

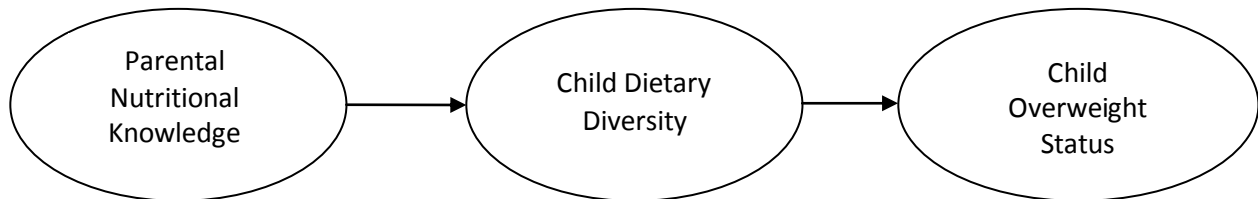
Parental Nutritional Knowledge and its Affect on Child Diet and Weight Status

Though in recent years there has been a strong effort to figure out just what is causing the stark rise in obesity, there is still much to be determined. When looking at the outcome of weight as a function of total energy expenditure and total energy intake, the equation looks quite simple. In reality, there are many biological, cultural, financial, and social determinants to each of these variables. In this level of research, a closer look will be taken to begin looking into what public health resources are telling us about what should be consumed, whether or not individuals are following those guidelines, and if it makes a difference in the long-run. By focusing on the widely cited USDA food group guidelines for diversity in diet, we can begin to tackle this question.

Data and Methods

This analysis will use data from the Panel Study of Income Dynamics (PSID), which is a longitudinal study that was started in 1968 and is continually being collected. It started with approximately 5,000 families and now contains information on over 65,000 individuals. The PSID also contains information on selected children from the adult sample, which makes up the Child Development Supplement (CDS). That data was collected in three waves in 1997, 2002, and 2007. Here, information will be used from the parents in 1999 from the PSID and will be linked to child characteristics in 2002 from the CDS. A total of 1,674 parent-child pairs complete the sample in this analysis. By linking generations, it will be possible to look directly at the associations between parental demographic, nutritional, and financial characteristics and child diet and weight outcomes.

The analysis will begin by creating indices appropriate for logistic regression techniques for the dependent variables of a child's 'High Dietary Diversity' and later 'Overweight' status. Together, these two models will help to answer the question, how does parental nutritional knowledge actually effect the diet of the child, and in turn, how does that diverse diet affect their weight outcomes? The primary path analysis model is as follows:



In order to account for demographic characteristics in the logistic models, all independent variables have been converted into binary indicators. These demographic characteristics include total family income in 1999, parental education, race, body mass index, and age of child. Also, two indices were created in order to capture both parental nutritional knowledge in reference to 'nutritional guidelines' and a child's 'dietary diversity'.

Results

Parental Nutritional Knowledge on Child Dietary Diversity. From Table 1 below:

- ▶ Being Black has decreases the probability of and having a High Diverse Diet by 32.5%, in contrast to those who have a parent with the highest level of education (College Plus) which has a positive effect (34.9%) on their children having a High Diverse Diet
- ▶ Total Family Income does not have a significant direct effect in this model, though as seen before it is certainly correlated with a child's dietary diversity. The effect is negated by the Nutritional Guideline Score (which is not linearly affected by income.
- ▶ Dietary Diversity, even when described in a general way (# of days eating certain food groups), shows promising predictive results

Table 1 – Logistic Regression (Dependent Variable Child High Diverse Diet)			
	Model 1 Nutrition Indexes	Model 2 + Demographic	Model 3 + Income & Education
High Nutritional Guideline	0.379***	0.402***	0.362***
Medium Nutritional Guideline	-0.052	-0.002	-0.017
Age 15-19		0.202**	0.189*
Black		-0.474***	-0.325***
Other Race		-0.329*	-0.185
High Income			0.197
Medium Income			0.038
College Plus			0.349**
High School Plus			0.069
Constant	-0.147**	-0.024*	-0.267*
* p-value <.10, ** p-value <.05, *** p-value <.01			

Child Dietary Diversity on Child Overweight Status. From Table 2 below:

- ▶ Being Black or Other Race holds the highest qualitative and quantitative significance overall as compared to White children (increasing the probability of being Overweight by 56.9% and 48.1% respectively)
- ▶ Parental Education and Income are not significant in any of these models, showing that they are not overriding the effects of other variables, but more needs to be looked into on this topic
- ▶ Capturing diet is a key part in finding how parental nutritional knowledge affects the weight status of the child
- ▶ For Children, having a High Diverse Diet is a significant factor in decreasing the probability of being Overweight

Table 2 – Logistic Regression (Dependent Variable Child Overweight)			
	Model 1 Nutrition Indexes	Model 2 + Demographic	Model 3 + Income & Education
High Diverse Diet	-0.533***	-0.438**	-0.420**
Medium Diverse Diet	-0.354**	-0.310*	-0.299
Age 15-19		-0.041	-0.040
Black		0.600***	0.569***
Other Race		0.532**	0.481**
High Income			0.059
Medium Income			0.213
College Plus			-0.193
High School Plus			-0.078
Constant	-0.985***	-1.358***	-1.379***
* p-value <.10, ** p-value <.05, *** p-value <.01			

Moving Forward (To be Completed by PAA 2013)

- ▶ Intergenerational connections and probability for activity levels, parental involvement, and expenditures. These will include amount of money spent on food, time spent in sports, meals shared by the family, and other related parent-child communication items.
- ▶ Connections to Future Outcomes (educational attainment, labor force participation, health and weight factors). For this, the 2007 Child Development Supplement and the 2009 Transition into Adulthood Supplement to follow these 10-19 year-olds into adulthood.
- ▶ Sharper Indexes for Dietary Diversity for children and adolescents in 2007. Diet is captured more accurately in the 2007 Child Development Supplement by asking for servings of food groups and more highly specified detail of foods consumed.