

Associations Between School Transport and Obesity by Gender, Grade, Physical Activity, Race/Ethnicity, and Economic Disadvantage

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ABSTRACT

Declining rates of active transportation to school have coincided with the childhood obesity epidemic. The contribution of school transport modes to obesity among children may vary by sociodemographic characteristics. **PURPOSE:** To examine the prevalence of school transport modes and obesity by gender, grade, physical activity, race/ethnicity, and economic disadvantage in a representative sample of Texas school children. **METHODS:** Cross-sectional data on reported sociodemographic characteristics, school transport mode, and physical activity behavior were collected from the Texas School Physical Activity and Nutrition (SPAN) Survey, 2015-2016. Measured height and weight were used to calculate BMI and classify 4th, 8th, and 11th grade students by obesity status. The sampling frame had 14,976 students from 359 schools to provide weighted state-level estimates by grade. Associations were conducted between school transport modes and obesity. Interaction terms were included to test if school transport mode-obesity associations differed by gender, grade, physical activity, race/ethnicity, or economic disadvantage. **RESULTS:** Active and passive school transport modes were not significantly associated with obesity ($p > 0.05$). Gender, grade, physical activity, race/ethnicity, and economic disadvantage were significantly associated with obesity ($p < 0.05$). Bike to school by race/ethnicity and walk to school by grade were significantly associated with obesity ($p < 0.05$), after controlling for all other sociodemographic characteristics. Hispanic/African American students who biked to school were significantly more likely to have obesity compared to White/Other students who did not bike to school (OR=5.48, $p < 0.05$, 95% CI: 1.25, 24.00). Students in 8th grade who walked to school were significantly less likely to have obesity than 4th/11th grade students who did not walk to school (OR=0.42, $p < 0.05$, 95% CI: 0.19, 0.91). **CONCLUSION:** These findings suggest that associations between active school transport modes and obesity differ by sociodemographic characteristics, including race/ethnicity and grade. Population-based approaches to childhood obesity prevention may benefit from understanding disparities in opportunities for school transport modes.