

## The predictive value of memory strategies for the development of dementia

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**Background:** Memory impairment in subjects with Mild Cognitive Impairment (MCI) is a strong predictor of Alzheimer's disease (AD). In AD memory impairment is related to impaired learning strategies, but whether this also explains memory impairment in MCI is unknown. In addition, it remains unclear whether impaired learning strategies, such as clustering, predict dementia in subjects with MCI.

**Objectives:** To investigate whether learning strategies differ between subjects with and without objective memory impairment, and more particularly, to analyse the predictive power of cluster strategies for the development of dementia. **Methods:** Subjects (n=374) with cognitive complaints, no dementia, and otherwise healthy, were selected from the Maastricht memory clinic. All subjects performed the Auditory Verbal Learning Test (AVLT). Investigated strategies were serial and subjective clustering. In serial clustering the reproduction of words is in the same order as they were offered, in subjective clustering, words are reproduced in clusters that are logical to the subject. First, we investigated cross-sectionally whether the use of strategies was associated with poor delayed recall, defined as a score below the 10th percentile. Next, we investigated in a sub-sample of 96 subjects if strategy use was associated with dementia within a 10 years follow up.

**Results:** Subjects with objective memory impairment had significant lower levels of subjective clustering, than subjects without memory impairment, but levels of serial clustering were comparable. Subjects with memory impairment also showed less increase in the use of subjective clustering over the learning trials. Subjective clustering was a significant predictor for the development of dementia within 10 years ( $p < .05$ ), but serial clustering was not. **Conclusion:** Impaired delayed recall is related to impaired clustering in MCI. Not only delayed recall scores are important for the prediction of dementia, also the strategy to reach this score should be taken into account. Strategy use can thus be seen as a more refined marker for the prediction of dementia.