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Memory Deficits
In Parkinson's Disease

A thesis presented in partial fulfillment
of the requirements for the degree of
Master of Arts in Psychology at
Massey University

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1998

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.

Acknowledgments

It is with appreciation I acknowledge the detailed consideration given to my work by my supervisor, Dr John Podd. Future research endeavors will benefit considerably from the skills gleaned in this process. I wish to express my thanks for the support and assistance given to me by the field officer for the Kapiti-Horowhenua Parkinsonism Society, Dorothy Hancock. Her assistance and advice in recruiting participants was invaluable. I also thank Ted Drawneek of Massey Computer Services for his help in unraveling the mysteries of cluster analysis and providing advice on statistical analysis. The assistance of Harvey Jones on technical matters was also greatly appreciated.

This has been a most rewarding and enjoyable research project. It has been beneficial to have the opportunity to work with the Parkinsonism Society, both in a research capacity and as a committee member. The participants involved in the study all gave their time generously and I have enjoyed the opportunity to work alongside others involved in research into Parkinson's disease at Massey University.

This research was carried out with the support of the Massey University Graduate Research Fund. The support of the Federation of University Women, who contributed scholarship funds, was also greatly appreciated.

Table of Contents

	Page
Abstract	iii
Acknowledgments	iv
Table of Contents	v
List of Tables	vii
List of Figures	viii
Introduction	
Overview	1
The Effects of Aging	7
Gender Differences in Verbal Learning	8
Evidence for Verbal Memory Deficits	10
The Effects of Levodopa Treatment	17
Memory	18
A Neural Network Model of Memory	20
The Structure of Neural Networks: Anatomy & Organisation	23
Supporting Evidence from Positron Emission Topography and Magnetic Resonance Imaging	26
Memory & Pathology	27
Verbal Memory	30
The Present Study	32
Method	
Participants	35
Materials	39
Procedure	42
Statistical Analysis	46
Psychometric Evaluation	50
Explanation of Measures	50
Reliability	53
Validity	56

List of Tables

		Page
Table 1	Summary characteristics of participants	38
Table 2	Internal consistency reliability coefficients and standard errors of measurement (SEm) for list A total score, trials 1-5	54
Table 3	Correlations of key CVLT variables with WMS scores	57
Table 4	Reliability coefficients for the WMS-R	58
Table 5	MMSE total scores: Group means and standard deviations	61
Table 6	Group means, standard deviations and <i>t</i> values for CVLT scores	62
Table 7	ANOVAs for CVLT variables: Young and older PD participants	67
Table 8	ANOVAs for CVLT variables by gender in the PD group	68
Table 9	Means of PD group performance in clusters 1, 2, and 3	69
Table 10	Statistically significant differences in CVLT variables across clusters	73

List of Figures

		Page
Figure 1	Brain regions affected physically or functionally by PD	2
Figure 2	Mean recall of list A, trials 1-5 for PD and Control groups	65
Figure 3	Comparison of short and long delay performance on the CVLT over clusters 1, 2, and 3 	70