Memory Deficits

In Parkinson's Disease

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Abstract

Twenty-two Parkinson's Disease (PD) patients and 22 age-matched and gender-matched comparison participants (aged 48-83 years) were tested on the California Verbal Learning Test (CVLT), a shopping list memory task with items divided into four semantic categories.. Results supported other research in showing verbal memory deficits in PD. The PD group performance was lower on all recall trials of the CVLT. In addition, ability to discriminate between old and new items was impaired in the PD group. Participants who scored highly on total recall measures also showed a strong ability to use semantic categories in recall. A hierarchical cluster analysis (Ward's method) was used to explore the nature of the memory deficits found. Results support the existence of distinct stages of memory decline in PD, with the differences between subgroups identified showing significance when subjected to an analysis of variance (ANOVA). These results suggest that the memory deterioration which occurs in PD is initially associated with aspects of retrieval. However, as the disease progresses, encoding processes become compromised with more severe effects on memory. An interpretation, based on neural network models of memory, is discussed to suggest reasons why memory processes in PD may fail. These include activation failure, inefficiency of gating mechanisms in encoding and retrieval operations and inability to access semantic memory at the encoding stage of a memory task.

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