Active Living Research
Using Evidence to Prevent Childhood Obesity and Create Active Communities

ARTICLE SUMMARY
March 2012

Physical Surroundings Affect Physical Activity among Adolescent Girls

Introduction

Although physical activity improves health and reduces risk of obesity, only between 10 and 20 percent of U.S. adolescents meet current guidelines for physical activity. Adolescent girls are less active than adolescent boys, and among adolescent girls, there is significant variation in the amount of physical activity. We studied how the physical activity levels of adolescent girls in San Diego and Minneapolis were affected by their physical surroundings.

Key Findings

Girls' physical activity levels were higher when they were in areas with high population density, and when they spent time near schools or parks. Girls' levels of physical activity were lower when they spent time around food outlets.

Methodology

A sample of 293 girls ages 15 to 18 in the San Diego and Minneapolis areas participated in this study. For one week, participants wore pager-sized units measuring their physical activity and recording their geographic location every minute. We randomly assigned half of the sample in each city to wear the units for the first time in 10th grade, and a second time in 11th grade. The other half of the sample wore the units for the first time in 11th grade, and a second time in 12th grade. We also surveyed the participants, to account for the influence of other characteristics, such as household income, on physical activity.

Other Findings

Each day, participants wore the accelerometer for an average of 13.2 hours and engaged in an average of 20.5 minutes of physical activity. We found that participants spent significant time in environments with different characteristics than their home neighborhoods; for example, girls were likely to spend time in environments with higher population densities than where they lived. Physical activity levels decreased as girls got older. Activity levels were also lower during weekends than weekdays.

SOURCE

Rodríguez, D.A., Cho, G., Evenson, K.R., Conway, T.L., Cohen, D., Ghosh-Dastidar, B., Pickrel, J.L., Veblen-Mortenson, S., Lytle, L.A. (2012). Out and about: Association of the built environment with physical activity behaviors of adolescent females. *Health & Place*, 18(1), 55-62.

Open access to the full text article is available at:

http://www.sciencedirect.com/science/article/pii/S1353829211001602

CORRESPONDING AUTHOR

Daniel A. Rodríguez

University of North Carolina, Chapel Hill

319 New East, CB 3140
Chapel Hill, NC 27599

Email: danrod@unc.edu

Phone: 919-962-4763

For more information on *Active Living Research*, visit: *www.activelivingresearch.org/*

A national program of the Robert Wood Johnson Foundation, with direction and technical assistance provided by the University of California, San Diego.

Robert Wood Johnson Foundation

Participants also spent time differently depending on whether they lived in San Diego or Minneapolis. In San Diego, participants spent time in environments that had higher population density, had more roads, more food outlets (including more fast-food outlets), and that were more likely to have a school than in Minneapolis. Compared with San Diego participants, those in Minneapolis spent more time in parks, and private physical activity facilities, like gyms and dance studios.

Implications

To date, most studies have focused on the home neighborhood and its links with physical activity. The current study, by contrast, focused on minute-by-minute physical activity, wherever it occurred. This study shows that adolescent girls are most active when they spend time in areas with higher population densities and areas with schools or parks. Schools, in particular, can be an important physical activity resource for adolescents, even during non-school hours.

The results support the need for communities that facilitate physical activity among youths, and show that environmental interventions designed to increase physical activity among adolescent girls may be more effective if specifically tailored to girls' behaviors in their respective hometowns. Understanding the settings where youth are most likely to be active will help inform policy aimed at increasing their levels of physical activity and reducing sedentary behaviors. Researchers, practitioners and community groups should focus on identifying and modifying policies that impact the built environment, especially those with strong potential for promoting physical activity and overall health.