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Children burning calories with video games

Exergames such as Wii Fit actually do provide a workout, according to two recent studies. Researchers still encourage outdoor play, but say these games are a good alternative to sedentary activities.

By Jeannine Stein, Los Angeles Times

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When 11-year-old Matthew Garcia of Lancaster wants to get some exercise, he bypasses the two advertisement bicycles in his garage and heads to the Antelope Valley Family YMCA for one of his favorite workouts — an electronic game with light-up targets and a scoreboard that tests his throwing, catching and speed skills. At home, he jumps on the Wii Fit alone, or with his mother.

When he's working out, he has one thing on his mind, and it's not his heart rate: "I always think about how much fun I'm having."

Children and teens who have grown up practically attached to computers like the games. But do they provide much by way of exercise? Many do, say researchers who are now quantifying the workouts. According to two recent studies, some of these so-called exergames can make players huff and puff enough to offer a serious calorie burn.

The findings offer an important alternative strategy for parents, schools and others who care for children as they try to get their charges off the couch and moving.

"Previously we've focused on sports as a way to get children physically active," but not all of them are interested in organized sports, said Bruce Bailey, assistant professor of exercise science at Brigham Young University and lead author of one of the studies. Schools, he added, are trying to make their P.E. classes more inclusive to children of different sizes and interests, and "I think this is one way of doing that."

Active games first came on the scene in the early 2000s with now-classics such as Dance Dance Revolution. The category has since exploded. Today, the offerings are more sophisticated, more challenging and have more-realistic video effects. They are featured on practically every major consumer gaming platform, including the Nintendo Wii, Xbox 360 and PlayStation 3.

In addition, many schools, gyms, community centers and hospitals include stationary bikes with video screens and customizable programs; digital target games that challenge players on speed and motor skills as they throw a ball; and sports simulation games that allow users to feel like they're playing games such as soccer. Some cost as much as \$6,000.

Here's how the calorie burns fell out in the two recent studies. In Bailey's study, released online last week in the journal Archives of Pediatrics and Adolescent Medicine, 39 boys and girls, average age about 11, played six different commercial and consumer games, including Dance Dance Revolution, Sportwall and Wii Boxing.

In four out of the six games, the children burned more calories than they did while walking on a treadmill at a 3-mph pace.

In the second study, published online last month in *Medicine & Science in Sports & Exercise*, scientists targeted an older demographic — 18- to 35-year-olds — and found that dance simulation and fitness video games allowed players to burn many more calories than they would have by sitting on the couch — 298% more for the dance simulation games and 322% for the fitness video games. But shooter and band simulation games (such as *Medal of Honor: Airborne* and *Rock Band 2*) didn't provide much exercise at all.

In other words, not all exergames are created equal — and that's why exercise physiologists emphasize that they shouldn't be the only form of exercise a child gets.

The studies also looked at how much participants liked the games — an important component because enjoyment is a big motivational factor. In the first study, the most popular game was *Sportwall*, a target game, followed by *Dance Dance Revolution*, though all the choices were active games. But the second study found that the less taxing band simulation games were the most popular.

Parents should do some research before bringing an exergame home, to make sure it offers more than wrist action, Bailey said. As for how much and how often the games should be used, that depends on the child. "I don't think they should replace sports. But it's good if you can use it to replace a sedentary activity, or if they don't have an affinity to be active," Bailey said. "You can use it for times when it's not feasible to play outside, but I think there is value in playing outside."

Exergames became part of the P.E. curriculum at Sierra Vista Junior High in Canyon Country around 2003, when department chairman George Velarde decided to update the school's philosophy about gym. He added an exergaming room to the school's fitness center, complete with 16 *Dance Dance Revolution* games, 16 virtual reality bikes, and more.

"The kids don't even know they're working out," Velarde said. "But they are working out even more at moderate to vigorous levels because of exergaming."

About half the schools in the country may have some form of exergaming, said Cheryl Richardson, senior program manager at the Reston, Va.-based National Assn. for Sport and Physical Education, an organization of P.E. teachers, coaches, athletic trainers and others involved in physical education.

"Parents were skeptical at first about the games," she said. "For some, their initial perception was that they'd be about shooting and killing and smashing cars. But now the exergaming market has exploded."

Julie Garcia couldn't be happier that her son loves using the exergames at home and at the Y. "If he had his way, he'd be playing regular video games," she said. "Anything that gets him moving is good."

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