

Effects of disease severity on autobiographical memory in semantic dementia revealed in new study

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In a study conducted by the Laboratory of Neuropsychology of the Université de Caen Basse-Normandie and published by Elsevier in the April 2009 issue of *Cortex*, researchers studied for the first time autobiographical memory in a group of semantic dementia (SD) patients according to disease progression. They highlighted that at early stages of the disease those patients could recall recent memories, but also lasting memories from their youth which tend to disappear as dementia evolves. Mechanisms at the root of this autobiographical memory impairment result from storage deficits combined with faulty retrieval strategies.

Semantic dementia is a neurodegenerative disease characterized by a semantic memory breakdown; this type of memory concerns meanings and understandings about the world, e.g. "Paris is the capital of France" as well as personal semantics. Despite their important semantic deficits, these patients show preserved abilities concerning daily living activities and can recall recent specific personal events, with episodic details, at least at the beginning of the disease. This observation is interesting because it suggests that episodic autobiographical memory referring to both recent and old memories, particular to each individual at the source of personal continuity over time, is preserved in early SD.

Two groups of 7 patients each were studied. One group consisted of SD patients with mild cognitive impairment and the other consisted of patients with moderate cognitive impairment. An autobiographical

memory test, called the TEMPau task, was used which assessed general and specific memories across the entire lifetime. Results indicated for the mild subgroup, preserved performances for the most recent time period and a relative preservation of a reminiscence bump, which concerns the surge of vivid and important self-defining episodic memories acquired between 18 and 30 years. In the moderate subgroup, performances were impaired whatever the time period including the most recent one. These results highlight that, with disease severity, episodic memories tend to vanish regardless of their recency.

The implications of these findings are particularly interesting from both theoretical and clinical viewpoints. First, they confirm that the relative preservation of episodic memories in early SD is not just a matter of recency, as frequently proposed. Second, they should provide new avenues on the development of specific methods of rehabilitation of new and old semantic concepts based on episodic autobiographical memory from the last 12 months and the reminiscence bump.

More information: The article is "Patterns of autobiographical memory impairment according to disease severity in semantic dementia" by Vanessa Matuszewsky, Pascale Piolino, Serge Belliard et al and appears in Cortex, Volume 45, Issue 4 (April 2009), published by Elsevier in Italy. The article is published in a special issue dedicated to the Cognitive Neuroscience of Drawing". (<http://www.elsevier.com/locate/cortex>)

Source: Elsevier

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