

## **Material Hardship on Obesity Status among Fragile Families and the Role of Public Assistance Programs**

As of 2012, over one third of U.S. adults and nearly 18% of children aged 6-11 years and 21% of children aged 12-19 years in the United States were considered obese (Ogden et al., 2014). Obesity in adults is defined as having a Body Mass Index (BMI) of 30 or higher while in children is defined as BMI at or above 95<sup>th</sup> percentile for an age and gender-specific BMI growth chart as defined by the Centers for Disease Control and Prevention (CDC). According to the CDC, obesity is associated with a number of negative health outcomes for both adult and children including heart disease, bone and joint problems, sleep apnea, and psychological issues, type II diabetes, high blood pressure, and cancer. Furthermore, recent estimates indicate that obesity-related illness are costing over \$209 billion annually (Cawley and Meyerhoefer, 2012).

The rise in obesity can be attributed to multiple biological and environmental influences. Material hardships can directly or indirectly affect weight through various channels. For example, food hardships can directly alter family eating habits by leading to increased consumption of low-cost, high-calorie dense foods that can lead to weight gain (Franklin et al., 2012). Material hardships are also directly related to stress factors which have been linked to obesity in both adults and children (Bjorntorp, 2001; Garasky et al., 2009; Gunderson et al., 2008; Lohman et al., 2009). Furthermore, hardships are particularly prevalent in low-income households who also have a greater risk of becoming obese.

This study proposes to examine how a number of different household measures of material hardship influence adult and child obesity among low-income households. Furthermore, we will investigate the relationship between participating in one or multiple government assistance programs to identify the role of these public transfers on household

prevalence of material hardships. In particular, we will focus on the role of the Supplemental Nutrition Assistance Program, Women Infants and Children, National School Lunch Program, and the School Breakfast Program play in alleviating food insecurity. We will also consider public housing assistance and other welfare programs that may ameliorate material hardship status.

Data will come from The Fragile Families and Child Wellbeing Study (FF) which contains many of the essential measures to examine the associations between material hardships and obesity among vulnerable populations. In addition to a myriad of demographic characteristics, the FF dataset collects responses to the U.S. Household Food Security Survey Module, which informs researchers of different degrees of food insecurity for both adults and children in these households. Other material hardship measures in the FF data include questions regarding trouble paying bills, housing insecurity (evictions, shelters, etc.), utility cutoffs, and forgoing medical services due to financial constraints. In addition, the FF dataset collects measured values of weight and height (in contrast to self-reported measures that may be subject to biases) from FF respondents. These values can be used to calculate precise BMI levels and determine weight status (underweight, overweight, obese, and severely obese).

Because of the longitudinal nature of the Fragile Families and Child Wellbeing Study, this study proposes to implement multivariate panel data methods to analyze the effect of family material hardship on obesity levels of both the caregivers and the children in FF. Fixed-effect regression models will account for time-invariant unobservable factors as well as mitigate some issues of selection. The results of this study will add to the literature examining the effects of material hardship and stressors on adult and child obesity while also identifying what role government programs have mediating these issues.

## References

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