

## Music 'makes the brain learn better'

### **The hours spent mastering the violin or piano are worthwhile - music lessons boost children's memories.**

Researchers from Hong Kong have found children who are given musical training have better verbal memories than those who have not had lessons.

They say their findings could help people recovering from a brain injury as well as healthy children.

Psychologists from the Chinese University of Hong Kong studied 90 boys between the ages of six and 15.

**These children may simply be making better progress because they are getting more help and encouragement**

Dr Alexandra Lamont, Keele University

Half had been given musical training as members of their school's string orchestra and had received lessons in playing classical music on Western instruments, for up to five years.

The rest, all students at the same school, had received no musical training.

### **Stimulation**

All the children were given verbal memory tests, to see how many words they recalled from a list, and a visual memory test for images.

Those students who had been given music lessons recalled significantly more words than the untrained students, and generally learned more words with each subsequent test.

They were also able to retain more words than the other group when tested 30 minutes later.

And the longer the boys had been receiving music lessons, the better their verbal memory was as well.

However, no differences were found in visual memory between the groups.

The researchers suggest music lessons stimulate the left side of the brain, which also controls verbal learning.

A year after the first study, the researchers studied the orchestra students again.

Of the 45 original students, only 33 were still receiving lessons.

They also studied 17 children who had started music lessons after the initial study.

The beginner's group initially showed poorer verbal-learning ability than the more musically experienced boys.

But after a year, they showed significant improvement in verbal learning.

However, the 12 boys in the original group who had stopped having lessons showed no further improvement, though they did not lose any of the abilities they had gained while they were being taught music.

## Parental interest

The researchers, led by Dr Agnes Chan, said giving music lessons to children "somehow contributes to the reorganization [and] better development of the left temporal lobe in musicians, which in turn facilitates cognitive processing mediated by that specific brain area, that is, verbal memory."

She added: "Students with better verbal memory probably will find it easier to learn in school."

Dr Alexandra Lamont, lecturer in the psychology of music at Keele University, UK, told BBC News Online that research into the effect of music on other abilities was often complex and contradictory, and the Hong Kong study was important in adding new information to the debate.

But she added: "Research has shown that children who have extra music lessons often come from higher socio-economic backgrounds, and their parents are therefore more likely to be better educated and take more interest in their children's development.

"These children may simply be making better progress because they are getting more help and encouragement. If this is the case, we would expect to see similar improvements in other academic areas such as mathematics.

"In comparison, visual memory is not seen as such an important academic skill, which could explain the lack of differences between the groups."

She added: "These results give us more information to consider, but we urgently need more research to know more about what it is that is having an effect.

"Music is an important and enjoyable activity in its own right, and many researchers working in this area strongly believe it would be dangerous to promote music only on the basis of the other skills it can bring."

The research is published in the journal *Neuropsychology*.

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