Background

The obesity rate for adolescents (ages 12–19) in the United States has more than tripled in the last few decades. Several recent studies suggest that adolescents are consuming too much fat, sugar, snacks, soda, and fast foods. Environmental causes for the increase in weight and poor dietary habits are being investigated. Some of this research has focused on food stores. For example, research has shown that larger supermarkets and chain supermarkets are more likely to stock healthy foods, including fruits and vegetables, and offer such foods at lower prices, but no studies to date have examined the link between food store availability and weight outcomes in adolescence.

In the study “Associations Between Access to Food Stores and Adolescent Body Mass Index,”1 Lisa M. Powell and colleagues examine the link between neighborhood food store availability (such as chain supermarkets, nonchain supermarkets, convenience stores, and other grocery stores), and adolescents’ body mass index (BMI), overweight prevalence, and demographic variables. To do this, the researchers used data from a variety of sources including Dun and Bradstreet, the American Chamber of Commerce Researchers Association, the Monitoring the Future surveys, and the U.S. Census 2000.2 Using data from 73,079 observations and multiple regression analyses, researchers tested the hypothesis that areas with a larger number of chain supermarkets would result in lower adolescent BMI while areas with a large number of small stores would result in higher adolescent weight.

Key Findings

- **There are significant associations between the availability of food stores and adolescent BMI.** Even when demographic (both individual and family-level) and neighborhood-related variables were held constant, the availability of chain supermarkets was associated with lower adolescent BMI and overweight status, while the availability of convenience stores was associated with higher adolescent BMI and overweight status. Specifically, a decrease of .11 BMI units was observed for each additional chain supermarket, whereas each additional convenience store was associated with an increase of .03 BMI units. Similarly, an additional chain supermarket decreased overweight prevalence by 0.6 percentage points, and an additional convenience store increased overweight prevalence by 0.15 percentage points.

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2 These include gender, grade, age, race/ethnicity, highest schooling completed by mother and father, rural/urban neighborhood, student income, hours of work per week of student, and mother’s employment status (full- or part-time).
The effects of access to food stores on BMI and weight may be most important for African-American adolescents. Results indicated that the relationship between supermarket availability and BMI was three times greater among African-American adolescents than white or Hispanic adolescents. That is, the addition of a chain supermarket showed a decrease of .3 BMI units among African-American adolescents but only resulted in a decrease of .1 BMI units among white and Hispanic adolescents.

The effects of supermarket availability on adolescent BMI are stronger in families with a working mother. Results indicated that the availability of grocery stores impacted adolescents whose mothers worked full- or part-time more than adolescents whose mothers did not work. In particular, the addition of a chain supermarket resulted in a substantially greater decrease in the BMI of adolescents whose mothers worked as compared with those whose mothers did not work.

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