

ARTICLE REVIEWED

Energy Expenditure and Intensity of Active Video Games in Children and Adolescents

Canabrava, K., Faria, F., de Lima, J., Guedes, D., & Amorim, P. (2018) Energy expenditure and intensity of active video games in children and adolescents. *Research Quarterly for Exercise and Sport*, 89(1), 47-56.

THE PROBLEM:

Sedentary behavior can contribute to the development of various chronic diseases, such as obesity. Forms of sedentary behavior may include: Playing traditional video games, watching TV, and working on the computer for extended periods of time.

To attain maximal health benefits, children and adolescents must acquire a total of 60 minutes of moderate-to-vigorous physical activity each day. This health marker can be hard to achieve, especially when children and adolescents spend majority of their waking hours in a sedentary state. Researchers have recently discovered that active video gaming may be the counterbalance to the weight gain and energy expenditure imbalance, during childhood and adolescents.



Research Summary:

Researchers in Brazil wanted to compare energy expenditure and activity intensity among children and adolescents during walking conditions and active video gaming conditions. A total of 72 participants (36 boys and 36 girls) between the ages of 8 to 13 were included in this study. The XBOX 360 Kinect video gaming console was used to analyze the active video gaming condition and a treadmill was used to analyze the walking condition (i.e., slow, normal, and fast). Three active video games were selected based on their difficulty level and popularity (i.e., Adventure, Boxing, and Dancing games). Within a three-week timespan, participants were asked to visit the University lab, twice. Once, to undergo the walking condition on a treadmill and once, to undergo the active video gaming condition. Both sessions lasted a total of eight minutes.

Conclusion:

For both genders, energy expenditure and activity intensity were higher in the active gaming condition compared to the walking condition. Boys expended more energy during the Adventure and Boxing game, than they did during the Dance game. Girls, on the other hand, burned more calories during the Adventure game, than they did during the Dance game. These findings suggest that active video gaming requires more upper and lower limb movement; thus resulting in more energy expenditure than what the seated, traditional gamer would.

Key Take-Away:

Rather than playing video games that require you to be sedentary, active video gaming can be played to help prevent children and adolescents from becoming overweight or obese. It is imperative that health and physical educators make themselves aware of the structured and/or unstructured physical activities their students participate in outside of school. In turn, this knowledge may help the teacher provide active video gaming suggestions and recommendations to their more tech savvy students.



ADDITIONAL RESOURCES:

XBOX 360 Kinect Games:

-Kinect Sports

-Kinect Adventures

-Dance Central

-Kinect Star Wars

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