

Kids get more active when given more toy choices, studies show

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In an age when even preschoolers have electronic toys and devices, many parents wonder how to get their children to be more physically active. Now, two studies published by University at Buffalo researchers provide some answers.

The UB studies are among the few laboratory-controlled studies of how the choice and type of toys given to [children](#) affects their [physical activity](#). Study subjects were 8-12 years old.

The goal of the research, led by James Roemmich, PhD, associate professor of [pediatrics](#) in the UB School of Medicine and [Biomedical Sciences](#), was to identify basic factors that make children more physically active.

"We wanted to see if providing children with choices or autonomy -- the ability for the individual to decide how he or she wanted to be physically active -- increased their intrinsic motivation to be physically active," said Roemmich.

The results showed that giving children more toy choices markedly increases their physical play, especially in girls. And giving children the opportunity to master games -- including exergames, such as Wii games -- also increases their physical play.

The first UB study, published in the Journal of Science and Medicine in Sports, found that when there was only one toy to play with, boys

engaged in 1.3 times longer active play than the girls.

But when children were provided access to a choice of active toys, [physically active](#) play time increased by nearly 200 percent for girls, compared to an increase of just 42 percent for boys.

"We were quite surprised to find such a significant difference between boys and girls," says Roemmich.

Previous studies in the field have consistently revealed that girls are less active than boys.

"But giving girls a choice of physical activities made their level of physical play equal to that of boys," says Denise M. Fedra, co-author on both studies and UB postdoctoral associate in the Division of Behavioral Medicine of the UB Department of Pediatrics, where the studies were conducted.

"[Girls](#) may enjoy the cognitive task of choosing toys, evaluating them and selecting which to play with, whereas the selection process and thinking about the toys may be less appealing to boys," the paper states.

In the same study, average exercise intensity increased for both genders when children were provided with a choice of toys. Active toys involved in the study included mini hockey, bean bag toss combined with tic-tac-toe, mini indoor basketball and jump rope.

In a second UB study published in the International Journal of Behavioral Nutrition and Physical Activity, the UB researchers looked more closely at how autonomy and mastery -- a force that motivates the child to develop proficiency -- increased a child's intrinsic motivation for physical activity.

That study revealed that a combination of autonomy and mastery were most powerful in increasing children's' physical activity time.

The UB researchers wanted to know if the mastery component of exergames or Wii games would motivate children to increase play time, reducing the need for choice to motivate activity, explains Roemmich.

"Indeed, we found that the combination of autonomy (choosing from several different games) and mastery (playing exergames) produced the greatest increases in physical activity time," says Roemmich.

However, he adds, increasing physical activity time isn't the whole story. Roemmich says that while the children played Wii games for twice as long as they played traditional versions of the same games, such as basketball, boxing, golf and hockey, they expended only half the energy during [Wii](#) games.

"In traditional games, children expend a lot of energy chasing after balls and pucks, while with exergames, they are just waiting for the game to reset," says Roemmich.

So what should parents do?

"Focus on finding 3 to 5 active games that your children like and make them easily accessible around the home," says Roemmich. These can be dance or yoga DVDs, exergames, or mini versions of basketball and hockey for in-home use.

And, he says, exergames do have their place. "If an exergame displaces watching TV or playing a videogame, then even the lighter intensity physical activity is preferable."

Outside the home, he says, seek a variety of activities ranging from

formal to aerobic dance, to zumba, basketball or martial arts. And he suggests that [parents](#) seek out fitness centers and youth centers that promote [autonomy](#) and choice by not charging extra for such choice of programming.

Provided by University at Buffalo

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