

Fast-food outlets and walkability in school neighbourhoods predict fatness in boys and height in girls: a Taiwanese population study

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There is increasing evidence that the school food environment contributes to childhood obesity and health in various locations. We investigated the influence of fast-food stores and convenience food stores (FS and CS, respectively) on growth and body composition in a range of residential densities for North-east Asian food culture. A total of 2283 schoolchildren aged 6-13 years from the Elementary School Children's Nutrition and Health Survey in Taiwan conducted in 2001-2002. Anthropometrics and birth weight of schoolchildren were obtained. Geocoded mapping of schools and food outlets was conducted. Multivariable linear regression models, adjusted for father's ethnicity and education, as well as for household income, pocket money, birth weight, physical activity, television watching, food quality and region, were used to predict body composition from school food environments.

Remote and socially disadvantaged locations had the highest prevalence of lower weight, BMI, waist circumference and triceps skinfold thickness. Food store densities, FS and CS, were highest in urban Taiwan and lowest in remote Taiwan. In the fully adjusted models, FS densities predicted weight and BMI in boys; there was a similar association for waist circumference, except when adjusted for region. FS densities also predicted height for girls. Except for weight and BMI in boys, CS did not have effects evident with FS for either boys or girls.

Keyword: Food stores, Children, Growth, Body composition, Birth weight