How Exercise Improves Brain Health *(Psychology today)*

There are many ways exercise improves cognitive health. Aerobic exercise (also known as cardio) raises your heart rate and increases blood flow to your brain. Your increased heart rate is accompanied by harder and faster breathing depending on the intensity of your workout. As your increased breathing pumps more oxygen into your bloodstream, more oxygen is delivered to your brain. This leads to neurogenesis—or the production of neurons—in certain parts of your brain that control memory and thinking. Neurogenesis increases brain volume, and this cognitive reserve is believed to help buffer against the effects of dementia.

Another factor mediating the link between cognition and exercise is neurotrophins, which are proteins that aid neuron survival and function. It has been noted that exercise promotes the production of neurotrophins, leading to greater brain plasticity, and therefore, better memory and learning. In addition to neurotrophins, exercise also results in an increase in neurotransmitters in the brain, specifically serotonin and norepinephrine, which boost information processing and mood.

Does Workout Type Matter?

Both the type of workout and method of staying fit are important to whether or not you experience cognitive benefits. It's not enough to just count calories to stay thin, you still need to exercise. In fact, there is a term in medicine for people who are not healthy overall but manage to stay thin: TOFI (Thin Outside Fat Inside). Rather than exhibiting fat externally and appearing overweight, these individuals carry weight viscerally, around their internal organs. This is harmful to overall health—including brain health.

During a study, between three sets of people—individuals who lost weight through restrictive eating, people who lost weight through exercise, and a group that used a combination of the two—only the groups who had exercise as part of their weight loss regimen noted an improvement in cognition.

It's most important to concentrate on the type of exercise you perform if your goal is to maximize your cognitive health. A multi-component routine focused

on balance, flexibility, and aerobic fitness is better than focusing on just one type of exercise. For example, tai chi has been heralded as an example of an all-encompassing exercise routine that significantly enhances cognition. A meta-analysis of research on tai chi and cognition found tai chi exhibited a greater effect on cognitive function than other types of exercise.

However, any exercise is better for your brain than none.

So, pick your exercise of choice! Go walking, running, swimming, hiking, or biking. Enjoy the fresh air. Get in touch with nature. And reap the many health benefits of exercise—both physical and mental.