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Poster Presentation

Decreased Driving Performance in People with Parkinson's Disease Due to Cognitive Overloading

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Abstract

Cognitive deficits such as impairments in attention, memory, information processing and executive functioning can be found in some Parkinson's disease (PD) patients. Recent studies suggested that PD drivers generally performed poorer than their healthy age-matched controls with regards to their cognitive and motor abilities during the psychometric testing. According to Michon's model of car driving three major levels of driving behavior exist include *strategic* level, tactical level and operational level. These three levels of driving behaviors may be influenced by cognitive deficits in drivers with PD resulting in the inability to dual task and handle the cognitively demanding driving environment. The participants with PD performed poorer in the operational level where they have to exhibit behaviors such as performing second to second driving and alter their behavior while multitasking. In addition, PD drivers are at risk of compromising their operational level strategies of driving under the presence of cognitive overloading. People with PD also had a significant increased response time to the cognitive overloading task when compared to the age-matched controls. Drivers' training may incorporate cognitive strategies for people with Parkinson's disease who decides to continue driving. In conclusion, the driving performances of people with PD are significantly more affected under the presence of cognitive overloading compared to their age-matched control.

Keywords: Driving Performances, Memory Dysfunction, Parkinson's Disease.

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