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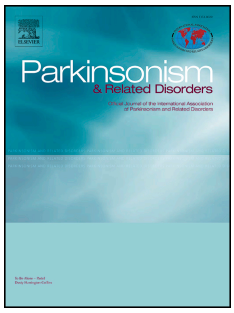

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Reduced mind wandering in patients with Parkinson's disease

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ABSTRACT

Background

Mind Wandering (MW) refers to the process of disengaging from the immediate external environment and participating in internally driven mentation. This process has been suggested to be supported by a distributed set of brain regions, collectively referred to as the Default Mode Network (DMN). Recently, reduced recruitment and connectivity of the DMN has been described in Parkinson's disease (PD) patients compared to healthy controls. We thus aimed to explore whether PD patients with normal cognitive test scores show differential MW capabilities compared to healthy controls.

Methods

Thirty PD patients and thirty age-matched controls, all with a Montreal cognitive assessment (MoCA) score of 26 or above, performed a novel yet validated thought-sampling paradigm used to assess the frequency and extent of MW irrespective of cognitive load in which participants were asked to observe a series of geometric shapes and describe their thoughts after watching them. Shapes were presented one at a time for varying durations across nine trials.

Results

PD patients showed significantly less MW compared to the control. ANCOVA revealed a significant interaction indicating that the difference in MW scores was driven by trials with short stimulus presentation times.

Conclusions

These findings provide evidence for decreased MW in PD patients. We propose that this is due to difficulties in performing MW within short time frames.

Key words: Mind Wandering; Parkinson's disease