

## Virtual reality as a new approach to assess cognitive decline in the elderly

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Brain aging is a natural process that leads to a change in cognitive functions. Mild Cognitive Impairment (MCI) is a condition in which a person has cognitive functions that are below normal for his age. However, these deficits are not pronounced enough to confirm for the diagnosis of dementia. It is therefore important to develop new ways to assess cognitive functions in the elderly. This would indeed lead to a better identification of the cognitive losses that are related to normal or pathological aging. The objective of this study was to investigate the relevance of virtual reality as a new evaluation approach in psychology. To do this, 10 elderly people with Mild Cognitive Impairment, and 20 elderly people without cognitive problems, were compared using tests of prospective memory that were presented in a traditional way and in virtual reality. The diagnosis of MCI was made using the Montreal Cognitive Assessment (MoCA). Significant differences between the two groups were noted in virtual reality. Nevertheless, no difference was observed between the two groups with the traditional task. A significant positive correlation between the virtual reality task and the MoCA, but not between the traditional task and the MoCA, was observed. An evaluative approach based on virtual reality seems more sensitive to cognitive impairment associated with aging than an approach based on traditional neuropsychological tests.

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