

Neuroaesthetic Processing In Ageing And Alzheimer's Disease: Links To Memory And Decision-making

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Take-home Message:

Neuroaesthetic Processing can help in Ageing And Alzheimer's Disease.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
Aesthetic appraisal engages reward, salience, and memory networks that are also affected in ageing and Alzheimer's disease (AD). However, the extent to which beauty perception influences decision-making and memory in older adults and dementia remains unclear. We aimed to map current evidence on neuroaesthetic processing in ageing and AD, with a focus on its cognitive relevance and potential translational value.	We systematically examined aesthetic perception, aesthetic preference, beauty appraisal, or responses to aesthetically salient stimuli in healthy ageing, mild cognitive impairment, and AD or related dementias. Behavioural, neuropsychological, and neuroimaging studies were considered if they addressed links with memory, attention, valuation, learning, or decision-making. Evidence was synthesized across cognitive and neural domains, with emphasis on reward-related, salience-related, and hippocampal systems.	We observed that aesthetically salient stimuli were associated with greater attentional engagement, stronger subjective salience, and better memory performance than neutral stimuli. In dementia-related studies, aesthetic preference may remain relatively preserved despite marked impairment in explicit memory, suggesting partial dissociation between aesthetic valuation and declarative recall. Findings in healthy ageing indicate that affective and reward-related responses to aesthetically meaningful material are often maintained, although executive aspects of evaluation and choice may decline. Direct studies linking neuroaesthetic processing to decision-making and memory outcomes in mild cognitive impairment or AD remain limited, and mechanistic neuroimaging evidence is still sparse.	Neuroaesthetic processing is an understudied but biologically plausible pathway linking affective valuation to cognition in ageing and AD. Preserved responsiveness to aesthetic stimuli may provide a useful foundation for cognitive engagement, supportive care environments, and non-pharmacological intervention design. Future work should test whether aesthetic enrichment can improve memory, learning, or value-based decision-making in individuals at risk for or living with AD.	Sinha et al., 2014, <i>Neuroscience</i> Ghosh et al., 2019, <i>IJMR</i> Potukuchi et al., 2018, <i>Nutri Neuroscience</i> Welch & Tsai, 2022, <i>EMBO Reports</i> Azam et al., 2021, <i>Frontiers in CDB</i> Collins, 2004, <i>Molecular Biotechnology</i> Olive & Banáth, 2006, <i>Nature Protocols</i> Flores-Cordero et al., 2022, <i>IJMS</i>
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