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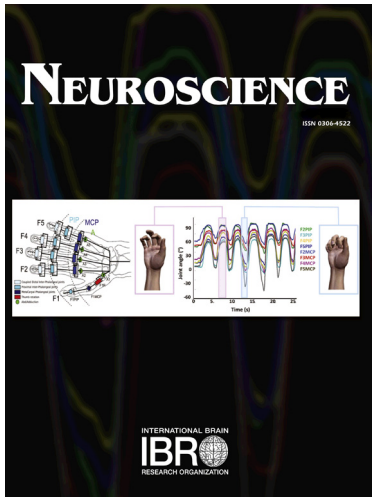

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Multisensory integration in short-term memory: Musicians do rock[☆]

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Abstract

Demonstrated interactions between seeing and hearing led us to assess the link between music training and short-term memory for auditory, visual and audiovisual sequences of rapidly presented, quasi-random components. Visual sequences' components varied in luminance; auditory sequences' components varied in frequency. Concurrent components in audiovisual sequences were either congruent (the frequency of an auditory item increased monotonically with the luminance of the visual item it accompanied), or incongruent (an item's frequency was uncorrelated with luminance of the item it accompanied). Subjects judged whether the last four items in a sequence replicated its first four items. With audiovisual sequences, subjects were instructed to ignore the sequence's auditory components, basing their judgments solely on the visual input. Subjects with prior instrumental training significantly outperformed their untrained counterparts, with both auditory and visual sequences, and with sequences of correlated auditory and visual items. Reverse correlation showed that the presence of a correlated, concurrent auditory stream altered subjects' reliance on particular visual items in a sequence. Moreover, congruence between auditory

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