



# Unlocking Sharp Memory: Insights from Thousands of Studies

## Description

Many of us turn to Sudoku, Wordle or brain-training apps to sharpen our minds. But research is increasingly showing one of the best ways to boost memory, focus and brain health is exercise.

Our [new research](#) reviewed data from more than 250,000 participants across 2,700 studies. We found [exercise helps boost brain function](#) – whether it's walking, cycling, yoga, dancing, or even playing active video games such as Pokémon GO.

[Moving your body improves how we think, make decisions, remember things and stay focused – no matter your age.](#)

## What the science says

Our review adds to a growing body of research that shows regular physical activity [improves](#) three key areas of brain function:

- cognition, which is your overall ability to think clearly, learn and make decisions
- memory, especially short-term memory and the ability to remember personal experiences
- executive function, which includes focus, planning, problem-solving and managing emotions.

We conducted an umbrella review, which means we looked at the results of more than 130 high-quality research reviews that had already combined findings from many exercise studies. These studies usually involved people starting a new, structured exercise program, not just tracking the exercise they were already doing.

To assess the effects on cognition, memory and executive function, the original studies used a range of brain function tests. These included things like remembering word lists, solving puzzles, or quickly switching between tasks – simple activities designed to reliably measure how well the brain is working.

The improvements were small to moderate. On average, exercise led to a noticeable boost in cognition, with slightly smaller but still meaningful gains in memory and executive function.

The benefits showed up across all age groups, though children and teens saw major gains in memory.

People with attention-deficit hyperactivity disorder (ADHD) showed greater improvements in executive function after physical activity than other population groups.

The brain started responding fairly quickly – many people experienced improvements after just 12 weeks of starting regular exercise.

Generally, the greatest benefits were seen in those doing at least 30 minutes of exercise on most days of the week, aiming for a total of about 150 minutes per week.



## What's happening in the brain?

Activities such as walking or cycling can [increase the size of the hippocampus](#), the part of the brain responsible for memory and learning.

In [one study](#), older adults who did aerobic exercise for a year grew their hippocampus by 2%, effectively reversing one to two years of age-related brain shrinkage.

More intense workouts, such as running or high-intensity interval training, can further [boost neuroplasticity](#) – the brain's ability to adapt and rewire itself. This helps you learn more quickly, think more clearly and stay mentally sharp with age.

## Another reason to get moving

The world's population is ageing. By 2030, [one in six of people will be aged over 60](#). With that comes a rising risk of dementia, Alzheimer's disease and cognitive decline.

At the same time, many adults aren't moving enough. One in three adults [aren't meeting the recommended levels](#) of physical activity.

Adults [should aim for](#) at least 150 of moderate exercise – such as brisk walking – each week, or at least 75 minutes of more vigorous activity, like running.

It's also important to incorporate muscle-strengthening exercises, such as lifting weights, into workouts at least twice a week.

## Everyday movement counts

You don't need to run marathons or lift heavy weights to benefit. Our study showed lower-intensity activities such as yoga, tai chi and "exergames" (active video games) can be just as effective – sometimes even more so.

These activities engage both the brain and body. Tai chi, for instance, requires focus, coordination and memorising sequences.

Exergames often include real-time decision-making and rapid response to cues. This trains attention and memory.

Importantly, these forms of movement are inclusive. They can be done at home, outdoors, or with friends, making them a great option for people of all fitness levels or those with limited mobility.

Although you may already be doing a lot through daily life – like walking instead of driving or carrying shopping bags home – it's still important to find time for structured exercise, such as lifting weights at the gym or doing a regular yoga class, to get the full benefits for your brain and body.



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## Real-life applications

If you're a grandparent, consider playing Wii Sports virtual tennis or bowling with your grandchild. If you're a teenager with signs of ADHD, try a dance class, and see if it impacts your concentration in class. If you're a busy parent, you might be more clear-headed if you can squeeze a 20-minute yoga video session between meetings.

In each of these cases, you're not just being active, you're giving your brain a valuable tune-up. And unlike most brain-training apps or supplements, exercise delivers far reaching benefits, including improved [sleep](#) and [mental health](#).

Workplaces and schools are starting to take note. [Short movement breaks](#) are being introduced during the workday to improve employee focus.

Schools that incorporate [physical activity](#) into the classroom are seeing improvements in students' attention and academic performance.

Exercise is one of the most powerful and accessible tools we have for supporting brain health. Best of all, it's free, widely available and it's never too late to start.

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## Vocabulary List:

1. **Cognition** /kɒg'nɪʃ.ən/ (noun): The mental action or process of acquiring knowledge and understanding through thought experience and the senses.
2. **Neuroplasticity** /,nʊə.rəʊ.plæs'tɪs.ɪ.ti/ (noun): The ability of the brain to adapt and reorganize itself especially in response to learning and experience.
3. **Executive** /ɪg'zɛk.jə.tɪv/ (adjective): Related to the making of decisions or the administration of business and government.
4. **Dementia** /dɪ'menʃə/ (noun): A chronic or persistent disorder of the mental processes caused by brain disease or injury characterized by memory disorders personality changes and impaired reasoning.
5. **Cognitive** /'kɒg.nɪ.tɪv/ (adjective): Relating to the mental processes of perception memory judgment and reasoning.
6. **Tai Chi** /taɪ 'tʃi:/ (noun): A form of exercise that involves slow controlled movements and is often practiced for its health benefits and emphasis on serenity and mindfulness.

## Answer

### CATEGORY

1. Sci/Tech - LEVEL5

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