

# Lexical-semantic categorisation in patients of schizophrenia

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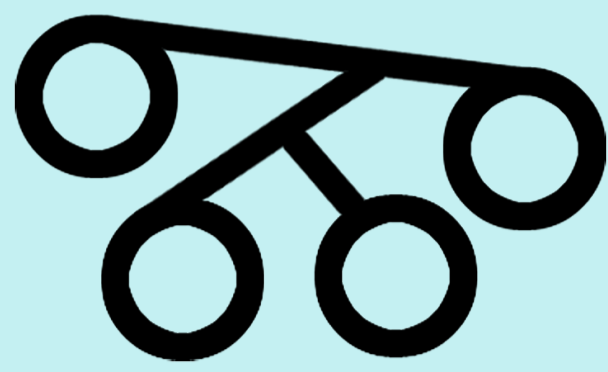
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# LEXICAL-SEMANTIC CATEGORISATION IN PATIENTS OF SCHIZOPHRENIA



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## INTRODUCTION

Categorisation tests require the subject to specify a concept as a member or as a non-member of a given category. Various authors have assumed difficulties in determining the boundaries of lexical-semantic categories, interpretations being based either on accuracy or qualitative analysis (eg. Chen et al., 1994), while the experiments of some did not corroborate the same findings (eg. Elvevåg et al., 2001). Nevertheless, the discrepancies between patients' and control group's test results were mostly subtle.

Categorisation fluency tests mostly require the subject to produce examples of members of a given category in a set time frame (often 60 seconds). Such tests have almost unanimously shown poorer results in terms of quantity and accuracy in patients of schizophrenia compared to control groups (eg. Bozikas et al., 2005). Berberian et al. (2016) analysed the clustering strategy based on subcategories in categorisation fluency tests and found that patients produced clusters containing less concepts. Chen et al. (2000) hold that patients achieved poorer results due to a reduced mental lexicon.

## AIM OF THE STUDY AND HYPOTHESES

The aim of this study is to examine the lexical-semantic category system of schizophrenic patients.

H1 Schizophrenic patients will score poorer results on the lexical-semantic categorization test and on the categorical fluency test in comparison to the control group.

H2 Schizophrenic patients will score better results on the lexical-semantic categorisation test than on the categorical fluency test.

## PARTICIPANTS

10 schizophrenic patients (5 men and 5 women), age 18 to 29, participated in this research in addition to a control group which consisted of 10 healthy participants. The control group was of the same age, sex and the dominant cerebral hemisphere as the patients.

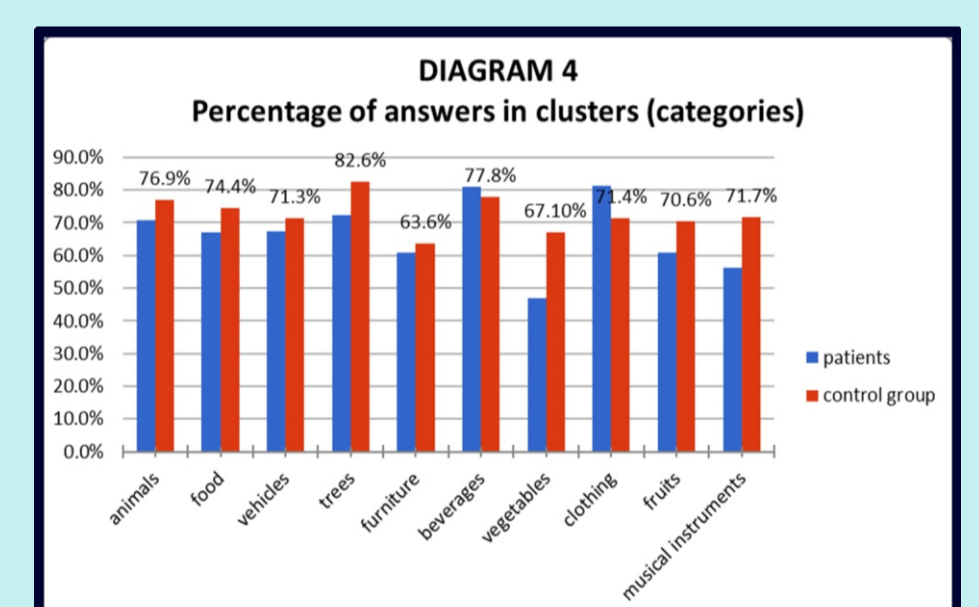
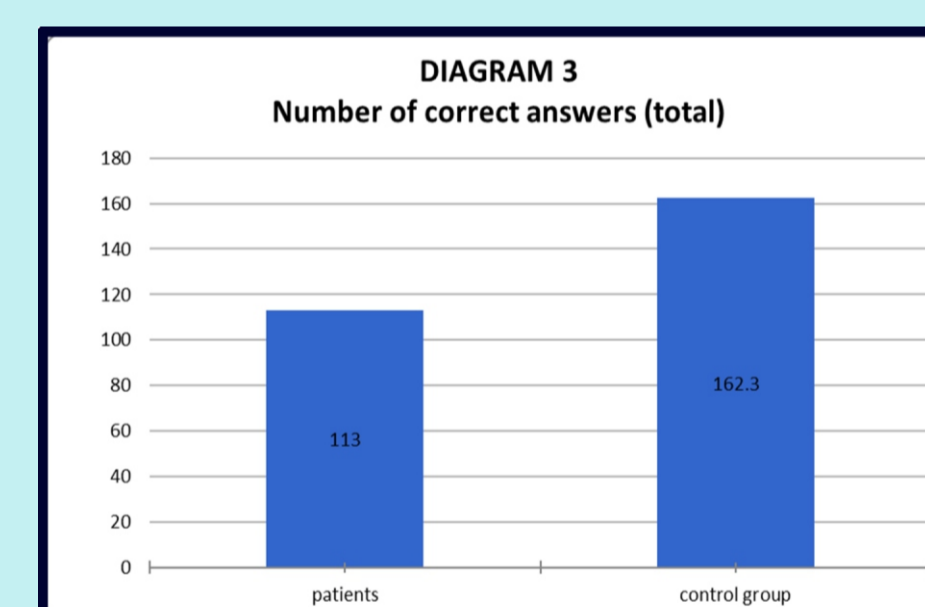
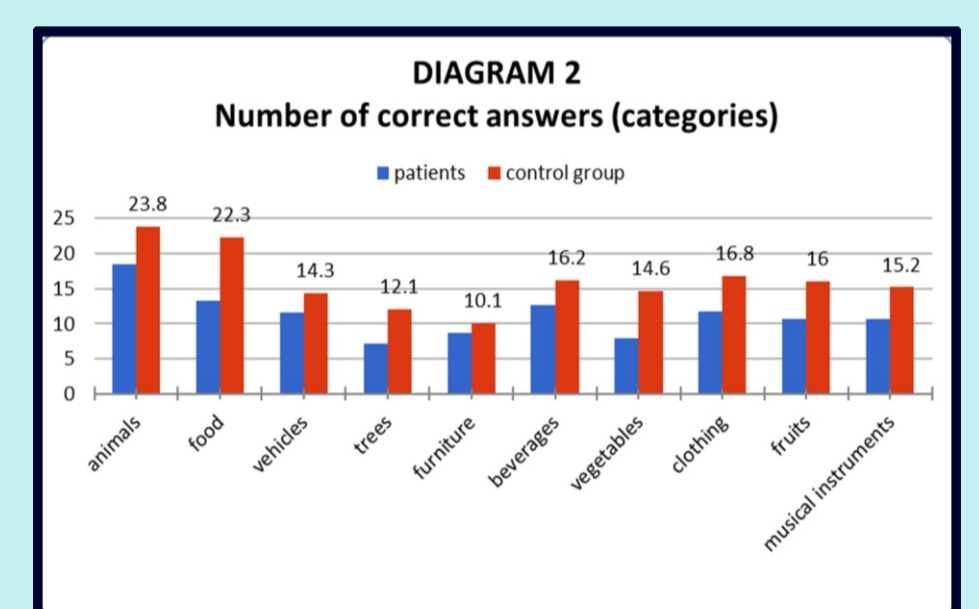
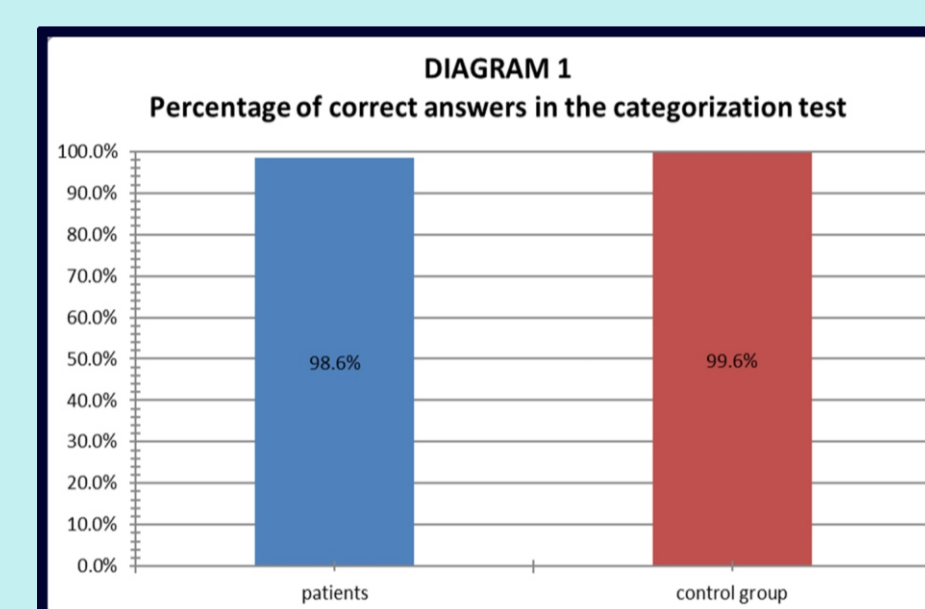
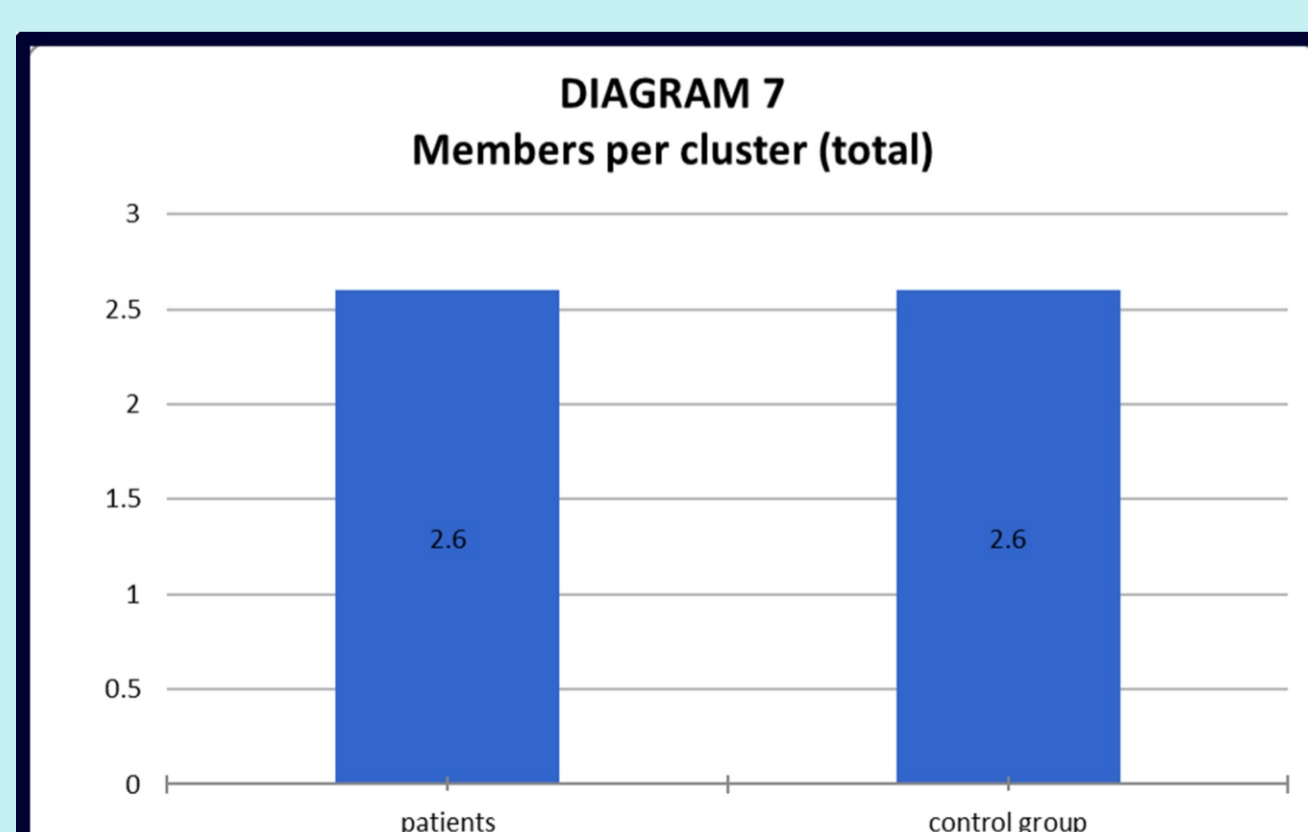
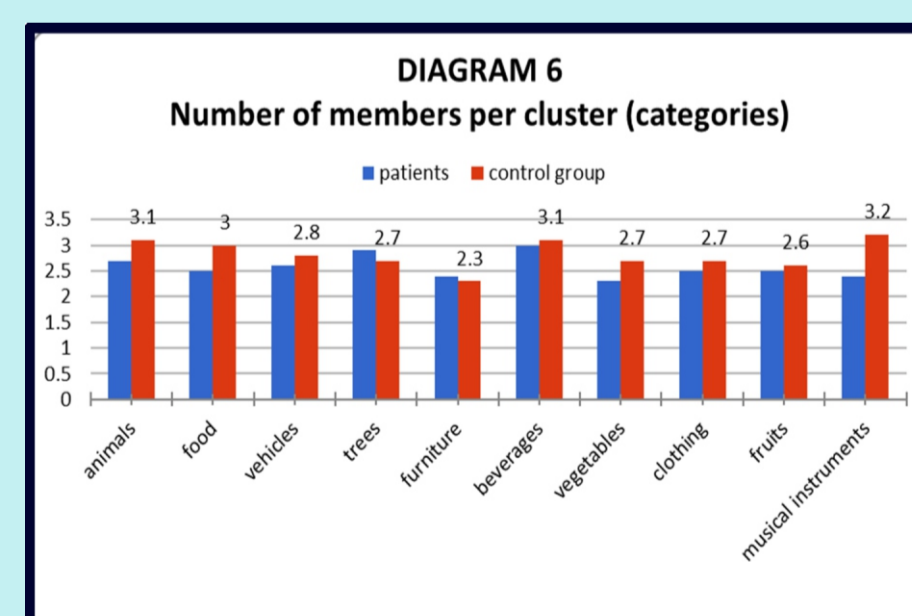
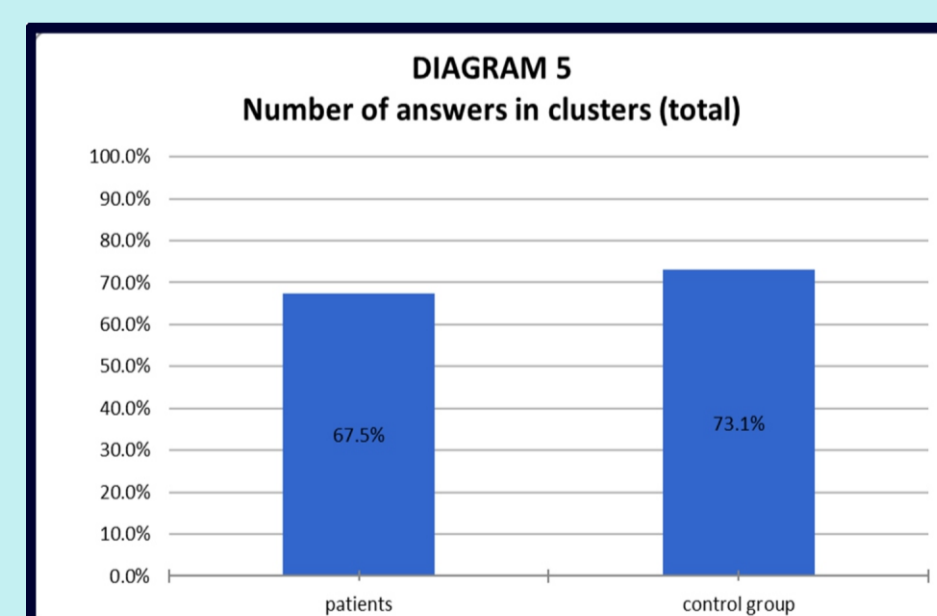
## METHODS AND PROCEDURE

### Lexical-semantic categorisation test

Participants were to determine which of the offered words belong to a given category. The test consisted of 10 lexical-semantic categories (ANIMALS, FOOD, VEHICLES, TREES, FURNITURE, BEVERAGES, VEGETABLES, FRUITS, CLOTHING and MUSICAL INSTRUMENTS). There were 5 tasks composed for each category that were randomly presented to the participants. In each task 4 answers were offered, for example: category FOOD: 1. target answer (bread), 2. pragmatic distractor (knife), 3. lexical-semantic non-connected distractor (window), 4. meronym (peel)

### Categorical fluency test

Participants had the task to list as many members of a given category as they can in 1 minute. For example, the question was: Which animals can you think of? 10 categories were questioned in the test. The categories were the same as in the previous test.



## RESULTS

There were no significant differences between the patients and the control group in the lexical-semantic categorization test (see Diagram 1). In the categorical fluency test, patients in all categories produced significantly fewer correct responses than the control group (see Diagram 2 and Diagram 3). Furthermore, the control group in almost all categories had a significantly higher share of cluster words (see Diagram 4 and Diagram 5). The analysis of number of words per cluster showed similar results in most of the categories, while overall values were the same (see Diagram 6 and Diagram 7).

## CONCLUSION

The results of our research are only partially consistent with the results of Berberian et al. (2016). However, they show that the clustering strategy was also preserved. The results of our research indicate difficulties in retrieval i.e. limited access to lexical-semantic information which is consistent with the previous interpretations of poorer results of schizophrenic patients in lexical-semantic tests. By involving a larger number of patients and new parameters, we expect larger possibilities to interpret the results of this preliminary study.

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