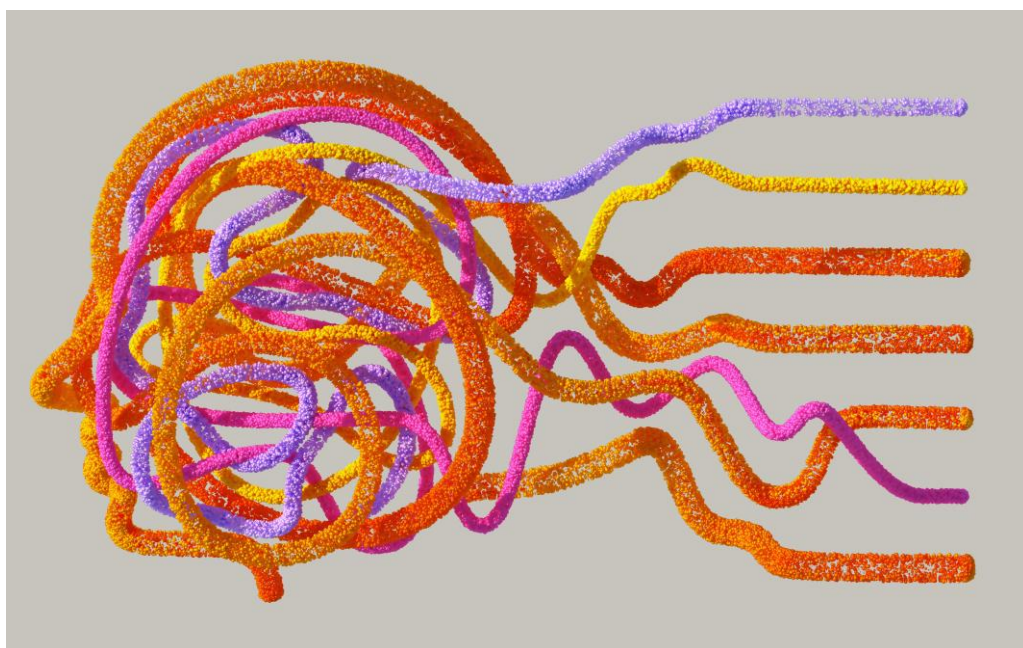


PRESS RELEASE

Healthy ageing: Training the Mind and Emotional Skills Helps Keep the Brain Healthy

Two studies from SISSA show that cognitive reserve built over a lifetime, together with emotional resources, helps preserve mental abilities in adults over 65. Conducted by the research group led by neuroscientist Raffaella Rumiati, both studies were carried out as part of the Age-It project.



Trieste, 01 September 2026

Education, intellectually stimulating work, and an active lifestyle help preserve cognitive abilities in adults over 65, leading to more effective verbal expression and stronger cognitive performance. But there is another important factor: emotions. The way we recognize and interpret them can significantly influence the efficiency of cognitive processes as we age.

These findings emerge from two new studies conducted by the laboratory of Professor Raffaella Rumiati at the International School for Advanced Studies (SISSA) in Trieste, Italy, recently published in *Neuropsychology* and *Brain Sciences*. The researchers examined how a group of adults over the age of 65 performed on various tasks to identify factors that help preserve cognitive function later in life.

The first authors of the two studies, Elisabetta Pisanu and Stefania Lucia, focused in particular on the role of cognitive reserve—the set of mental resources accumulated throughout life through education, professional experience, and intellectually engaging leisure activities. The first study found that individuals with greater cognitive reserve performed better in language tasks, showing a greater ability to express themselves and retrieve the right words. Positive emotions also contributed to better language performance.

The second study showed that cognitive reserve also plays a key role in supporting working memory—the ability to temporarily retain, process, and use information to complete a task. Emotions also influence these cognitive processes: they not only improve performance, but also shape the way we respond to different stimuli. In particular, higher emotional intelligence, i.e. the ability to recognize, understand, and use emotions to guide thinking, behaviour, and relationships, was found to significantly influence participants' responses to emotional stimuli.

Overall, the findings confirm that an intellectually stimulating life helps preserve cognitive function as we grow older. They also suggest that cognitive and emotional resources do not operate independently but work together to support healthier and more efficient cognitive ageing.

Both studies were carried out as part of Age-It: Ageing Well in an Ageing Society, a major Italian research programme investigating the challenges and opportunities associated with population ageing.

Finding the right words: Cognitive reserve and emotions shape language in later life

Cognitive reserve helps preserve language abilities as we age. The study published in *Neuropsychology* found that older adults with greater cognitive reserve maintained better language performance than their peers.

“Our findings show that older adults with higher cognitive reserve achieve language performance comparable to that of younger adults,” explains Elisabetta Pisanu, first author of the study. “In our experiments, we focused on what happens during the first ten seconds of a verbal fluency task, when people search for the right words to express their thoughts. This brief time window captures the fastest and most automatic processes involved in word retrieval, without the need for the traditional one-minute test. We found that these first ten seconds are already sufficient to reveal the effects of both ageing and cognitive reserve on language performance.”

The researchers observed that a decline in performance is already detectable during these initial moments in adults over 65. However, this decline is greatly reduced, and may even disappear, in individuals with high cognitive reserve.

“In other words,” the researchers explain, “cognitive reserve helps keep the brain ‘young’, at least when it comes to language and word retrieval.”

The study also found that not all words are equally easy to retrieve. According to Pisanu: “Older adults retrieve words associated with positive emotions more easily than those linked to negative emotions. These findings suggest that, alongside the protective role of cognitive reserve, the emotional valence of words also contributes to language performance.”

Ageing and working memory: Experience and emotions support cognition in different ways

As we grow older, working memory—the ability to temporarily hold, process, and use information to complete a task—also tends to become less efficient. The study published in *Brain Sciences* investigated how cognitive reserve and emotional intelligence contribute to working memory, particularly when emotions are relevant to the task at hand.

To address this question, the researchers asked a group of adults over the age of 65 to complete a working memory task in which, depending on the condition, they had to focus either on the emotional expression or on the age of the faces presented to them.

“We wanted to understand whether cognitive reserve and emotional intelligence play different roles depending on whether emotions are relevant—or irrelevant—to a working memory task,” explains Stefania Lucia, first author of the study.

The findings showed that cognitive reserve improves performance regardless of the type of task. “Our results indicate that cognitive reserve enhances performance accuracy independently of the experimental condition,” says Lucia.

“This suggests that it plays a fundamental role in supporting the ability to maintain and manipulate the information needed to carry out a task.”

The role of emotions also emerged clearly.

“When the task involves emotional content, older adults perform better: they appear to become more efficient,” Lucia observes. Emotional intelligence, in turn, influences the way people process information and respond to the task.

“It affects how individuals process information and generate a response, ultimately shaping their performance. For example, people with higher emotional intelligence take longer to respond to emotional stimuli, probably because they devote greater attentional and cognitive resources to processing them. This does not reflect greater difficulty, but rather deeper and more thorough processing of emotional information.”

Raffaella Rumiati: Understanding cognitive ageing is a scientific and societal challenge

“Both of these studies were carried out as part of Age-It: Ageing Well in an Ageing Society, an ambitious national research programme that has laid the foundations for a research and data infrastructure dedicated to the study of ageing from multiple perspectives, including socio-economic, biomedical, and technological dimensions,” says Raffaella Rumiati, neuroscientist at SISSA and principal investigator of both studies.

“Italy is one of the world's longest-lived countries, together with Japan. While this is an extraordinary achievement, it also brings new challenges. As the older population continues to grow, so does the demand for healthcare and long-term care services. Understanding how to preserve cognitive abilities for as long as possible is therefore essential—not only to improve people's quality of life, but also to help ensure the sustainability of healthcare and social welfare systems.” According to Rumiati, cognitive decline and the strategies to counteract it are among the major challenges of an ageing society.

“Our research can contribute in two important ways: by improving the methodological tools used to study cognitive ageing, and by identifying the factors that help protect cognitive functions as people grow older.”

She concludes:

“Our findings show that an intellectually stimulating life helps preserve a wide range of cognitive functions, from language to working memory. They also highlight the important role of emotions, which, as our studies suggest, make a significant contribution to the efficiency of cognitive processes. Taken together, these findings indicate that cognitive reserve and emotional skills contribute to healthier and more efficient cognitive ageing. These are promising results that we intend to explore further in future studies.”

USEFUL LINK

Full papers:

[Article in APA PsycNet](#)

[Article in Brain Sciences](#)

IMAGE

Credits: Unsplash

SISSA

Scuola Internazionale
Superiore di Studi Avanzati
Via Bonomea 265, Trieste
W www.sissa.it

Facebook, Twitter
[@SISSASchool](#)

CONTACTS

Nico Pitrelli

M pitrelli@sissa.it
T +39 339 1337950

Donato Ramani

M ramani@sissa.it
T +39 040 3787513