

Which Brain Games Actually Work? What 20 Years of Research Reveals

Puzzle books, brain-training apps, card games — there's no shortage of products promising to sharpen your mind. But which ones does the science actually back? A landmark study published earlier this year gives us the clearest answer yet, and it comes with a genuine surprise.

The Headline Finding: Not All "Brain Games" Are Equal

The ACTIVE study is the largest cognitive training trial ever conducted — nearly 3,000 older adults, followed for 20 years. Participants were randomly assigned to one of three types of brain training: memory strategies, reasoning and problem-solving, or a speed-of-processing game. A fourth group received no training at all, serving as the control.

When researchers checked in on the group two decades later using Medicare records, the results were surprising: only the speed-of-processing training showed a lasting protective effect. That group had a 25% reduction in dementia diagnoses compared to the control group. The memory and reasoning training — despite seeming, on the surface, like the more obviously "brain-healthy" choices — didn't produce the same long-term benefit.

What Made the Speed Training Different

The winning exercise, known as "Double Decision," trains rapid visual processing and divided attention: quickly noticing and identifying objects that appear briefly at the center and edges of your vision at the same time, with difficulty increasing as you improve. Researchers believe the training works through implicit learning — a kind of learning that happens below conscious awareness — and that it prompts genuine neuroplasticity, essentially rewiring the brain to process visual information faster and more accurately.

What's especially encouraging is how modest the time commitment was. Participants completed roughly 10 sessions of 60–75 minutes over five to six weeks, with occasional "booster" sessions in later years — a relatively small investment for a benefit that held up two decades later.

Beyond Speed Training: Other Formats With Real Promise

While speed training has the strongest long-term evidence behind it, it's far from the only game worth playing.

Board and card games have real research support of their own. A 2019 study found that regular board game play was associated with reduced cognitive decline in adults aged 70–79. A broader 2020 review found that board games, video games, and even virtual reality games improved memory, problem-solving, reaction time, and reasoning — even in people already experiencing early-to-middle-stage dementia. One notable study found that the tile-based game Mahjong benefited older adults with mild cognitive impairment after just 12 weeks of regular play.

"Exergames" — activities that combine physical movement with cognitive challenge — show particular promise. A 2019 study found that 16 weeks of this combined training significantly improved working memory and executive function, reinforcing a theme we've covered before: pairing movement with mental challenge tends to compound the benefit of either one alone.

Broader computerized cognitive training has also shown measurable brain changes. One study found that structured computer-based training in reasoning, memory, language, and attention actually increased gray matter volume and helped preserve general cognitive function in people with mild cognitive impairment.

An Important Note of Balance

It's worth being honest about the limits of this research, too. At least one meta-analysis found that brain games, taken as a category, showed "no superior effect" on core cognitive domains like memory, executive function, and language compared to other types of engaging activity. Games are genuinely useful, enjoyable tools for staying mentally active — but they're not a guaranteed cure-all, and the specific type and format of the game appears to matter quite a bit.

The Common Thread: Novelty and Challenge

This connects directly to the concept of cognitive reserve. The activities that seem to help most share a common ingredient: they push you into genuinely unfamiliar, increasingly difficult territory, rather than letting you coast on a skill you've already mastered. A crossword you've solved the same way for years is maintenance, not growth. A game that keeps adapting and challenging you — like the speed-training exercise in the ACTIVE study — appears to be what actually builds new capacity.

The Takeaway

If you're choosing where to invest your brain-training time, the strongest current evidence points toward speed-of-processing training, with card games, board games, and combined movement-and-cognition activities all offering solid, research-backed benefits as well. The key isn't finding one "magic" game — it's staying genuinely engaged, continually challenged, and willing to try something a little harder than what you've already mastered.

It's never too late to give your brain a real workout.

References

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