD of their most qualified*
- *What is the agency's plan for backup resources? Even the most reliable caregiver may have car trouble or have another emergency come up last minute.*
- *Can the agency provide references on caregivers? The turnover rate for caregivers annually is about 60% forcing providers to be constantly hiring. Reference checks from clients who have worked with the caregiver will help you identify the most reliable and competent.*
- *How can you know if the caregiver is working the hours they are supposed to, and how can you get a status report on the services they are providing? Agencies use a variety of technology applications to track arrival and departure times of caregivers. Comprehensive care plans provide a structured routine for the caregiver and accountability for duties performed. Be sure these systems are in place.*

Finding the right home health care agency is one of the most important decisions you'll make for you or your loved

It's Summer—Don't Forget....



1. Drink the right amount of water—stay hydrated. Drink every few hours throughout the day
2. Pay close attention to heat and allergy warnings. You can find national and local weather information at www.weather.org.
3. When in and out of air conditioned environments, your skin can become dry.....use plenty of moisturizers.
4. Outdoor furniture can heat up in the sun. Make sure to wear shoes and check furniture with your elbow before you sit down.
5. Keep your indoor living space cool. Block the sun by closing the shades. Make sure your air conditioning has been serviced so that it is running efficiently.
6. Food can spoil faster in the heat of the summer. It's a good time to store more in the refrigerator than you do in the winter.
7. When you are outside, don't forget to wear your hat, long sleeves and sunscreen.



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