Abstract for AIESEP 2019

Sub-theme: Physical activity and public health

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Impact of a Design-Based Exergame on Young Players' Moderate-to-Vigorous Physical Activity and Situational Interest

Background and purpose: During the last decade, a growing body of research and practice has built on children and youth interest in video games using exergames to promote health outcomes. However, despite the exergames benefits, children and teenagers may still not acquire adequate levels of moderate-to-vigorous physical activity when playing commercial exergames (Gao, Chen, Pasco & Pope, 2015). We adopted a design-based approach in which engineers in computer science and researchers collaborate to design exergames with the intention of promoting players' moderate-to-vigorous physical activity through fun digital activities. Defined as the appealing effect of characteristics of an activity on individuals, situational interest has been used in this study since it has been identified as a key function and as an outcome of exergames in terms of motivating students (Sun, 2013). The purpose of this study was to identify the impact of a design-based exergame, called Greedy Rabbit, on players' moderate-to-vigorous physical activity and situational interest.

Methods: The participants (60 undergraduate students) were randomly assigned to two groups: an experimental group playing Greedy Rabbit (N = 41) and a control group playing a placebo version of Greedy Rabbit (N = 19). The students' physical activity was assessed through heart rate and oxygen consumption. They also responded to a validated situational interest questionnaire (Roure, Pasco & Kermarrec, 2016) directly after playing the exergame.

Results: The physical activity measures increased more during the exergame for the experimental group, reaching the standard guidelines for vigorous physical activity. Furthermore, the students in the experimental group reported higher scores for situational interest compared to the students in the control group.

Conclusion and implications: All in all, this study demonstrated that a design-based exergame might be a good option to enhance players' moderate-to-vigorous physical activity and situational interest when playing exergames.

References:

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