

Am J Prev Med. 2006 Dec;31(6):464-74.

Relationship between urban sprawl and weight of United States youth.

Ewing R, Brownson RC, Berrigan D.

National Center for Smart Growth Education and Research, University of Maryland, College Park, Maryland 20742, USA. rewing1@umd.edu

BACKGROUND: Among United States youth there is an obesity epidemic with potential life-long health implications. To date, relationships between the built environment and body mass index (BMI) have not been evaluated for youth, and have not been evaluated longitudinally. **OBJECTIVES:** To determine if urban sprawl is associated with BMI for U.S. youth. **METHODS:** Using data from the 1997 National Longitudinal Survey of Youth (NLSY97), both cross-sectional and longitudinal analyses were conducted. Hierarchical modeling was used to relate characteristics of individuals, households, and places to BMI. Individual and household data were extracted from the NLSY97. The independent variable of interest was the county sprawl index, which was derived with principal components analyses from census and other data. **RESULTS:** In a cross-sectional analysis, the likelihood of U.S. adolescents (aged 12-17 years) being overweight or at risk of overweight ($>$ or $=$ 85th percentile relative to the Centers for Disease Control growth charts) was associated with county sprawl ($p=0.022$). In another cross-sectional analysis, after controlling for sociodemographic and behavioral covariates, the likelihood of young adults (aged 18-23 years) being obese was also associated with county sprawl ($p=0.048$). By contrast, in longitudinal analyses, BMI growth curves for individual youth over the 7 years of NLSY97, and BMI changes for individual youth who moved between counties, were not related to county sprawl (although coefficient signs were as expected). **CONCLUSIONS:** Cross-sectional analyses suggest that urban form is associated with being overweight among U.S. youth. The strength of these relationships proved comparable to those previously reported for adults. Longitudinal analyses show no such relationship. It is unclear why these approaches give different results, but sample sizes, latent effects, and confounders may contribute.

Publication Types:

Research Support, N.I.H., Extramural

PMID: 17169708 [PubMed - in process]