Eyeblink rate during a virtual shopping game performance for cognitive rehabilitation

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ABSTRACT

We developed a virtual shopping game having four levels using virtual reality technology for realistic cognitive rehabilitation. The objective of this study was to investigate characteristic in eyeblink rate in relation to task difficulty level. Six healthy adults were asked to buy two specific items in level 1, four items in level 2, six items in level 3, and eight items in level 4 at a virtual mall. Shopping items were daily necessaries which were independent of each other. Task performance, subjective assessments, and eye blinks during the game performance were recorded. As a result, the mean numbers of movements buttons use and the mean time required were larger/longer in level 4 than in level 1. The average subjective assessment scores were larger in level 4 than in level 1. Although the transitions of eyeblink rates were individually different; there was no statistical difference between phases, there were some relationships between subjective assessments and eyeblink rates. It suggests that eyeblink rate could be an index that reflects psychological aspects.

Full papers will be published in the Conference Proceedings and will be freely available to delegates at the conference and online on September 20, 2016.