PAPER

Video Games and Virtual Reality

Y. AFACAN, J. ONYANGO. Using virtual reality to promote positive feelings of elderly. Gerontechnology 2018;17(Suppl):146s; https://doi.org/10.4017/gt.2018.17.s.142.00 **Purpose** Virtual reality (VR), as an emerging technology, is used in a wide range of fields such as medicine, gaming, psychology and sociology[1]. As VR technology becomes more common, industry leaders and researchers started to explore its potential uses with healthy aging, such as fall prevention and mobility[2]. Promoting positive feelings and supporting a satisfactory quality of life of elderly are as essential as physical health promotion to have better coping ability in later life[3]. However, there is a little research on how new technologies of VR could minimize the impact of social isolation and loneliness in recently developed countries. Thus, this study aims to explore the effects of VR to induce positive emotions of Turkish elderly (joy and relaxation) and analyze level of satisfaction and difficulty of using VR. **Method** Sixteen participants (8 male 8 female with the age range from 58 to 74, mean 69.45) participated in the study. Once the participants accepted, they were interviewed about their demographic data and experience with computers. To eliminate the order effect, eight of them attended first to a virtual touristic tour with Oculus Rift tool, then a non-virtual tour (based on videos, maps and photographs on a computer screen) and finally to a virtual tour. The other half visited the same three different touristic places in the following order; non-virtual tour, virtual tour and non-virtual tour. Each tour lasted 10 minutes with a 20-minutes break. At the end of the tours, both groups were compared in terms of their joy, sadness, anxiety and relation (1 meaning "not at all" and 7 meaning "completely"). Moreover, they also assessed their general mood state (ranging from 0 "maximum sadness" and 7 "maximum happiness"), level of satisfaction (ranging from 0 "maximum dissatisfaction" and 7 "maximum satisfaction") and level of difficulty (ranging from 1 "very easy" to 5 "very difficult"). **Results & Discussion** A total of 16 people completed the study. The results were consistent with the literature, except satisfaction level. Although most of the VR experienced elderly participants reported low level of difficulty and maximum levels of positive feelings compared to non-VR experienced participants, they were not satisfied with the virtual tours because of having less control in an unfamiliar environment. As elderly people become more familiar with such virtual environments, results could be more promising. Therefore, regarding the developing countries, where the elderly people suffer more from the anxiety due to a lack of mobility or general living situation and depression due to loneliness, encouraging use of VR in later life will achieve not only positive emotional states, but also social connectedness as a key to happiness.

References

1. Kalawsky R. The science of virtual reality and virtual environments. Boston: Addison-Wesley Longman. 1993
2. Molina N, Ritchie J. Journal of Neuroengineering and Rehabilitation. 2014;11:156
3. Baños RM, Etchemendy E, Castilla D, Garcia-Palacios A, Quero S, Botella C. Interacting with Computers. 2012;24:131–138

Keywords: virtual reality, joy, satisfaction, healthy aging
Address: Department of Interior Architecture & Environmental Design, Bilkent University, Turkey;
E: yasemine@bilkent.edu.tr