

Parent's physical activity associated with preschooler activity in underserved populations

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Credit: Robert Kraft/public domain

Preschool-age children from low-income families are more likely to be physically active if parents increase activity and reduce sedentary behavior while wearing movement monitors (accelerometers), according

to a Vanderbilt study published today in the *American Journal of Preventive Medicine*.

The study, which examined the impact of parent modeling of physical activity (PA) and sedentary behaviors in low-income American ethnic minorities, included data from more than 1,000 parent-child pairs. About 75 percent of the children were Latino and almost 10 percent, African-American. The participants live in metro areas of Minneapolis/St. Paul, Minnesota, and Nashville, Tennessee.

During the research period, each parent and child wore an accelerometer for an average of 12 hours a day, for a week. This is the first study to link the physical activity of parents and young children by objectively measuring that physical activity with such a long wear time for an accelerometer.

Researchers found that the preschoolers' total physical activity was 6.03 hours per day with 1.5 hours spent in moderate to vigorous activity.

"This study highlights how important parents' physical activity is to shaping their young children's physical activity," said principal investigator Shari Barkin, M.D., MSHS, William K. Warren Foundation Professor in Medicine, director of Pediatric Obesity Research, and chief of the Division of General Pediatrics at Monroe Carell Jr. Children's Hospital at Vanderbilt.

"The good news is that increasing physical activity is not only good for parents' health, it also helps set these behaviors in their young children as well. It's doubly good for family health. Setting this habit early could impact good health not only in childhood but in adulthood as well."

Physical activity is a critical factor for preventing childhood obesity and promoting good cardiovascular health. Recommendations call for

preschoolers to obtain about three hours a day of total physical activity (light, moderate and vigorous) with at least one hour of moderate-to-vigorous physical activity (MVPA), but reports show that less than half of preschoolers actually achieve that recommendation.

In this study, about 60 percent of the children were normal weight, while 30 percent were overweight and 10 percent were obese. More than three-fourths of the parents were overweight or obese. During the period examined, parents and children wore the accelerometers more than 12 hours each day.

Researchers saw a strong association between parent and child sedentary behavior and mild physical activity. They also found that up to 40 minutes of moderate-to-vigorous physical activity by a parent correlated with their preschool-age child's level of MVPA.

For every minute that a parent spent in sedentary behavior, the child's sedentary behavior increased by 0.10 minutes. Similarly, for every minute a parent engaged in light physical activity, the child's light physical activity increased by 0.06 minutes. Increasing parental physical activity and reducing sedentary behavior correlated with increased physical activity behaviors in children, the researchers concluded.

This study is part of Barkin's ongoing research into childhood obesity.

"We are completing a three-year-long intervention for childhood obesity prevention, called the Growing Right Onto Wellness (GROW) Trial, that includes parents' healthy lifestyle behaviors as well as their children's healthy behaviors for more than 600 parent-child pairs. We will be able to examine how parents and children can utilize their existing built and social environments to maximize good health and to set and maintain healthy habits," she said.

More information: Shari L. Barkin et al. Parent's Physical Activity Associated With Preschooler Activity in Underserved Populations, *American Journal of Preventive Medicine* (2017). [DOI: 10.1016/j.amepre.2016.11.017](https://doi.org/10.1016/j.amepre.2016.11.017)

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