

Research Report Poster Display

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ENERGY EXPENDED PLAYING NINTENDO WII

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Purpose: The aim of this study was to measure the increase in energy expenditure and heart rate resulting from playing three Nintendo Wii Sports games (Baseball, Tennis and Boxing) and the Wii Fit game, Free Run.

Relevance: In the last decade both sedentary occupations and pastimes, and rates of obesity and obesity related disease in adults and children have risen. The Wii is a video game console on which activity video games can be played. These games require players to be physically active to a degree. Despite their popularity and widespread use, it is not known if players reach the intensity of exercise advised for cardiovascular benefits when playing these games.

Participants: Twenty nine healthy young adults (19 male, mean age 22.24 years) participated in this study.

Methods: Energy expended, in metabolic equivalents (METS), and percentage heart rate reserve, (%HRR), were measured during 15 minutes of rest and 15 minutes of playing each game. Energy expenditure was measured using an indirect calorimeter (Oxycon Mobile) and heart rate was measured using a Polar heart rate monitor.

Analysis: Data was analysed using JMP Version 7.1.

Results: Boxing was completed by all participants, Free Run by n=17 and Tennis and Baseball by n=12. Mean and standard deviations of percentage heart rate reserve and METS for each activity were as follows: Free Run 59.05% (13.59%), 7.43 (1.56); Boxing 36.50% (16.88%), 3.84 (1.16); Baseball 17.74% (7.50%), 2.46 (0.86); Tennis 17.72% (7.33%), 2.34 (0.62).

Conclusions: Neither the energy expenditure or heart rate associated with playing Wii Baseball and Tennis reached the criteria for moderate exercise. Nintendo Wii Free Run and Boxing resulted in over 3 METS and can be considered moderate intensity activities.

Implications: Free Run on Wii Fit and Boxing on Wii Sports can be recommended as part of a prescribed exercise program.

Key-words: 1. Video game 2. Energy expenditure 3. Exercise prescription

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Ethics approval: Ethical approval was granted by the Faculty of Health Sciences Ethics Committee, Trinity College Dublin.

Session name:

EXERCISE PRESCRIPTION 2

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Professional Practice - EXERCISE PRESCRIPTION

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