

本集内容

The science of singing 歌唱背后的科学知识

学习要点

有关“hearing 听力”的词汇

边看边答

What is measured in Alex's brain to test if singing can benefit his mind?

文字稿

This music and singing session for children with a **hearing impairment** experiments with volume, rhythm and the physical feeling of the way the children use their voices.

And with this computer programme they are able to see what their voices are doing, even if they are unable to hear them.

Professor Graham Welch has been studying how singing can help children with severe hearing issues for three years now and says singing can **stimulate** the brain.

Professor Graham, Welch University College London

“They’re all engaged in their singing but they’ve actually improved in their measurable singing skills and at the same time there is some evidence of impact on their **hearing acuity** as well, so that they are better able to **discriminate** sound.”

To understand how singing affects the brain, we’ve invited Alex Stobbs, a musician, to a neotherapy session.

Alex has cystic fibrosis; he undergoes physical therapy every day and long periods of treatment. Nadia Hristopher is a neuropsychologist

. First, she measures the electrical activity in Alex's brain while he's resting, then she asks him to sing.

And rested Alex is assessed again. And the results are immediate.

Nadia Hristopher, neuropsychologist

“I mean that shows that theoretically within ten minutes of singing someone can improve clarity of their mind and also perhaps feel emotionally much more uplifted.”

Songs often speak or sing of the importance of music to the heart and to the soul, but it can also be of huge benefit to your brain.

这个为听觉障碍儿童所设计的音乐歌唱课程，用音量、节奏和孩子们发出声音时身体的感受进行实验。

通过这个计算机程序，他们能够看到自己的声音如何通过视觉的形式表现出来，即使他们无法听到自己所发出的声音。

格雷厄姆·韦尔奇教授从事唱歌是如何辅助有严重听力困难儿童的研究已经三年了，他认为唱歌可以刺激大脑。

格雷厄姆·韦尔奇教授，伦敦大学学院

“他们都投入到唱歌的体验中，并且歌唱的技巧也有了明显的提高，同时也有一些证据表明这提高了他们的听力灵敏度，使得他们能够更好地辨别声音。”

为了理解歌唱是如何影响大脑的，我们邀请了一位名叫亚历克斯·斯托布斯的音乐家，来体验这个新的神经学疗法。

亚历克斯患有囊肿性纤维化，他每天都进行物理治疗，还要定期接受其它治疗。娜蒂亚·赫里斯托弗是一名神经心理学家。她先在亚历克斯休息的时候测量他的脑电波活动，然后再让他唱歌。

接着，对休息状态下的亚历克斯再次进行评估。结果是显而易见的。

娜蒂亚·赫里斯托弗，神经心理学家

“结果表明，从理论上讲，当一个人开始歌唱，十分钟内他的头脑思绪就会更加清晰，同时也可能感到情绪比之前更高涨。”

歌曲不仅可以表达出音乐对于人类心灵的重要性，还可对人类的大脑大有裨益。

词汇

hearing impairment

听觉障碍

stimulate

刺激

hearing acuity

听力灵敏度

discriminate

区分，区别，分辨

视频链接: <http://bbc.in/2BjCCrX>

你知道吗？

Neuro- is the prefix used to describe anything to do with the brain, nerve or nervous system. For example: neuroscience, neurosurgeon, neuro-therapy.

Neuro- 是用来表达与大脑、神经或神经系统相关意思的前缀，例如：神经科学、神经外科医生和神经疗法。

问题答案

A neuropsychologist measures the electrical activity in Alex's brain before and after singing to prove it can help his mind.