

## Determinants of Elderly Obesity in Urban, Suburban and Rural Communities

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The population of overweight or obese adults in the U.S. has grown dramatically since the late 1970s (Chang, 2005). Among older adults, roughly 22% of those aged 65-74 and 23% of those aged over 75 were obese in 1999, representing an increase of 63% and 38%, respectively, over the last 15 years (Center of Disease Control and Prevention, 2007). The rising prevalence of obesity has led to increases in the incidence of diabetes, heart disease, some cancers, and other serious health problems which are more common among the older population. Previous researchers have demonstrated that the prevalence of obesity varies by community type (e.g. Sobal, Troiano, & Frongillo, 1996); though the variation has largely been attributed to differences in demographic characteristics. In this study, we focus on the older population in the U.S. and extend the research on the determinants of the rural-urban weight disparity using the 2002 Health and Retirement Study. In particular, we use multivariate linear and maximum likelihood regression models to examine the roles that demographic characteristics, preferences, and environmental influences play as determinants of elderly obesity in urban, suburban, and rural communities.

Consistent with previous studies, rural respondents do weigh more than their urban and suburban counterparts. We also find that this disparity can be explained, in part, by the demographic differences of these communities. We add to the existing body of research by showing (1) that the magnitude of the influence of some demographic characteristics on weight status varies by community type and (2) that the observed relationship between weight and community type persists after controlling for demographic factors and other variables.

Our first finding is that, although demographic characteristics affect obesity in similar ways for all communities, the magnitude of this effect differs significantly across community types. For example, while age and lack of a high school education are both positively correlated with BMI, the relationships are significantly stronger for persons residing in urban communities than in rural communities. Similarly, suburban Whites and Hispanics have significantly higher BMI than their rural counterparts. Next, urban homeowners are more likely to have higher BMI than rural homeowners. Finally, the negative effect of smoking and exercising on BMI is significantly smaller in urban areas than in rural areas. In any case, these results suggest that unobserved environmental influences or lifestyle differences unique to different communities may play a larger role than previously thought.

Second, our findings are inconsistent with Sobal et al. (1996). Despite the inclusion of a large number of demographic and behavioral choice variables, the negative effect of urban and suburban residence on BMI remain highly significant. In fact, far from eliminating the significance of the urban-rural disparity, the inclusion of interactions between demographic variables and community type for key demographics actually increases the significance of the disparity. This provides further evidence that demographic differences can not solely be responsible for BMI differences across communities.

We supplement the findings reported above (based on OLS estimation of BMI) with estimates obtained from Logit models specified with obesity and overweight status as the dependent variables. The results from these models reinforce the conclusions suggested by the OLS models. Generally, the robustness of the results across different specifications and models suggests that the rural-urban disparity in prevalence of overweight and obesity among older adults is a more complex problem than previous studies suggest.

### Reference

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