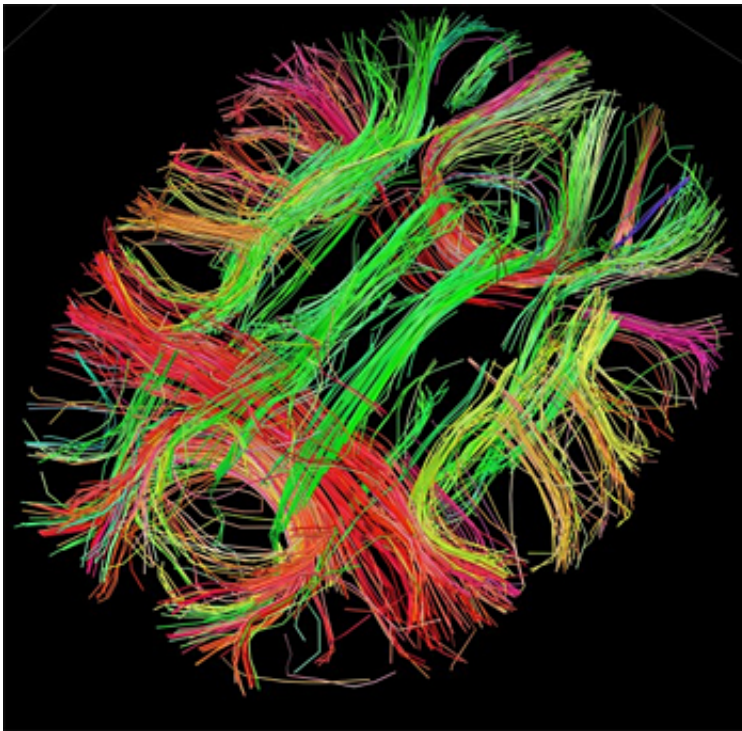


# Musical training increases blood flow in the brain

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White matter fiber architecture of the brain. Credit: Human Connectome Project.

Research by the University of Liverpool has found that brief musical training can increase the blood flow in the left hemisphere of our brain. This suggests that the areas responsible for music and language share common brain pathways.

Researchers from the University's Institute of Psychology, Health and Society carried out two separate studies which looked at brain activity patterns in musicians and non-musicians.

The first study looking for patterns of brain activity of 14 musicians and 9 non-musicians whilst they participated in music and word generation tasks. The results showed that patterns in the musician's brains were similar in both tasks but this was not the case for the non-musicians.

In the second study, brain activity patterns were measured in a different group of non-musical participants who took part in a word generation task and a music perception task.

The measurements were also taken again following half an hour's musical training. The measurements of [brain activity](#) taken before the musical training\* showed no significant pattern of correlation. However, following the training significant similarities were found.

Amy Spray, who conducted the research as part of a School of Psychology Summer Internship Scheme, said: "The areas of our brain that process music and language are thought to be shared and previous research has suggested that musical training can lead to the increased use of the [left hemisphere](#) of the brain.

This study looked into the modulatory effects that musical training could have on the use of the different sides of the brain when performing music and language tasks."

Amy added: "It was fascinating to see that the similarities in [blood flow](#) signatures could be brought about after just half an hour of simple musical training."

Liverpool Psychologist, Dr Georg Mayer , explained: "This suggests that

the correlated brain patterns were the result of using areas thought to be involved in language processing. Therefore we can assume that [musical training](#) results in a rapid change in the cognitive mechanisms utilised for music perception and these shared mechanisms are usually employed for [language](#)."

**More information:** Paper: 'The effects of musical training on cerebral lateralization patterns- a functional transcranial Doppler ultrasonography study.'

Provided by University of Liverpool

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