

Neuroplasticity - Can Old Dogs Learn New Tricks?

By Don Kronenberg, MSW, LCSW

It was believed until recently that our brains were born with a certain amount of brain cells that peaked in development in our early 20's, and that brain cells began to die off as we aged. New advances in the understanding of the brain reveal that is not true and we definitely can learn new things, well into old age. Not only can certain areas of the brain develop new cells, but new neural pathways can also be developed. Senior citizens are now known to be perfectly capable of creating noticeable changes in brain organization.



Neuroplasticity

This ability has a name and it's called "*Neuroplasticity*", which basically means the brain has the ability to reorganize itself by forming new neural connections, throughout life. That is awesome news! So the answer to the headline question is a definite yes! Is it harder to learn new tricks as you age? Maybe, but the main requirement to doing this is sustained focus on a specific area, and sometimes older folks are better than younger folks at that.

A study published in the journal "Frontiers in Human Neuroscience" took this one step further by saying that a multi-faceted approach may produce even greater results. This means that rather than focusing on only one change at a time, multiple changes are possible! "The present results indicate that multifaceted interventions that are effectively designed and sufficiently motivating can elicit large and diverse improvements that reveal the substantial adult capacity for cognitive, affective, and neural plasticity."

This is great news especially for those seeking therapy. Many people come to therapy wondering if they have the ability to change, especially if they're older. Fortunately, most find they can. So what's the secret?

Practice, Practice, Practice!

[Malcolm Gladwell](#) published his New York Times bestseller, *Outliers*, in 2008. In it, he borrows from the work of researcher Anders Ericsson and uses examples of people like Bill Gates or the Beatles, by saying their path to greatness started with many many hours of practice in their respective fields, not necessarily because of any innate talent. Gladwell uses the “10,000 hour” theory stating that if someone practices a given skill for 10,000 or more hours, they’ll be good at it. Ericsson, in his research, emphasized that the practice needs to be very specific and uses deliberate methods.

Research on musicians who are considered “experts” reveals one of the main differences in them vs. average musicians is the number of hours devoted to practice. Talk to anyone who has entered a new field and they’ll tell you it takes a few years before you feel comfortable or confident. To put this in perspective: Working 40 hours a week for 50 weeks a year would put you at about 5 years to get to 10,000 hours.

Cognitive Behavioral Therapy

In therapy, we often use CBT (Cognitive Behavioral Therapy) that involves not only rethinking or reframing your understanding of things, but also actually doing things differently.

An easy example of a strategy that involves rethinking and doing things differently is using a gratitude journal. This is borrowed from the work of Martin Seligman at the University Of Pennsylvania, in the field of [Positive Psychology](#). Basically what you do is keep a journal, and at the end of each day, think about and write down three things you felt grateful for that day.

What you’re doing by this deliberate exercise, is forcing yourself to think about things in a positive way (perhaps different than how you’d normally think). The research shows that over several months of doing this, not only do people think more positively, they act more positively, and report themselves as generally feeling happier! We have created a new “habit,” the habit of thinking differently, more positively. What a simple thing to do for such a profound change, and all because of the repetitive nature of the exercise. Deliberate practice, as Anders Ericsson calls it!

Ways to improve brain function

- Exercise your brain. Brain games and certain puzzles and brainteasers help create new associations between different parts of the brain, which keeps it sharp. Other exercises that challenge the brain are things like doing normal activities with your non-dominant hand like brushing your teeth or combing your hair. Learn a new skill or take up a new hobby!
- Vary activities. Being physically active is extremely important for brain health, but consider challenging your body – and brain – in a variety of ways from time to time. Mix up exercise routines, do something you haven't done in a while whether it's hiking or tossing a ball around. This variety is as healthy for your brain as it is your body.
- Eat brain food. We all know that a good, clean diet will improve all areas of our health, but there are many studies and an increasing amount of evidence that certain foods slow mental decline. Topping the list of brain-boosting food is any food high in Omega 3 fatty acids (such as fish or fish oil, walnuts, flaxseeds), DHA and EPA, which has been linked to a lower risk of dementia and improved focus and memory. [Dr. Andrew Weil](#) recommends an anti-inflammatory diet that reduces inflammation in all areas of the body, including the brain, as inflammation is thought to be a leading cause of disease and decline as we age.
- Volunteer. Research shows that this can lower your stress levels and increase mental functioning. Volunteering adds to a person's well-being and overall health. Not only does it feel good, but it promotes brain health by raising self-esteem.
- Socialize. We are social animals and, according to a recent study published in the Journal of Health and Social Behavior, we need a variety of brain stimulation, including social activity, to keep our minds sharp. This is especially true later in life, when aging takes its toll on memory and other complex neurological processes. In the study, older adults who were less socially active had both greater cognitive and physical limitations.

Neuroplasticity; a wonderful attribute of our brain and a key to healthy aging, but only if we take advantage of it!

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