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

Bhagyashree Katare, kata0029@umn.edu

Department of Applied Economics, University of Minnesota, Twin Cities

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

Bhagyashree Katare (*bkatare@umn.edu*)

Department of Applied Economics, University of Minnesota

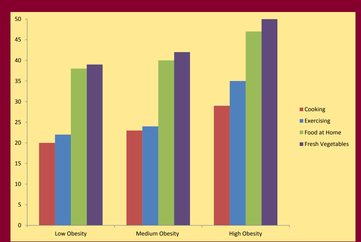
Objective

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

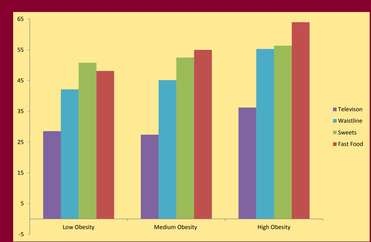
Introduction

- 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 .

Variation in change in diet across regions



Decrease in Healthy Activities



Increase in Unhealthy Activities

Geographical distribution of survey sample

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

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

- The local obesity rate is county level.
- The universities are divided in three regions: Low, Medium and High obesity regions depending on their local obesity rate.
- The geographical food environment variables are obtained from the USDA Food Desert Data, available online.

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.

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.