

Children burn more calories by playing active video games

Children burn more than four times as many calories per minute by playing an active video game, especially when their heart rate is significantly higher, says a study.

Brian H. Meltzer and Allison M. McManus, of the Institute of Human Performance, University of Hong Kong, Pokfulam, measured heart rate and energy (calories) expenditure in 16 children age 8 to 12 (average age 9.6) during a 30-minute gaming protocol.

Participants rested for five minutes, then played a seated computer bowling game, an active bowling game and the action/running game for five minutes each, with five minutes of rest between active games. Compared with resting, children burned 28 per cent more calories per minute playing a seated game, 80 per cent more playing active bowling and 433 per cent more during the action/running game.

When com-

pared with seated gaming, they burnt 84 per cent more calories playing active bowling and 3.9 more calories per minute playing on the action mat.

"This translates into a more than four-fold increase in energy expenditure for the XaviX J-Mat game," the authors wrote. "Preventing weight gain requires an energy expenditure of approximately 150 kilocalories per

day. A recent active gaming concept that allows players to experience various activities (eg, bowling, fishing, tennis, golf) in a virtual world is the XaviX gaming system," the authors write. "In addition to the exercise gaming modalities, the XaviX system includes a gaming mat (XaviX J-Mat) that allows participants to travel

the streets of Hong Kong at a walk or a run, avoiding obstacles and stamping out viruses."

Participants' heart rate was significantly higher during either active game than during rest (28 more beats per minute for active bowling and 79 more beats per minute for the action game), and also was higher during the action mat gaming than during seated gaming. "Findings show that kids who play the new generation of video games requiring physical activity expend energy at levels that could help prevent overweight," wrote Russell R. Pate, of the University of South Carolina School of Public Health, Columbia, in an accompanying editorial.

In the last decade, computer and video game sales have increased by \$5.2 billion and more than 88 per cent of US children aged eight to 18 have video game players in their bedrooms.

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