

Obesity and Physical Activity Variance by Income and Ethnicity in Kansas City

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ABSTRACT

Background: Although obesity and physical activity prevalence systematically vary by income and ethnicity, it is unclear how well census data represent actual conditions. **Purpose:** Using data from the Kansas City Built Environment and Health Study, we examined whether differences in measured obesity prevalence and self-reported physical activity would systematically vary by both census block group median income and percent ethnic minority and self-reported income and ethnicity. **Methods:** Participants included 586 adults; average age 45±14.7. Most participants were female (69.8%), married (51.5%), had some college or more (72.7%) and had incomes ≤\$60,000 (54.6%). Households were solicited from 21 census block groups, stratified by household income and percent ethnic minority across the Kansas City Metropolitan area. After obtaining informed consent, trained data collectors conducted 60-minute interviews. Physical activity was measured with the International Physical Activity Questionnaire. Height was measured with a portable stadiometer and weight and percent body fat (%BF) percentages were measured using a Tanita scale. **Results:** Using calculated BMI data, 33.3% were obese; 55.8% were obese when using %BF. Comparison by census block group showed significantly lower obesity rates (BMI) for the highest income tertile (p=.01) and the lower ethnic minority tertile (p=.009 BMI; p<.001 %BF). Self-reported ethnicity data showed significantly higher obesity rates for both African Americans and American Indians (p=.001 BMI; p<.001 %BF). Overall,

physical activity levels were low, with only 19.1% (n=112) meeting walking, 9.4% (n=55) meeting moderate (both 150+minutes/week), and 24.7% (n=145) meeting vigorous recommendations (75+minutes/week). Both census and self-reported income were positively correlated with meeting walking recommendations ($p<.01$) and meeting vigorous activity recommendations ($p<.05$ and $p<.05$, respectively). Meeting vigorous activity recommendations was significantly more likely for those in the lower ethnic minority tertile ($p=.04$). **Conclusions:** We found systematic variation across income and ethnicity for both obesity and physical activity, with worse rates for lower income individuals, Blacks and American Indians. BMI may have underestimated obesity prevalence. Future research should determine related environmental correlates.

KEY WORDS: Income, Obesity, Physical Activity, Minority, Black, American Indian