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Multitasking capacities in persons diagnosed with schizophrenia: A preliminary examination of their neurocognitive underpinnings and ability to predict real world functioning

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Background:

Difficulties in everyday life activities are core features of persons diagnosed with schizophrenia. Moreover, patients seem to demonstrate particular difficulties during complex and multitasking activities, such as cooking a meal (Semkovska et al., 2004). Multitasking refers to activities where the person has to: carry out and alternate between different tasks that vary in terms of priority, difficulty and duration; define the tasks' targets; and where the person is faced with unexpected problems during the realization of these tasks (Burgess, 2000). However, at present, patients' multitasking capacities have not been adequately examined in the literature due to an absence of suitable assessment strategies. We thus recently developed a computerized real-life activity task designed to take into account the complex and multitasking nature of certain everyday life activities where participants are required to prepare a room for a meeting – the Computerized Meeting Preparation Task (CMPT)

Methods:

Twenty-one individuals diagnosed with schizophrenia and 20 matched healthy controls completed the CMPT. During the CMPT, participants found themselves in a virtual room that they had to prepare for a meeting while respecting a list of instructions (the placement of the guests, the needed objects, the desired drinks, etc.). Patients were also evaluated with an extensive cognitive battery (assessing executive functions, attention, processing speed and memory), measures of symptomatology and real world functioning. To examine the ecological validity of the CMPT, 14 others patients were recruited and were given the computerized version and a real version of the meeting preparation task.

Results:

Results demonstrated that performance on the CMPT significantly differentiated patients and healthy controls for the total time to complete task, planning efficiency, and the respect of the instructions. Moreover, these variables were significantly correlated with executive functioning (i.e.

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cognitive flexibility and planning), suggesting the major implication of these cognitive processes in multitasking activities. Performance on the CMPT also significantly predicted up to 50% of real world functioning. Finally, performances on the computerized version and the real version of the meeting preparation task were highly correlated, suggesting good ecological validity.

Discussion:

In this study, we created a novel task involving the multitasking nature of real world activities. The results demonstrated that this approach provides a good indication of the real world functioning in patients diagnosed with schizophrenia. Moreover, results suggest a particular implication of executive functioning in multitasking activities.

These findings suggest the importance of evaluating multitasking capacities in patients diagnosed with schizophrenia in order to predict real world functioning.