

Gender, Weight Loss Efforts, and Fast Food Locations: Evidence of Differential Effect on BMI?

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ABSTRACT

Background: Research on the relationship between Body Mass Index (BMI) and proximity of fast food restaurants surrounding schools, proxy measures for fast food access, has produced mixed results. **Purpose:** We evaluated whether gender and self-report of weight loss behaviors modified the relationship between BMI and proportion of fast food restaurants (FFRp). **Methods:** We obtained weight and height information for 6,456 11th graders from 108 schools that participated in the 2004-2005 Texas School Physical Activity and Nutrition surveillance. Internet searches were used to determine FFRp within 0.25 and 0.50 miles from schools. FFRp was determined by dividing the number of FFR by the sum of FFR and other restaurants. Multivariate linear regression models were used to estimate the association between FFRp to schools and adolescent BMI within four groups: females trying to lose weight (FTW), females not trying to lose weight (FNTW), males trying to lose weight (MTW), and males not trying to lose weight (MNTW). **Results:** Survey weighted analysis indicated 26% FTW, 23% FNTW, 13% MTW, and 38% MNTW. Mean FFR within 0.25 miles from school was 0.9 (SD=1.9) and within 0.50 miles was 3.3 (SD=3.5). We found a significant decrease in BMI among FTW as FFRp increased within 0.25 miles from the schools (% change in y for the % change in x=-0.060; 95% CI=-0.113, -0.002). A significant increase in BMI was found among FNTW as FFRp increased within 0.50 miles from the schools (0.118; 95% CI=0.0002, 0.250). Within male groups, no significant relationships were found between BMI and FFRp. We observed a positive relationship between BMI and FFRp within 0.50 miles from schools for 3 of the 4 groups. Furthermore, we observed increases in the coefficients between BMI and FFRp from 0.25 to 0.50 miles from schools. **Conclusions:** Differential effects found between gender and weight loss behaviors indicate the importance of examining ecological approaches with other determinants when evaluating obesity risk. Positive relationships may be related

to the increased availability of FFR near schools. Larger, more diverse sample sizes are warranted to further investigate the observed relationships.

KEYWORDS: Fast foods, Obesity, Adolescents, Schools, Weight loss

Learning Objectives:

1. After reading this abstract, readers will be able to describe the hypothesized differential effects that gender and weight loss practice have on the relationship between BMI and FFRp.
2. After reading this abstract, readers will be able to identify the two groups that demonstrated significant relationship between BMI and FFRp.

“I would like to be considered for a student/trainee travel scholarship.”