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How the Aging Brain Affects Thinking

The brain controls many aspects of thinking — remembering, planning and organizing, making decisions, and much more. These cognitive abilities affect how well we do everyday tasks and whether we can [live independently](#).

Some changes in thinking are common as people get older. For example, older adults may:

- Be slower to find words and recall names
- Have problems with multitasking
- Experience mild decreases in the ability to pay attention

Aging may also bring positive cognitive changes. For example, many studies have shown that older adults have larger vocabularies and greater knowledge of the depth of meaning of words than younger adults. Older adults may also have learned from their many years of accumulated knowledge and experiences. Whether and how older adults apply this knowledge, and how the brain changes as a result, is an area that researchers are actively exploring.



Despite the changes in cognition that may come with age, older adults can still do many of the things they have enjoyed their whole lives. Research shows that older adults can still:

- Learn new skills
- Form new memories
- Improve vocabulary and language skills

Clinical trials on brain aging

Volunteers are needed for clinical trials to understand normal brain aging and why some people stay cognitively healthy longer than others. By joining one of these studies, you may learn more about what might protect your brain as you age.

Find clinical trials and studies near you

How the brain changes as people age

As a person gets older, changes occur in all parts of the body, including the brain.

- Certain parts of the brain shrink, including those important to learning and other complex mental activities.
- In certain brain regions, communication between neurons may be less effective.
- Blood flow in the brain may decrease.
- Inflammation, which occurs when the body responds to an injury or disease, may increase.

These changes in the brain can affect mental function, even in healthy older people. For example, some older adults may find that they don't do as well as younger individuals on complex memory or learning tests. However, if given enough time to learn a new task, they usually perform just as well. Needing that extra time is normal as people age. There is growing evidence that the brain maintains the ability to change and adapt so that people can manage new challenges and tasks as they age.

The secrets of cognitive super agers

Some people in their 80s, 90s, and beyond defy the common assumption that cognitive decline goes hand in hand with aging. These people, called [cognitive super agers](#), have memory performance comparable to people 20 to 30 years younger. NIA supports research to study cognitive super agers, including the “Resilience and Resistance to Alzheimer’s Disease in Centenarians and Offspring” study at Boston University Medical Campus and the “Study to Uncover Pathways to Exceptional Cognitive Resilience in Aging” at Northwestern University. Research is ongoing to understand what sets these people

apart to help others prevent (or even reverse) age-related cognitive decline.

Talk with your doctor if you're concerned about changes in your thinking and memory. They can help you determine whether those changes are normal or whether it could be something else.

The brain-body connection

There is growing scientific evidence of the brain-body connection. Not only can changes in our brain affect our thinking, but also changes in our physical health may affect our brains.

For example, an [NIA-funded study](#) of almost 3,000 older adults showed that healthy lifestyle factors — physical activity, not smoking, not drinking heavily, following the Mediterranean-style diet, and engaging in mentally stimulating activities — can have important benefits. People who engaged in four or five of these behaviors had a 60% lower risk of developing Alzheimer's compared to those who only followed one or none. People who followed two or three of the activities had a 37% lower risk.

In another study, older adults with higher levels of physical activity showed [slower rates of cognitive decline](#) than peers who were less active. Another example of how physical health can affect brain health has to do with the heart. [Observational studies](#) have found that high blood pressure in middle age, along with other cerebrovascular risk factors, such as diabetes and smoking, increase the risk of developing dementia.

Results from observational studies such as these can't prove cause and effect, but they point to how a combination of modifiable behaviors may affect the brain as people age and identify promising avenues to be tested further.

You may also be interested in

- Learning more about [cognitive health](#)
- Taking [steps to boost your health as you age](#)
- Exploring [what we know about healthy aging](#)

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