

Effectiveness of perceptual and semantic memory strategies:

| healthy younger, older, and MCI |

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Today's content

- Background
- Rationales
- Methodology
- Results
- Discussions
- Implications



Information process approach

- 3 stages
 - Encoding or registration
 - Receiving, processing and combining of received information
 - Storage
 - Retrieval



Types of encoding

- Information can be encoded at least in two ways (Craik & Lockhart, 1972; Nicolas, 1998).
 - **Perceptual encoding** is the process by which the perceptual traces are translated into mental representation.
 - **Semantic encoding** is the process by which one interprets the meaning from the information gathered by the five senses.

Study Rationales

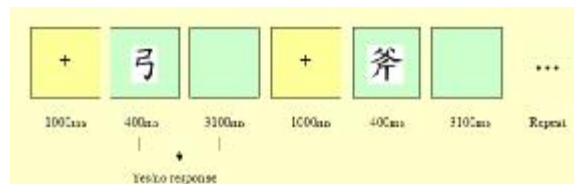
- The difficulty levels of the encoding strategies matched.
- Aim: effectiveness of perceptual and semantic memory strategies in healthy younger, older, and mild cognitive impaired (MCI).



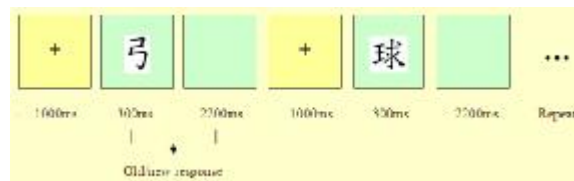
Method

- 17 younger, 17 older, and 10 MCI participants
- Participants studied or encoded a series of Chinese characters
 - **Perceptually** (by inspecting orthographic components)
 - **Semantically** (by determining the object making sounds)
 - Then, made studied or unstudied judgments during the recognition phase.
- AN(C)OVA tests were used for the analysis of data.

Study



Recognition



Results

- Younger vs. older group
 - Older group had significantly lower measures than the younger group in both the perceptual ($p = 0.01$) and semantic conditions ($p = 0.02$).
- Older vs. MCI group
 - MCI individuals performed significantly worse in the semantic condition ($p = 0.04$).

Discussions

- Both abilities to encode perceptual and semantically are **affected in aging**
 - though memory performance still improved in the semantic condition.
 - Whenever possible, healthy elderly are encouraged to engage in **semantic** type of encoding strategies.
- MCI persons may benefit more from a **perceptual** type of memory encoding strategy.

In practice

- Perceptual
 - Imagery
- Semantic
 - Association
 - Categorization
- Method of loci



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