

Measuring the Neighborhood Environment: Associations with Young Girls' Energy Intake and Expenditure

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This work was supported by the National Institute of Environmental Health Sciences and National Cancer Institute (grant U01 ES012801); and by the California Breast Cancer Research Program (grants 12IB-0013, 14NB-0173). The authors have no conflicts of interest to declare.

BACKGROUND: Neighborhoods environments affect children's health outcomes. Observational methods used to assess neighborhoods can be categorized as indirect, intermediate, or direct. Direct methods are recognized as an accurate representation of current neighborhood conditions. **OBJECTIVE:** The authors investigated the associations of various neighborhood characteristics with young girls' diet and physical activity, using both direct and indirect methods of neighborhood assessment. **METHODS:** This study is based on a subset of participants in the Cohort Study of Young Girls' Nutrition, Environment, and Transitions (CYGNET). In-person street audits were conducted on 2,328 street segments within 215 girls' residential neighborhoods using a modified St. Louis Audit Tool. Exploratory factor analysis revealed five scales: "mixed residential and commercial," "food and retail," "recreation," "walkability," and "physical disorder." A Neighborhood Deprivation Index was also derived from census data. The authors investigated if these six neighborhood measures were associated with quartiles of total energy intake and expenditure (metabolic equivalent (MET) hours/week). **RESULTS:** After adjustment for demographic characteristics, there was an inverse association between prevalence of "food and retail" destinations and total energy intake (for a one quartile increase, OR=0.84, 95% CI 0.74, 0.96). Among Hispanic/Latina girls, positive associations were observed between the "recreation" and "walkability" scales with physical activity (for a one quartile increase in METs, OR=1.94, 95% CI 1.31, 2.88, for recreation; OR=1.71, 95% CI 1.11, 2.63, for walkability). There was also a strong inverse association between "physical disorder" and physical activity among African-American girls (OR=0.31, 95% CI 0.12, 0.80). **CONCLUSIONS:** Results suggest that neighborhood food and retail availability may influence children's energy intake differently from that of adults. There is also variation in neighborhoods' influences on children's physical activity behaviors, particularly for children of different racial/ethnic backgrounds.