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USC Research Shows Parents Can Set the Pace for Children's Physical Activity Levels

Washington, DC - While evidence has shown that physically active parents are much more likely to have physically active children, until recently there has been little research about how much time parents and children actually spend engaged in physical activity together.

However, a new study conducted by the Keck School of Medicine of the University of Southern California (USC) reveals that parents and children spend far more time together engaged in sedentary pursuits than physical activity. This indicates a significant missed opportunity for both generations to improve fitness.

“Replacing the time that parents and children spend together in sedentary pursuits, like watching TV and movies, with joint physical activity such as going on a bike ride, could have health benefits for both children and parents alike,” said Genevieve Fridlund Dunton, PhD, MPH, an assistant professor of research in the Keck School’s Department of Preventive Medicine, who led the research team.

In fact, whereas only a small proportion of children’s overall physical activity was done together with a parent, the research showed that almost half of their overall sedentary behavior was performed with a parent.

“Thus, if parents change their own behavior, it could have a substantial impact on reducing the overall time that children spend in sedentary pursuits,” Dunton added.

The study, titled “Correspondence in Daily Physical Activity Levels in Parent-Child Pairs Based on Accelerometer and GPS Monitoring,” will be presented during the 2011 Annual Meeting and Scientific Session of the Society of Behavioral Medicine (SBM), on Saturday, April 30 at 10:00 a.m. Eastern, in Washington, DC.

The research was part of a five-year study to examine the effects of smart growth community planning on family obesity risk. This study is led by Mary Ann Pentz, PhD, of the Keck School and funded by the National Cancer Institute (NCI), which is part of the National Institutes of Health.

To measure the amount of moderate-to-vigorous physical activity (MVPA) and sedentary activity that parents and children spend together, the researchers fitted 291 parent-child pairs with accelerometers, which measure motion and velocity, and Global Positioning Systems (GPS) to gauge their proximity to each other over a seven-day period. MVPA is activity that increases heart rate and breathing, and was defined using age-specific thresholds for the accelerometer. “Together,” or “nearby,” were defined by the pairs being less than 50 meters in proximity to each other.

The study showed that while more than 89 percent of parent-child pairs engaged in some MVPA together, 100 percent spent sedentary time together during the monitoring period. On average, parents and children spent 2.4 minutes per day in MVPA together and about 93 minutes per day in sedentary behavior together. For children, about 10 percent of their total MVPA and 47 percent of their total sedentary behavior took place with their parent. For parents, 16 percent of their total MVPA and 42 percent of their total sedentary behavior took place with their child. Children engaged in an average of 9.9 minutes per day of MVPA when their parent was nearby (less than 50 meters) but not engaging in MVPA themselves.

In contrast, parents engaged in 4.5 min. per day of MVPA when their child was nearby but not engaging in MVPA themselves. Parent-child pairs spent more time performing MVPA together on weekend days (about four minutes) than weekdays (two minutes). Girls engaged in more of their total MVPA together with their parent than boys.

The amount of time that girls spend in physical activity together with their parent is greater than boys despite lower overall physical activity levels for girls than boys, the study showed. "Encouraging joint physical activity among girls and their parents may be a useful way to address gender disparities in physical activity levels," Dunton said.

The research team includes Yue Liao, MPH; Estela Almanza, MPH; Michael Jerrett, PhD; Donna Spruijt-Metz, PhD, Pentz and Dunton.

Dunton's research is dedicated to understanding the behavioral origins of cancer risk in children and adults, with particular focus on physical activity and nutrition. She is the principal investigator on a study funded by the American Cancer Society to investigate real-time decision-making processes pertaining to physical activity using Ecological Momentary Assessment techniques. She is also the principal investigator on a project funded by the Active Living Research program of the Robert Wood Johnson Foundation to examine the built environment's effect on children's physical activity.

The Society of Behavioral Medicine is a multidisciplinary organization of clinicians, educators, and scientists dedicated to promoting the study of the interactions of behavior with biology and the environment and the application of that knowledge to improve the health and well being of individuals, families, communities, and populations.

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This study was presented during the 2011 Annual Meeting and Scientific Session of the Society of Behavioral Medicine (SBM) from April 27 – 30 in Washington, DC. However, it does not reflect the policies or the opinion of the SBM.

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