EFFECTS OF AGING AND ALZHEIMER’S DISEASE ON EXPLICIT, IMPLICIT, AND REMOTE LONG-TERM MEMORY FOR MUSIC

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Introduction: Clarifying the sparing and loss of musical memory in normal aging and Alzheimer's Disease (AD) may guide the use of music therapy.

Aim: To compare explicit and implicit memories and remote long-term musical memory in cognitively normal persons and patients with AD.

Methods: Explicit memory was tested using recognition of unfamiliar melodies, while implicit memory was tested using pleasantness ratings. Remote long-term memory was tested with culturally familiar melodies. Comparisons were made between three groups: younger adults, cognitively normal older adults, and adults with AD.

Results: Cognitively normal older adults had significantly lower scores on tests of explicit and implicit memories than younger adults, t(81) = 7.35, p < .001, d = 1.69, 95% CI [15.40, 26.83] for explicit memory and t(81) = 3.88, p < .001, d = .87, 95% CI [.16-.49] for implicit memory. Adults with AD had significantly lower scores than cognitively normal older adults for explicit memory, t(61) = 4.03, p < .001, d = 1.37, 95% CI [8.15, 24.19], but there were no significant differences in implicit memory. The remote long-term memory was also not significantly different between cognitively normal older adults and adults with AD.

Conclusions: The age-related decline in explicit musical memory is consistent with explicit memory deficits seen in other domains in older adults, while the decline in implicit musical memory concurs with some evidence from both musical and non-musical domains. The preservation of remote long-term musical memory in both aging and AD suggests a promising target for music therapy.