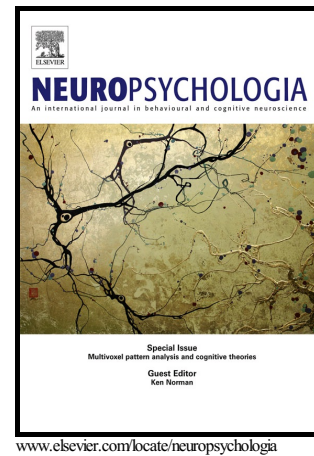


Author's Accepted Manuscript

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PII: S0028-3932(18)30196-9

DOI: <https://doi.org/10.1016/j.neuropsychologia.2018.04.041>

Reference: NSY6784

To appear in: *Neuropsychologia*

Received date: 12 January 2018

Revised date: 29 April 2018

Accepted date: 30 April 2018

Cite this article as: Hanin Karawani, Kimberly Jenkins and Samira Anderson, Restoration of sensory input may improve cognitive and neural function, *Neuropsychologia*, <https://doi.org/10.1016/j.neuropsychologia.2018.04.041>

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Restoration of sensory input may improve cognitive and neural function*

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Abstract

Age-related hearing loss is one of the most prevalent health conditions among the elderly. Hearing loss may lead to social isolation, depression, and cognitive decline in older adults. The mechanistic basis for the association between hearing loss and decreased cognitive function remains unknown as does the potential for improving cognition through hearing rehabilitation. To that end, we asked whether the restoration of sensory input through the use of hearing aids would improve cognitive and auditory neural function. We compared a group of first-time hearing aid users with a hearing-matched control group after a period of six months. The use of hearing aids enhanced working memory performance and increased cortical response amplitudes. Neurophysiologic changes correlated with working

*The manuscript has not been submitted for publication elsewhere. Parts of the study were presented at the 41st Annual MidWinter Meeting of the Association for Research in Otolaryngology; February 11, 2018; San Diego, California.

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