

When it comes to aging, we tend to assume that cognition gets worse as we get older. Our thoughts may slow down or become confused, or we may start to forget things. But that's not the case for everyone. For a little over a decade, scientists have been studying a subset of people they call "super-agers." These individuals are age 80 and up, but they have the memory ability of a person 20 to 30 years younger.

A paper published Monday in the *Journal of Neuroscience* helps shed light on what's so special about the brains of super-agers. The biggest takeaway, in combination with a companion study that came out last year on the same group of individuals, is that their brains have less atrophy than their peers' do. The research was conducted on 119 octogenarians from Spain: 64 super-agers and 55 older adults with normal memory abilities for their age. The participants completed multiple tests assessing their memory, motor and verbal skills; underwent brain scans and blood draws; and answered questions about their lifestyle and behaviors.

The scientists found that the super-agers had more volume in areas of the brain important for memory, most notably the hippocampus and entorhinal cortex. They also had better preserved connectivity between regions in the front of the brain that are involved in cognition. Both the super-agers and the control group showed minimal signs of Alzheimer's disease in their brains.

"By having two groups that have low levels of Alzheimer's markers, but striking cognitive differences and striking differences in their brain, then we're really speaking to a resistance to age-related decline," said Dr. Bryan Strange, a professor of clinical neuroscience at the Polytechnic University of Madrid, who led the studies.

No precise numbers exist on how many super-agers there are among us, but Dr. Rogalski said they're "relatively rare," noting that "far less than 10 percent" of the people she sees end up meeting the criteria. But when you meet a super-ager, you know it, Dr. Strange said. "They are really quite energetic people, you can see. Motivated, on the ball, elderly individuals."

Experts don't know how someone becomes a super-ager, though there were a few differences in health and lifestyle behaviors between the two groups in the Spanish study. Most notably, the super-agers had slightly better physical health, both in terms of blood pressure and glucose metabolism, and they performed better on a test of mobility. The super-agers didn't report doing more exercise at their current age than the typical older adults, but they were more active in middle age. They also reported better mental health.

But overall, Dr. Strange said, there were a lot of similarities between the super-agers and the regular agers. "There are a lot of things that are not particularly striking about them," he said. For example, there were no differences between the groups in terms of their diets, the amount of sleep they got, their professional backgrounds or their alcohol and tobacco use. The behaviors of some of the Chicago super-agers were similarly a surprise. Some exercised regularly, but some never had; some stuck to a Mediterranean diet, others subsisted off TV dinners; and a few of them still smoked cigarettes. However, one consistency among the group was that they tended to have strong social relationships, Dr. Rogalski said.

While there isn't a recipe for becoming a super-ager, scientists do know that, in general, eating healthily, staying physically active, getting enough sleep and maintaining social connections are important for healthy brain aging.

A decades-long study of 660 people published in 2002 showed that those with positive beliefs around getting older lived seven and a half years longer than those who felt negatively about it. Since then, research has found that a positive mind-set toward aging is associated with lower blood pressure, a generally longer and healthier life and a reduced risk of developing dementia. Research also shows that people with a more positive perception of aging are more likely to take preventive health measures — like exercising — which, in turn, may help them live longer. You can't stop the march of time, but you don't have to dread it. Here are some ways to help shift your thinking.

Notice where your age beliefs come from.

From the crotchety neighbor to the clueless Luddite, negative stereotypes of aging are everywhere. Taking in negative beliefs about aging can affect our view of the process — and our health, said Becca Levy, a professor of epidemiology at Yale. A 2009 study, for example, found that people in their 30s who held negative stereotypes of aging were significantly more likely to experience a cardiovascular event, like a heart attack or stroke, later in life than those with positive ones. To change your negative age beliefs, you first need to become more aware of them, Dr. Levy said. Simply identifying the sources of your conceptions about aging can help you gain some distance from negative ideas. “People can strengthen their positive age beliefs at any age,” Dr. Levy said. In one 2014 study, 100 adults — with an average age of 81 — who were exposed to positive images of aging showed both improved perceptions of aging and improved physical function.

Find aging role models.

If you associate aging with only loss or limitation, “you're not getting the full picture of what it means to age,” said Regina Koepp, a psychologist who specializes in aging. Instead, she said, “shift your attention — look around for role models, see who's doing it well.” Dr. Levy recommends coming up with five older people who have done something you deem impressive or have a quality that you admire, whether it's falling in love later in life, showing devotion to helping others or maintaining a commitment to physical fitness.

Don't mistake forced positivity for optimism.

Research suggests that optimistic women are more likely to live past 90 than less optimistic women, regardless of race or ethnicity. But thinking more positively about aging doesn't mean papering over real concerns with happy thoughts — or using phrases like “You haven't aged!” as a compliment. Instead, try to look at the honest reality with optimism. If you're feeling deflated that your tennis game isn't as strong in your 70s as it once was, Dr. Ginne said, remind yourself: “No, I can't play tennis like I did when I was 50, and I can only play for 10 minutes. But I can still play.”

Don't dismiss the benefits.

Focus on what you're gaining, too. Research has shown, for example, that emotional well-being generally increases with age, and certain aspects of cognition, like conflict resolution, often improve in later life. With time, “we're likely to develop more resilience,” Dr. Koepp said. Successful aging doesn't mean you won't get sick, encounter loss or require care at some point, she said. And no one said that changing any mind-set is easy. But if you can, she added, it may allow you to see yourself more clearly “as a person with lived experience and wisdom” as you age.