MUSIC TRAINING FACILITATES CORTICAL SYNCHRONIZATION DURING VERBAL MEMORY ENCODING

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ABSTRACT

Music training can improve learning and memory. In particular, our previous studies (Chan et al., 1998; Ho et al., 2003) suggested that children and adults with music training have better verbal memory than those without music training. In the present study, we aim to investigate how music training affects the brain activity during memory encoding. A total of 70 college students were recruited. Their memory was assessed by standardized neuropsychological tests and their brain activities during verbal memory encoding were recorded. Consistent with previous studies, participants with music training demonstrated better verbal but not visual memory than participants without music training on neuropsychological tests. During verbal memory encoding, two groups did not differ in the EEG spectral power but participants with music training showed elevated intrahemispheric and interhemispheric EEG coherence, compared with those without music training. Therefore, these results suggest that music training facilitates cortical synchronization during memory encoding, resulting in their better verbal memory performance.

Keywords: music training, verbal memory, EEG