عنوان مقاله:

Design and Validation of a Dual-Tasks Package based on Kinect Sensor in Virtual Reality Environment to Assess Cognitive Disorders in Elderly People

محل انتشار:

مجله پژوهش در علوم توانبخشی, دوره 15, شماره 2 (سال: 1398)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Introduction: Studies report that mobility changes could be present in early stages of Alzheimer's disease (AD) or even in previous stages, such as mild cognitive impairment (MCI). The use of motor tests, involving dual task, could facilitate screening and differentiation between the elderly with AD and MCI. The goal of this study is to design and validate dual-tasks based on Kinect sensor in a virtual reality environment to evaluate cognitive disorders in the elderly.Materials and Methods: This was a validating study with the statistical society including the psychologists who were expert in the field of AD treatment, cognitive disorders, and the educational technologies, among whom ۱۰ people were purposefully selected. A package of dual tasks based on Kinect sensor in a virtual reality environment was developed and evaluated for assessing cognitive disorders in geriatrics. The tools used in this study included a three dimensional game made by Unity, a Kinect sensor, and a virtual reality headset. To determine the content validity of the software, a questionnaire was prepared by the technical team concerning the software content, and then was filled by the psychologists. The software validity was determined using the Kappa coefficient.Results: Applying the revisions based on the comments received, the experts' opinions were analyzed and resulted in the Kappa coefficient of ۹۳.۴%.Conclusion: The software developed seems to have the acceptable content validity. Dual tasks based on the Kinect sensor may be used to accurately evaluate the cognitive function in the elderly.

کلمات کلیدی:

Dual-task, Kinect, Virtual reality, Cognitive disorder, Elderly