

# Examining the Relationship between ADHD and Physical Exercise

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## Introduction

ADHD (Attention Deficit Hyperactivity Disorder) is a common mental health condition. People with ADHD may have trouble paying attention, controlling impulsive behaviour, and being overly active.

It is caused by an imbalance of neurotransmitters (chemical messengers) in the brain, especially dopamine. The disorder has a strong genetic component, but it can also be caused by environmental factors such as preterm birth, low birth weight, brain damage, and the use of alcohol or nicotine during pregnancy.

While ADHA is most commonly diagnosed in children, it is also known to afflict a small number of adults. Medication and behaviour control are common therapy options, while more progressive alternatives include food and activity changes. This page discusses the effects of exercise on ADHD, as well as the impacts of several specific exercises and a personal narrative.

## What Effect Does Exercise Have on the Brain?

Regular exercise, regardless of whether or not a person has ADHD, is important for enhancing numerous aspects of brain health. Let's take a look at how exercise improves mental wellness.

**Can help with memory:** Memory loss is a possibility as people age, due in part to changes in blood supply to the brain. Our big arteries and veins stiffen gradually as we become older, resulting in less efficient blood circulation throughout our bodies, including the brain.

Regular exercise is one of the most efficient ways to combat vascular stiffness and avoid memory loss associated with it. Cardiovascular function can be improved by both aerobic (longer length, lower intensity) and anaerobic (shorter duration, greater intensity) exercise.

**Can help with learning:** Brain plasticity, or the nervous system's ability to change its activity in response to internal or external stimuli, is an important aspect in the learning process.

Regular exercise, according to research, is one strategy to promote brain plasticity.

Exercise, in particular, is critical in allowing you to maintain new mental and physical skills. It works by altering the way our brain cells communicate with one another, which improves our learning abilities.

**Can improve mood:** Improved mood and emotions of well-being are two other key impacts of exercise on the brain. You might be familiar with the euphoric sensation you get after a successful run or a high-intensity strength training, which is known as a "runner's high."

This occurs as a result of the brain's release of feel-good chemicals, primarily endorphins and endocannabinoids. These chemicals are responsible for some of the improvements in mood that occur after exercise.

Furthermore, a major study involving 611,583 adults discovered a strong correlation between physical activity and a lower incidence of depression. As a result, regular exercise can help you feel better and may even help you avoid depression.

Certain brain illnesses may be prevented or delayed with the use of this supplement. Regular exercise, according to research, may help to postpone the onset of, prevent, or even treat certain brain illnesses. Physical activity, for example, has been linked to a reduction in age-related cognitive decline and may help prevent the onset of Alzheimer's disease and other brain illnesses.

While the present research isn't specific to exercise kind or duration, the American Heart Association (AHA) recommends getting 150 minutes of moderate intensity aerobic activity each week, spread out over the week. To get the most health benefits, strength training at a moderate to high intensity should be done twice a week.

## References

1. Cortese, Samuele., and Carmen Morcillo Peñalver. "Comorbidity between ADHD and obesity: exploring shared mechanisms and clinical implications." *Postgraduate Med* 122 (2010): 88-96.
2. Archer, Trevor., and Richard M. Kostrzewa. "Physical exercise alleviates ADHD symptoms: regional deficits and development trajectory." *Neurotoxicity Res* 21 (2012): 195-209.
3. Azrin, Nathan H., Christopher T. Ehle, and Amy L. Beaumont. "Physical exercise as a reinforcer to promote calmness of an ADHD child." *Behavior Modification* 30 (2006): 564-570.
4. Ahmed, Gehan M., and Samiha Mohamed. "Effect of regular aerobic exercises on behavioral, cognitive and psychological response in patients with attention deficit-hyperactivity disorder." *Life Sci J* 8 (2011): 366-371.
5. American Psychiatric Association, and American Psychiatric Association. "Diagnostic and statistical manual of mental disorders: DSM-5." *Arlington, VA* (2013).

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