Dietary Assimilation and its effect on health: A Study of International Students

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121. Dietary Assimilation and its Effect on Health: A Study of International Students

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Objective

Identify the influence of local environmental factors on the dietary transition and its effect on the health of foreign individuals.

Introduction

- Dietary transition is defined as the shift in diet and physical activity pattern, which has an impact on nutritional outcome.
- On arrival to the United States, foreign individuals undergo a process of assimilation and they adopt the social and dietary habits of the native population.
- Dietary assimilation is influenced by the local environment of an individual.

Data

- Email survey of international graduate students studying at universities in 48 contiguous states.
- Survey was conducted from March 2013 to December 2013.
- 48 universities participated in the survey.
- 3880 international graduate students responded to the survey.

Estimation Results for the Change in Physical and Behavioural characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Change in Weight</th>
<th>Increase in Waistline</th>
<th>Change in eating habits</th>
<th>Increase in fast food consumption</th>
<th>Decrease in food at home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of Stay</td>
<td>0.57***</td>
<td>0.36***</td>
<td>0.77***</td>
<td>0.26**</td>
<td>0.12**</td>
</tr>
<tr>
<td>Medium Obesity Regions</td>
<td>0.68**</td>
<td>0.31*</td>
<td>0.23***</td>
<td>0.12**</td>
<td>-0.32*</td>
</tr>
<tr>
<td>High Obesity Regions</td>
<td>0.71**</td>
<td>0.54**</td>
<td>0.31***</td>
<td>0.28*</td>
<td>0.61*</td>
</tr>
<tr>
<td>Food dessert</td>
<td>0.37**</td>
<td>0.34</td>
<td>0.18**</td>
<td>0.09</td>
<td>0.36**</td>
</tr>
<tr>
<td>Grocery Store</td>
<td>-0.77**</td>
<td>0.96</td>
<td>-0.60</td>
<td>-0.16</td>
<td>-0.25</td>
</tr>
<tr>
<td>Convenience Stores</td>
<td>0.75***</td>
<td>0.49*</td>
<td>0.42*</td>
<td>0.13**</td>
<td>0.06</td>
</tr>
<tr>
<td>Super Center</td>
<td>-0.83</td>
<td>-0.49</td>
<td>-0.76</td>
<td>0.68**</td>
<td>-0.64</td>
</tr>
<tr>
<td>Access to parks</td>
<td>0.02</td>
<td>-0.89*</td>
<td>-0.05**</td>
<td>0.05</td>
<td>-0.06</td>
</tr>
<tr>
<td>Recreation facility</td>
<td>-0.211**</td>
<td>0.07</td>
<td>0.36***</td>
<td>-0.11**</td>
<td>-0.5</td>
</tr>
<tr>
<td>From Asia</td>
<td>-0.72**</td>
<td>-0.78**</td>
<td>-0.02</td>
<td>-0.08</td>
<td>-0.18***</td>
</tr>
<tr>
<td>From Africa</td>
<td>0.94**</td>
<td>-0.04</td>
<td>0.02</td>
<td>0.01</td>
<td>-0.05</td>
</tr>
<tr>
<td>From Europe</td>
<td>-1.08**</td>
<td>-0.12**</td>
<td>-0.03</td>
<td>-0.06</td>
<td>-0.03</td>
</tr>
</tbody>
</table>

Results

- Students in regions with higher obesity rate have higher degree of dietary transition.
- Students with longer length of stay have higher degree of change in their weight, waistline, eating habits and diet.
- The geographical food characteristics, such as, food desert, and presence of convenience stores, show a positive effect on increase in weight and fast food consumption.
- Other geographical characteristics, such as access to parks, availability of recreation facility, have a negative influence on increase in weight and waistline of the foreign population.

Discussion and Conclusion

- Degree of change in diet is proportional to the time spent in the country and it motivated by the surrounding environment.
- Environment influences individual choices. For instance an obesogenic environment provides less healthy choices for individual behaviour modification.
- Environmental policy interventions would be helpful in constructing a healthy society.
- These results support the idea that public policy aimed at reducing obesity should be applied towards environmental interventions which affect a larger population.

Geographical distribution of survey sample

Variation in change in diet across regions

- Decrease in Healthy Activities
- Increase in Unhealthy Activities

Background

- Local food store, grocery stores, parks and recreation centers, are a part of the local environment and influence individual's dietary choices.
- The food environment, social environment, neighboring culture, local policies and physical infrastructure influence and hence define the local obesity rate in a geographical region.