

Secret of keeping the brain young? Learn to play a musical instrument, says new study

Long-term musical training could delay, even counteract age-related decline, says study



By [Maureen Mackey](#) | Fox News

A new study has found that learning to [play a musical instrument](#) could be the secret to keeping our brains young.

Scientists connected to the new study also shared a second benefit: They found that the ability to play music can make us better listeners [as we get older](#).

The new research, which studied the brains of musicians and non-musicians both young and old, discovered that playing music can help keep brains "sharp, young and focused" as people age by exercising and preserving areas of the brain, reported SWNS, a British news agency.

[The Chinese study](#) discovered that long-term musical training could delay and even counteract the natural and age-related decline in the ability to listen and keep the mind young.

The study was published in the journal Science Advances.



Tom Street of Derbyshire, England, has been playing the trombone for 82 years. Now, a new study published in *Science Advances* says playing music can help keep our brains "sharp, young and focused" as we age. (SWNS)

Older musicians can even match the brains of young non-musicians in identifying audiovisual syllables under noisy conditions.

Though the world's population is aging at an unprecedented rate, the study shows [there are ways to age healthily](#) and counteract the natural cognitive declines associated with growing older.

This is not the first study to demonstrate the benefits of music on the brain and especially the playing of a musical instrument.

"While research has long suggested listening to an [orchestra's performance of such well-known pieces](#) as Beethoven's '5th Symphony' and 'Mozart's Marriage of Figaro' may boost the audience's brain power — a hypothesis aptly named The Mozart Effect — Penn Medicine experts suggest those playing in the orchestra may derive the most benefits of all," Penn Medicine News reported several years ago.



"Playing the violin — which, like many instruments, requires the right hand to do something different than the left — uses the peripheral nervous system, which controls movement of your fingers, as well as gross and fine motor skills," said one neuroscientist. (iStock)

Playing an instrument "engages every major part of the central nervous system," John Dani, PhD, chair of Neuroscience at Penn's Perelman School of Medicine, said in 2017 — tapping into both the right and left sides of the brain, as Penn Medicine News reported.

"For example, playing the violin — which, like many instruments, requires the right hand to do something different than the left — uses the peripheral nervous system, which controls movement of your fingers, as well as gross and fine motor skills," he also said.

"The brain's executive function, which plans and makes decisions, comes into play as a musician plays one part but keeps focus on what's coming next, he said as well in 2017.

Close look at brain

In the new research, the Chinese authors scrutinized the brains of older musicians, older non-musicians and young non-musicians in the neuroimaging study.

Older musicians easily outperformed their non-musician peers.

The analysis showed that older musicians outperformed their non-musician peers — and even equaled young people who don't play musical instruments in identifying audiovisual syllables under noisy conditions, SWNS reported of the study.

As they looked at the participants' brain activity, the researchers revealed two mechanisms that older musicians use to counteract aging: functional preservation and functional compensation.



Tom Street, left, with his grandson Louis Street, 21, who also plays in the band when he can. "Playing music makes older adults better listeners by preserving youthful neural patterns as well as recruiting additional compensatory brain regions," said the lead author of a new study. (SWNS)

Older musicians were found to retain neural specificity of speech representations in sensory motor areas at a level similar to those seen in young non-musicians.

Older non-musicians, however, showed degraded neural representations — patterns of brain activity that stand for some environmental feature in the internal workings of the brain.

In the same region of the brain, older musicians also showed a higher neural alignment (the degree to which someone's neural representations match those of experts) in comparison to non-musicians far younger than them.

The researchers put this down to the [older musicians' training intensity](#).

Additionally, youth-like brain function predicted better audiovisual speech-in-noise perception performance — the ability to process audiovisual speech — in older adults.



A new study as found that lifelong musical training can lead to "successful aging" in speech processing by preserving youthful brain characteristics. (iStock)

The study also found that older musicians, compared with their nonmusical peers, showed greater activation in frontoparietal regions of the brain, which support multiple tasks across domains and greater inhibition in task-irrelevant, "default mode" regions that help avoid interference.

The research showed that greater default-mode deactivation predicted better audiovisual speech-in-noise performance.

"Playing music keeps your brain sharp, young and focused."

Further, these two mechanisms are interdependent: Functional compensation further supported functional preservation in the brain.

Dr. DU Yi, from the Institute of Psychology of the Chinese Academy of Sciences and the lead author of the study, said the team's research was proof that playing music keeps brains young.

"Playing music makes older adults better listeners by preserving youthful neural patterns as well as recruiting additional compensatory brain regions," Dr. Yi said, according to SWNS.

"Our study provides empirical evidence to support that playing music keeps your brain sharp, young and focused," Yi also said, as the same source reported.

The team's study provides invaluable insights into adaptive brain reorganization in aging populations — and how lifelong musical training can lead to "successful aging" in speech processing by preserving youthful brain characteristics and enhancing compensatory brain scaffolding.

Maureen Mackey is managing editor of lifestyle for Fox News Digital.