From Family to Peer Setting: Food Choices of College Freshmen
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Introduction

Prevalence of obesity in the US:
• 15% in the 1970s – 32.5% in the 2007/08
• Ranks 5th in the world for number of overweight and obese adults

Hypotheses in the literature:
• Prices of healthy foods like fruits and vegetables are too high.
• Prices of calorie dense “junk” food is cheap and easier to prepare.
• Farm policy/food policy is to blame for this

Suggested/Current Food Policy Interventions:
• Taxes on “Junk” foods
• Subsidies on fruits and vegetables
• Ban on sugary drinks in New York City
• Removal of vending machines from schools

Coming soon: FFD regulations on sodium

Findings in the literature:
Drewnowski & Darmon (2005)
• Inverse relationship between food cost & energy density of diet
• Sometimes the energy dense diet is selected willfully
Maki & Gaulke (2000)
• National addiction model
• Price hikes deter normal weight people from consuming but not overweight & obese people
Belgin & Jensen (2008)
• Found countries with very dissimilar food & farm policies have experienced obesity increases as well

If altering food price is a relatively ineffective means of getting the result that society desires (i.e., lower body mass index (BMI) of the overall population), then where should we go from here? If foods are addictive like some researchers suggest, the issue becomes one of the individual’s demographics and other factors such as price hikes but not overweight & obese people.

Obesity or being overweight can have a number of negative consequences. For many, popular weight loss strategies consist of reducing food intake and increasing physical activity. However, there are other factors that influence obesity. The most obvious one includes genetics. Interestingly, eating few snacks increased their BMI... are fewer snacks being converted to larger meal portions?

Conceptual Model

\[
W_i = (W_{inc_i} + W_{dev_i}) \times Q_i 
\]

where:
• \(W_{inc_i}\) is the utility function for an individual from food group \(i\),
• \(W_{dev_i}\) is the utility function from group \(i\) due to demographics and other factors such as price hikes, etc.

Peer Influence

College freshman present a unique opportunity
• Changing their peer group
• ‘From living with parents to being autonomous’
• New friends & situations
• Under studied when it comes to obesity
• Candidate for effective prevention before habits are formed for adulthood

Peer Choice

Variable Estimate Std. Err. P-Value
Intercept -2.7353 0.6638 0.0002
Meal Plan? (1=yes, 0=no) 0.7283 0.2602 0.0086
Time per week family ate together 0.1326 0.3483 0.6638
Snacks/Desserts -0.0010 0.0004 0.0013
Breads/Grains 0.0009 0.0006 0.1124
Fruits/Vegetables -0.0017 0.0013 0.2184

Food Consumption

The food consumption equations were observed to change by food groups: Beverages, Dairy, Meats/Meat Substitutes, Breads/Grains, Fruits/Vegetables and Snacks/Desserts. The consumption of each food group was specified as consumption of other food groups and the peer effect variable. The equations were estimated as a system. Thus, the predicted values were used in the equation with the change in the student’s weight from September to November as the dependent variable. Descriptive and other factors such as having the meal plan through the college and depression were included as well. The consumption of each food group is estimated by the student’s BMI and depression. The food consumption equations were observed to change by food groups: Beverages, Dairy, Meats/Meat Substitutes, Breads/Grains, Fruits/Vegetables and Snacks/Desserts. The consumption of each food group was specified as consumption of other food groups and the peer effect variable. The equations were estimated as a system. Thus, the predicted values were used in the equation with the change in the student’s weight from September to November as the dependent variable. Descriptive and other factors such as having the meal plan through the college and depression were included as well.

Descriptive Statistics (n = 45)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>73.73</td>
<td>13.36</td>
<td>-0.88</td>
</tr>
<tr>
<td>Sex</td>
<td>1.00</td>
<td>0.40</td>
<td>0.28</td>
</tr>
<tr>
<td>Overweight</td>
<td>9.26</td>
<td>11.72</td>
<td>0.45</td>
</tr>
<tr>
<td>BMI</td>
<td>24.88</td>
<td>4.56</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Insight?

When asked, “How have your eating habits changed during your first year of college?”

“I try to resist my diet when the meal plan at the dining center is already paid for.”

“I eat as much as I want because there’s no limit or extra charge.”

“If this makes me eat more I feel like I’m wasting my money.”

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Literature cited


Caruana, A., Halliday, L. 2008. Vulnerability to freshman weight gain as a function of dietary restraint and residence density and energy cost.


Drewnowski, A. 2002. “Vulnerability to freshman weight gain as a function of dietary restraint and residence density and energy cost.”
