



<b>Title</b>	<b>Cognitive profiles and subtypes of epilepsy</b>
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a route or a path. In the present study, we elaborated on the hypothesis that human spatial memory consists of multiple subprocesses, relying on different brain structures. Therefore, 50 patients with an ischemic stroke and 40 healthy participants performed tests measuring spatial span (the Corsi Block-Tapping Task) and maze learning (the Oxford Stylus Maze Test). Additionally, by means of a computer task (Object Relocation) the following aspects of memory for object locations were assessed: (1) object-location binding, (2) positional memory, and (3) a combination of these two aspects. The results clearly showed a double dissociation: the group of patients with an infarct in the left hemisphere was impaired on object-location binding, but not on positional memory. In turn, the group with an infarct in the right hemisphere was impaired on positional memory, but not on object-location binding. Lesions in the right hemisphere resulted also in impairments on maze learning. Moreover, patients with lesions in the posterior part of the brain (i.e., the parietal or occipital cortex) performed especially worse on spatial-memory tasks. These findings extend the theoretical framework on hemispheric specialization for categorical *versus* coordinate spatial relations in the human brain. Furthermore, the current results corroborate previous findings on selective aspects of memory for object locations, and strongly support the notion that spatial memory can be fractionated into a number of functionally independent processing components.

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**M. BENNETT, L.A. BIELIAUSKAS, C. PONTRELLO, & B. STEINBERG. Span of Temporal Continuity in Memory Loss.**

Zakzanis and Moscovitch proposed an ecologically valid method of testing short-term memory as it relates to personal and present existence. Their Span of Temporal Continuity (STC) task involved repeating a personal information question over a series of decreasing time intervals to determine the span of time to which a participant could actively attend. In the present study, 9 cognitively intact participants and 7 with a diagnosed memory disorder completed the task. The ability of the STC measure to predict membership in the memory loss group could not be confirmed in these participants. Nevertheless, there was a positive relationship ( $r = .863, p = .007$ ) between the sum of the scores on three serial learning trials of the Hopkins Verbal Learning Test (HVLT) and STC measurements within the memory loss group. This suggests that repeated exposure to the question in the STC procedure is important, and that the HVLT has some ecological validity. STC scores also correlated with scores on the Mini-Mental State Exam (MMSE) in the memory loss group ( $r = .863, p = .012$ ), indicating that the STC measure may express the severity of a neuropsychological deficit in a patient with established memory loss. Thus, while not inherently diagnostic of memory loss, STC appears to be associated with the severity of symptoms in those patients with established memory deficits. Procedural factors were also identified that affect the validity of the STC task.

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## SATURDAY MORNING, JULY 7, 2001

### Poster Session 3/9:00 a.m.–12:15 p.m.

#### EPILEPSY, MEMORY, CHILD NEUROPSYCHOLOGY

**E. MIOTTO & R. MORRIS. DEX, CFQ, and EMQ Self-Report in Patients with Focal Frontal and Temporal Lesions.**

Everyday executive, attention, and memory dysfunction were assessed using three self report questionnaires, the Dysexecutive Questionnaire (DEX), the Cognitive Failures Questionnaire (CFQ), and the Everyday Memory Questionnaire (EMQ). These were applied to patients with focal unilateral neurosurgical lesions either in the prefrontal cortex (10 right and 9 left PF) and the temporal lobe (19 right and 19 left TL), their ratings compared to 20 matched normal controls. The DEX revealed significantly higher self reports of dysexecutive problems in the right PF and right TL groups. The CFQ did not differentiate any of the patient groups from the controls. The EMQ showed increased subject memory complaints in all patient groups. An analysis of the individual items on the DEX showed the right PF and right TL patients to report difficulties specifically in relation to keeping their mind on something and not being easily distracted. The EMQ item analysis showed that both right and left TL patients reported greater difficulty in relation to losing things around the house, having to check on whether a task had been done, and being reminded about things said yesterday. The right TL had difficulties following a television story and getting lost or turning in the wrong direction on a journey. All patient groups complained of tip-of-the-tongue episodes. The validity and utility of the scales in detecting everyday cognitive difficulties are discussed.

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**J.K.P. CHAN, T.M.C. LEE, & K.K. NG. Cognitive Profiles and Subtypes of Epilepsy.**

Three subtypes of people with epilepsy were being evaluated: generalized seizures (GS), complex partial seizures (CPS) with temporal lobe origin, mixed type of seizures (MS) together with normal control with respect to

attention, memory, frontal fluency, and cognitive processing speed. Forty-five patients and 15 normal control from Queen Elizabeth Hospital were invited to participate in this study. All test measures were chosen to tap the 4 cognitive domains. Results showed that simple attention span and selective attention were not being affected in clinical groups while sustained attention was impaired. The impairment was particularly greater in the MS group. The MS group also showed greater deficit in both verbal and non-verbal memory indicating that the mixed pathology of this group affected the functioning most. Word Frontal fluency was significantly affected in both MS and CPS groups while there was no impact on design fluency in all groups. This indicated that the temporal lobe pathology of MS and CPS do play a role in affecting the word fluency ability. Concerning the cognitive processing speed, MS and CPS groups also showed significant difficulties. The findings document deficits in attention as well as memory, verbal fluency, and cognitive processing speed in the group of mixed types of seizure while for other seizure groups, the impairment depends on their location being affected.

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**S. GAUGGEL & K. WERNER. The Influence of Goal Origin on the Performance of Brain-Damaged Patients.**

The purpose of this study was to investigate the role played by goal origin (i.e., self-set vs. assigned goals) on the performance of patients with brain injuries in a simple arithmetic task. Seventy-one patients with either cerebral vascular accidents or traumatic brain injuries were investigated. Patients were equally and randomly assigned to 1 of 3 conditions: (1) one in which a specific, high goal was assigned, (2) one in which a "do your best" goal was given, and (3) one in which a personal goal has to be stated. The results indicate that assigned goals lead to better performance than self-set goals or easy goals. This difference was due to the fact that participants with self-set goals selected goals that were only moderately difficult. There was only one patient who selected an extremely high goal indicating that patients were quite realistic in setting themselves goals. These findings suggest that brain-damaged patients do not necessarily have goal setting