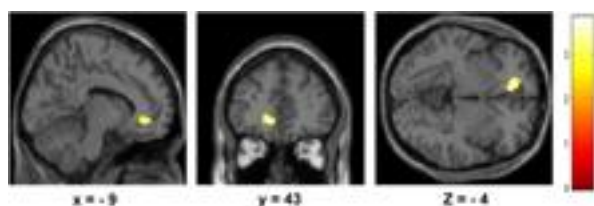


“I know I am not nuts but I do not remember you asked me whether I was nuts or not”



A study of self-related memory processing and its neural substrates in Alzheimer's disease.

In healthy people, memory is better for the information that is associated to oneself than for information concerning someone else. In patients with Alzheimer's disease (AD), memory of recent information is significantly impaired in relation to dysfunction within a wide network of brain regions.

Researchers at the Cyclotron Research Centre (University of Liege, Belgium), in collaboration with researchers at the Universities of Tours, Poitiers and Paris (France) investigated memory for information that has been associated to the self and studied how it relates to brain structure and function in AD patients. They asked healthy older people and AD patients first to judge if some adjectives could describe themselves (a condition that promotes self-referential processing) or the Belgian King/Queen (in another condition). Then, subsequent memory of these adjectives was assessed. Brain functioning during the task was recorded and a structural image of the brain was acquired in all participants with a Magnetic Resonance Imaging Scanner (MRI).

The researchers found that whereas healthy older people showed better memory for items that have been associated to the self, AD patients had poor memory for information associated both to themselves and to someone else. However, when judging adjectives in reference to themselves, both groups activated the medial prefrontal cortex, a region that allows an individual to distinguish self-related from non-self information. By looking at the relationship between brain structure and subsequent memory for self-related adjectives in AD patients, the researchers found that subsequent processing of self-information was related to the degree of atrophy in the lateral prefrontal cortex.

These findings suggest that, the short term discrimination of self-related information may be relatively preserved in AD patients, while memory processing of information that has been associated to the self is altered in those patients. Damage to the lateral prefrontal cortex may play a role in impaired memory for self-related information in AD patients.

To read the full article on ScienceDirect, follow the link below:

### **Cognitive and neuroimaging evidence of impaired interaction between self and memory in Alzheimer's disease**

Genon Sarah, Bahri Mohamed Ali, Collette Fabienne, Angel Lucie, d'Argembeau Arnaud, Clarys David, Kalenzaga Sandrine, Salmon Eric and Bastin Christine.

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