

Brain Gym: Staying Mentally Active May Slow Huntington's Disease

New research suggests that cognitive engagement - keeping your brain busy with activities like reading, puzzles, or learning new skills - could help protect the brain, possibly slowing progression of symptoms of Huntington's disease.

By Maille (Molly) Gracey | February 24, 2025 | Edited by Dr Sarah Hernandez

We all know that exercise is good for our bodies, but what if working out your brain could slow down Huntington's disease (HD)? Dr. Estela Càmara and her wonderful team from IDIBELL, a research institute in Spain, have uncovered some exciting news: staying mentally active throughout your life might actually help slow brain shrinkage and symptom progression in people with HD.

Measuring Mental Workouts

HD gradually damages brain cells, leading to problems with the individual's mood, movement, and mind. But new research suggests that **cognitive engagement** - keeping your brain busy with activities like reading, puzzles, or learning new skills - could **help protect the brain**, possibly slowing down progression of symptoms of HD.

So how did Dr. Càmara and her team actually test the impact of mental workouts on HD progression? They began by recruiting people who had tested positive for HD – both individuals displaying motor symptoms, as well as individuals who were not yet displaying any motor symptoms.



Using high-tech brain imaging, the researchers were able to track changes in the brains of people with HD over time. The technique they used is like taking a time-lapse video of the brain.

All participants completed one questionnaire at the start of this study, which measured how much mental exercise had been done over each person's lifetime – basically a brain workout scorecard! Examples of mental exercises included how long people were in school for, their jobs, and hobbies that kept their minds buzzing.

Following this, participants completed a number of questionnaires that provided measures of how well their mind functions, as well as questionnaires that assessed their mood. The questionnaires focussing on mind and mood symptoms were followed up on a yearly basis, over a period of 6 years.

Tracking Brain Gains

Once this study was complete, researchers then applied some complicated mathematical models to track how mind and mood symptoms changed over time in people with HD, factoring in their brain workout scorecard. Essentially, they wanted to see if more “brain workouts” meant a slower decline in mind and mood symptoms.

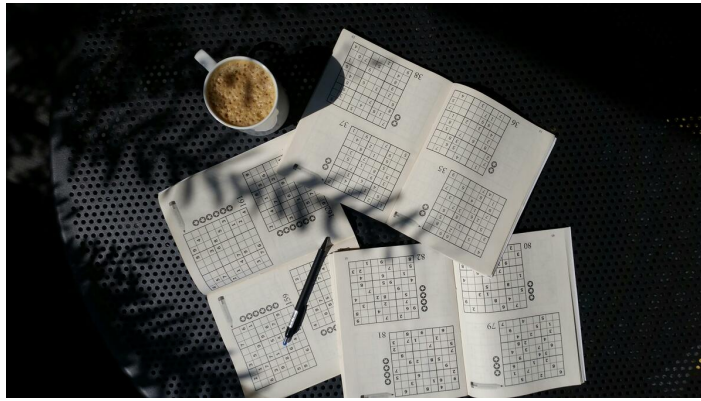
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They wanted to see if people with HD who exercised their brains more had **better brain maintenance**. In other words, would their brains shrink less over time, compared to those who were not as keen in engaging their brain in the latest novel or crossword puzzle? Each person with HD involved in the study had one image of their brain taken at the beginning of the study and another brain image taken after 18 months.

Mental Reps: Lifelong Learning Builds Brain Strength

From the complicated mathematical models created, scientists concluded that not everyone with HD experiences symptoms at the same rate. However, what made the difference in the rate of decline of symptoms? The authors suggest that it's a person's lifetime of cognitive engagement.



Keeping your brain active with things like puzzles, books, learning, creating, and socializing are all good ways to flex your mental muscles.

Image credit: Natasa Pecanac

The researchers stated that people who regularly challenged their minds throughout their lives, whether it be through education, careers, or hobbies, tended to show slower progression in movement, mind, and mood symptoms of HD. In short, perhaps staying mentally active might not just keep your brain sharp, but it could also help hold some HD symptoms at bay.

However, one question you might be asking is, how does being mentally active relate to slower progression in HD symptoms? Dr. Càmara and her team considered one possible explanation for this slower progression in HD symptoms by looking at the brain images taken in this study. These brain images showed that people with HD who engaged in lifelong mental workouts had **stronger brain resilience**. This means that their brain structures stayed healthier for longer.

Specifically, key areas of the brain involved in mind (such as **decision-making** and **self-control**), mood (such as **emotional regulation**), and movement symptoms were better preserved. So perhaps this stronger brain resilience could be one reason behind why HD symptoms progress more slowly in those who have had their regular sessions in the brain gym over their lifetime.

Flex Those Brain Muscles

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The good news is that you don't need a PhD to give your brain a workout! While specific activities for stretching your mental muscles weren't covered in this recent publication, there's lots of evidence to support various actionable items that can help give you a good brain workout. Here are some fun ways you can stay mentally active:

- **Puzzles & Games:** Crosswords, Sudoku, and memory games can keep your brain on its toes.
- **Read & Learn:** Books, audiobooks, or even podcasts can spark new ideas and strengthen brain connections.
- **Language:** Learning a new language is a strenuous mental workout that deeply challenges various areas of your brain.
- **Music & Creativity:** Playing an instrument or learning a new craft can challenge different parts of the brain.
- **Socializing:** Chatting with friends, debating topics, or even storytelling can help to keep thinking skills sharp.

A Mental Workout Against HD

HD is a tough opponent, but science is showing us that **mental activity may help slow it down**. While it's not a cure, keeping your brain busy is a simple, fun way to **fight back against Huntington's**. So, grab a book, solve a puzzle, or try something new - your brain will thank you.

The authors have no conflicts of interest to declare. [For more information about our disclosure policy see our FAQ...](#)

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