

University of Groningen

Memory for people's names in closed head injured patients

Milders, Maarten Valentijn

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

1997

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Milders, M. V. (1997). *Memory for people's names in closed head injured patients*. s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

SUMMARY

Introduction

In clinical neuropsychology there is an increasing interest in the ecological validity of neuropsychological assessment, and this has resulted in an appeal for assessment methods which are relevant to the patient's everyday life. The study reported in this thesis tried to meet this appeal by investigating memory impairments in closed head injured patients for ecologically highly relevant stimuli, namely people's names. Learning new names or retrieving the names of familiar people are common and important tasks in everyday life. In addition to its ecological validity, an investigation of memory for people's names in head injured patients was important because problems with remembering people's names rank high among the subjective memory problems of these patients. Various studies have reported these complaints, but very few studies examined memory for people's names in head injured patients using objective measurements. The study reported here is probably one of the first to examine aspects of memory for people's names in head injured patients using objective rather than subjective measurements.

Chapter 1 reviews the experimental literature on memory for people's names. The consistent finding in normal subjects is that people's names are relatively difficult to remember. Learning a person's name is more difficult than learning other information about this person, such as the person's occupation. Similarly, retrieving the name of a familiar person takes more time and is more likely to fail than retrieving the person's occupation or other semantic information about the person. Memory for people's names also appears particularly vulnerable to brain damage. This is suggested by the reports of several patients with selective impairments in their ability to retrieve the names of familiar people. Several theories are discussed which try to explain the relative difficulty of people's names.

Chapter 2 gives a brief overview of the most important cognitive impairments following closed head injury, and focuses on impairments which are relevant with regard to learning and retrieving people's names. These include impairments in verbal learning, attention and mental speed, and language. A review of the subjective reports of head injured patients demonstrates the high frequency of problems with people's names. Chapter 2 concludes with the three main questions that will be addressed in the remainder of the study. First, does performance on objective measurements confirm the complaints of head injured patients concerning their memory for people's names? Second, how selective is their impairment in memory for people's names and which factors may contribute to the impairment? Third, is it possible to rehabilitate memory for people's names in head injured patients?

Memory for people's names in closed head injured patients

In total, 33 patients participated in the various experiments who had sustained a severe to very severe closed head injury several months to years before they were seen for this study. A total of 56 normal control subjects participated who were matched to the patients for age and level of education.

Chapter 3 reports three experiments which involved learning a name or other verbal information to unfamiliar faces. A fourth experiment examined the recognition of unfamiliar faces. Although recognition of unfamiliar faces was normal in the closed head injured patients, they learned significantly fewer names, occupations or possessions to unfamiliar faces than matched controls. The name learning impairment in the patients was proportional to their impairment in learning other verbal information. Both patients and controls learned fewer names than other information to faces, and both groups learned more meaningful than meaningless names but these differences were equivalent in the two groups. Therefore, it is concluded that the problems with learning people's names in head injured patients are related to their verbal learning problems.

Chapter 4 reports five experiments concerned with retrieval of familiar people's names. On the whole, the head injured patients experienced significantly more name blocks than the controls. Name blocks refer to failures to retrieve a person's name, even though the person is identified correctly and the name has been known by the subject. In addition, the naming latencies of the patients were significantly longer than those of the controls. The patients' recognition of famous faces was relatively intact. The main problem of the head injured patients concerning the naming of famous persons appeared to involve disrupted access and activation of the phonological name information. The response patterns observed in the patients agreed with the response patterns predicted by models of person naming proposed by Burton and Bruce (1992) and by Brédart et al. (1995). The mechanism responsible for the impairment would be an attenuation of the link strength between information processing nodes. A similar deficit has previously been proposed to explain the reduced rate of information processing in closed head injured patients.

The problematic retrieval of people's names seems due to the fact that people's names are proper names. Proper names designate a single, unique item, unlike common names which refer to a category of items. Chapter 5 reports two experiments which compared retrieval of personal names and retrieval of another category of proper names; the names of famous buildings. The person naming and building naming tasks yielded very similar results in the patients as well as the controls. Within each subject group the naming latencies and the number of name blocks found with famous persons and with famous buildings were almost identical.

A disadvantage of the analysis of group means, as reported in the preceding chapters, is that it might conceal potentially interesting information. Chapter 6 presents the

individual scores of 22 patients on the most important tasks from Chapters 3 to 5. These individual data confirmed the proposed relation between the name learning and verbal learning impairments in head injured patients. The performance patterns of two patients also revealed a double dissociation between name retrieval and name learning impairments which supports the notion that learning new names and retrieving familiar names are distinct processes. There was no evidence for a double dissociation between person naming and building naming impairments. This confirms the idea that naming familiar people and unique objects are related tasks, and that the person naming impairment in the head injured patients may reflect a more general problem with retrieving proper names.

Rehabilitation of memory for people's names

Chapter 7 describes a memory training in 13 head injured patients. Both name learning and name retrieval were addressed in the training. To improve name learning the patients were taught to give more meaning to a person's name. Experimental studies have shown that the meaninglessness of most people's names is one of the main reasons why these names are difficult to learn. Unlike in many previous training studies, the patients in this training were not taught to form an explicit association between the face and the name. The strategies taught to improve retrieval of familiar names mainly concerned ways to resolve name blocks.

Learning names to faces improved significantly following training. This improvement could not be attributed to the effects of repeated testing or to the intensive attention received by the patients during the training. Retrieval of familiar persons' names hardly improved with training. This could be due to the fact that the test used to evaluate retrieval performance was not ideal. In addition, the strategies taught to improve name retrieval may be ineffective in ameliorating access to the name information. Suggestions are made for future attempts to rehabilitate retrieval of familiar people's names.

Conclusion

Chapter 8 returns to the three main questions of this study. First, the results supported the subjective reports of head injured patients about problems with people's names. Both name learning and name retrieval performance proved significantly poorer in the patients than in the matched controls. Second, the patients' learning impairment was not selective for people's names. The name learning impairment was probably a manifestation of the verbal learning impairment, which is a well-known consequence of closed head injury. The patients' impairment in naming familiar persons could not be attributed to impaired person recognition. However, the problems with retrieving people's names were not selective, because retrieval of another category of proper names - the names of famous buildings - proved equally problematic for the patients. These naming problems might result from a more general

impairment in information processing in the head injured patients. Third, rehabilitation of memory for people's names in head injured patients was successful as far as name learning was concerned.

In addition, the results showed that memory for people's names is not a unitary concept, as learning new names and retrieving the names of familiar persons appear to be separate processes. The results of this study also suggested that people's names are not fundamentally different from object names, given the parallels found between naming unique objects - famous buildings - and famous persons. The difference between person naming and object naming, which has been noted by various authors, probably reflects the distinction between production of proper names and of common names rather than a distinction between people's names and object names.