

# **What's Time Got to Do with It? An Investigation of Obesity in Male versus Female Single Headed Households**

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The conceptual basis for this study is Grossman's (1972) model of the demand for health capital, an extension of Becker's (1965) theory of the allocation of time. Building stocks of health capital, specifically a healthy weight, is a decision made at the household level. Certain time uses result in energy output, e.g., physical activity. Other time uses result in less energy output, e.g., sedentary behaviors. Some time is combined with purchased inputs and results in energy input, e.g., cooking time and purchased food for consumption at home. Many other time uses that contribute to lifestyle patterns can also play a role in energy balance. The health capital model allows for inclusion of many of the variables that have been linked to energy imbalance.

Knowledge of cooking increases healthy food intake (Brown & Hermann, 2005), but people perceive less time to cook (Chou, Grossman, & Saffer, 2004; Cutler, Glaeser, & Shapiro, 2003; Jabs & Devine, 2006; Mancino & Newman, 2007). Studies have examined the link between sedentary behavior or physical activity and weight (Boone, Gordon-Larsen, Adair, & Popkin, 2007; Dunton, Berrigan, Ballard-Barbash, Graubard, & Atienza, 2009; Healy et al., 2008). Sleep (or lack thereof) may also have a connection to overweight (Cappuccio, Taggart, Kandala, & Currie, 2008; Patel, Malhotra, White, Gottlieb, & Hu, 2006; Patel & Hu, 2008).

Research links obesity with the demographic characteristics poverty and education (Drewnowski & Specter, 2004; Parker & Keim, 2004). The environment is also related to obesity. Relationships have been found between food away from home and obesity (Pereira et al., 2005; Prentice & Jebb, 2003). Portion sizes have increased both at home and in all restaurant settings but most substantially in fast food restaurants (Diliberti, Bordi, Conklin, Roe, & Rolls, 2004; Nielsen & Popkin, 2003; Young & Nestle, 2002).

The examination of complex relationship between food choice, time-use patterns, socio-demographic characteristics and obesity has been limited by data availability. This study explores the possibility of linking three population based nationally representative databases to better understand the roles of the aforementioned variables on obesity in female and male single headed households ages 31-50 without a disability.

Yearly (2006, 2007) cross sectional data from the Eating and Health Module subset of the American Time Use Survey (ATUS), the Current Population Survey (CPS) and the Consumer Expenditure Survey (CE) were pooled. The method of two-step cluster analysis using the log-likelihood distance measure and Schwarz's Bayesian Criterion (BIC) in the Statistical Package for Social Sciences (SPSS 15.0) was used to identify food patterns and then time use patterns. The percentage of overweight respondents differed significantly across demographics, eating, and time use patterns, with fewer differences in time use related to eating and drinking. Next the probability of being normal versus overweight and the size and significance of demographic, eating, and time use pattern variables on both the probability of being overweight and on body mass index (BMI) were estimated using the method of truncated regression. Truncated regression allows the sign of individual coefficients to differ in the estimation of the probabilities compared to the degree of overweight.

This research adds to the literature in several ways. We obtained a richer set of variables with which to analyze the factors that contribute to weight. Our results corroborate other studies linking demographic variables to weight status while adding the extra dimension of food-related behaviors. Inclusion of individual food related time uses and purchasing habits in a multivariate context shows that knowledge of cooking and eating patterns affect an individual's weight status. Specifically, the model showed the importance of home-produced meals. That involves both purchasing foods to consume at home as well as taking time to prepare meals from those inputs. Whether the respondent was the household's primary cook lowered BMI for both normal and overweight individuals. Time spent cooking also lowered BMI. Though, it is important to note that the magnitude of the effect differed with respect to weight status. Across both genders, the change in BMI was larger for overweight individuals than normal weight. Cooking has a mitigating effect on BMI for overweight individuals and a resurgence of "home economics" type classes for students might be a useful strategy for reducing obesity (Lichtenstein & Ludwig, 2010).

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## Endnotes

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