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Double Dissociation of Explicit and Implicit Learning Performances in Neurocognitive Subgroups of Schizophrenia

INTRODUCTION Mapping cognitive functions in schizophrenia is important for approaching the etiological background of the disease.

OBJECTIVES To examine the explicit and the implicit learning processes with experimental psychological methods in neurocognitive subgroups identified by us earlier (Szendi et al, 2010).

AIMS: To find substantial cognitive differences between the neurocognitive subgroups

METHODS Patients with schizophrenia (n=19) and matched healthy control persons (n=11) participated in the study. The patients were recruited randomly from the patient pool which constitued the subject base for the original clustering process, we enrolled n=9 patients from the cluster S, and n=10 from the cluster Z. Besides the comprehensive neuropsychiatric assessment, the explicit learning performances were tested by a verbal learning task, while the implicit learning by the Alternating Serial Reaction Time Task.

RESULTS While the whole group of patients did not differ from the healthy persons regarding either the explicit or the implicit memory tasks, the performances of the two subgroups of patients showed a double dissociation in these tasks. Whereas patients belonging to cluster S could recall significantly less words in the explicit cued recall test after the word-list learning than patients in cluster Z (and the healthy persons), the performance of patients in cluster Z in the implicit sequence-specific learning fell behind the cluster S (and the healthy group).

CONCLUSIONS The double dissociation of explicit and implicit memory's impairments suggests that the neurocognitive background of the two subgroups of schizophrenia (S vs Z) might substantially differ from each other.

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