

Changing Habits-Changing Brain

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We are what we repeatedly do. Excellence, then is not an act, but a habit.
Aristotle

What if changing your habits had the power to change your brain, perhaps even permanently? The theory of *neuroplasticity* is the story of the brain's ability to revise itself. More specifically, it is the brain's ability to reorganize itself by creating new brain cells through one's experiences.

Here's how it works. Imagine a person who frequently plays the violin. The brain viewed under a functional MRI appear to have developed a larger area in the part of the brain devoted to mapping the fingers. The brain acts in much the same way as a physical muscle that grows and develops through exercise or becomes weak and flaccid when not used.

There is a saying "neurons that fire together wire together." What this means is that neurons activate at the same time as a response to an event, the neurons 'associate' with one another and the connections are stronger. Thus 'neural pathways are set' when we practice any activity. The more practice, the more the brain builds that pathway. Inversely, when the pathways aren't used, the space will be taken over by other pathways needing room to grow. So, just as with the muscles in our body, we 'use it or lose it.'

Imagine water flowing through sand creating little pathways. The more the water flows, the pathways become deeper and more defined. You know if you have a small leak in the roof and the water finds a pathway below, the longer that leak persists the more difficult it is to change the water flow. Our brain acts in much the same way as we do certain activities, have thoughts, speak words or behave in a certain way. The more we repeat this pattern, especially when the brain is highly stimulated, the neurons are firing and neural pathways are being created.

The wonderful thing is that we have a lot of personal control over what neural pathways we construct or change. We can literally cultivate our own brain garden of neural pathways.

Many studies have shown that there are similar key ingredients to having a highly effective brain, changing old brain habits and creating new ones. Alvaro Fernandez lists "The Ten Habits of Highly Effective Brains."

1. **Learn** about 'use it or lose it.' Understand your brain's capacity.
2. **Nutrition:** The brain, only 2% of our body mass, uses over 20% of the oxygen and nutrients we intake. Feed your body well; feed your brain well!
3. **Exercise** sharpens your brain. Aerobic exercise leads to increased brain volume, the efficiency of the brain and increases improvements in a number of cognitive functions such as memory and attention.
4. **Lower chronic stress** with positive, future-oriented thoughts as your default mindset. Chronic stress kills neurons, elevates cortisol and is the cause of 75%-90% of all illness.
5. Thrive on **learning** and **mental challenges**. Mental stimulation that has novelty, variety and challenge keeps the brain fit.

6. **Aim high.** Keep developing and learning. The brain stops growing when we stop learning new things.
7. **Explore, travel.** Adapting to new locations and surrounds stimulates the brain to pay attention to the new environment.
8. **Don't outsource your brain.** Be your original self, think your own thoughts, make your own decisions and mistakes. Learn from them.
9. Develop and maintain **stimulating friendships.** We are 'social animals' and need social interaction.
10. **Laugh! Often!** Especially to cognitively complex humor, full of twists and surprises.

If we all practiced these ten things, repeating often, we would have healthier brains and bodies and would be living more holistically. Individuals who live mentally and physically stimulating lives along with social interactions are less likely to suffer from brain disorders, are healthier, happier and live longer. These guidelines also help people overcome or avoid depression and anxiety.

So, get those neurons firing to make new neural pathways of health, vitality and great joy! And remember, practice, practice, practice!

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