

ABSTRACT

Semantic Fluency in Mild and Moderate Alzheimer's Disease

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Alzheimer's disease (AD) is characterized by an impairment of the semantic memory responsible for processing meaning-related knowledge. This study was aimed at examining how Finnish-speaking healthy elderly subjects ($n = 30$) and mildly ($n = 20$) and moderately ($n = 20$) demented AD patients utilize semantic knowledge to perform a semantic fluency task, a method of studying semantic memory. In this task subjects are typically given 60 seconds to generate words belonging to the semantic category of animals. Successful task performance requires fast retrieval of subcategory exemplars in clusters (e.g., farm animals: 'cow', 'horse', 'sheep') and switching between subcategories (e.g., pets, water animals, birds, rodents). In this study, the scope of the task was extended to cover various noun and verb categories.

The results indicated that, compared with normal controls, both mildly and moderately demented AD patients showed reduced word production, limited clustering and switching, narrowed semantic space, and an increase in errors, particularly perseverations. However, the size of the clusters, the proportion of clustered words, and the frequency and prototypicality of words remained relatively similar across the subject groups. Although the moderately demented patients showed a poorer overall performance than the mildly demented patients in the individual categories, the error analysis appeared unaffected by the severity of AD. The results indicate a semantically rather coherent performance but less specific, effective, and flexible functioning of the semantic memory in mild and moderate AD patients.

The findings are discussed in relation to recent theories of word production and semantic representation.

Semantic fluency, clustering, switching, semantic category, nouns, verbs, Alzheimer's disease