

5-2018

Differences in Food Store Environment in Low-Income Grand Rapids Neighborhoods Composed of Different Ethnicities

Brenna Powers

Grand Valley State University, powerbre@mail.gvsu.edu

Follow this and additional works at: <https://scholarworks.gvsu.edu/honorsprojects>

Recommended Citation

Powers, Brenna, "Differences in Food Store Environment in Low-Income Grand Rapids Neighborhoods Composed of Different Ethnicities" (2018). *Honors Projects*. 693.

<https://scholarworks.gvsu.edu/honorsprojects/693>

This Open Access is brought to you for free and open access by the Undergraduate Research and Creative Practice at ScholarWorks@GVSU. It has been accepted for inclusion in Honors Projects by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

**Differences in Food Store Environment in Low-Income
Grand Rapids Neighborhoods Composed of Different
Ethnicities.**

Brenna Powers

Grand Valley State University

HNR 499 Senior Project

Abstract

Background: Environment has a large impact on one's health. Populations that have a lack of access to healthy foods have a higher risk for developing nutrition related illnesses. The purpose of this independent 499 study was to determine if there is a disparity in healthy food availability, food store environment, food quality and price between a low-income racially heterogeneous neighborhood and low-income Hispanic/Latino neighborhood in the Grand Rapids area.

Methods: Two low-income neighborhoods of different ethnic mixes were selected using the Johnson Center Community Profiles. The Grandville population is 2,206 with 77.2% Hispanic and Latino, 11% Black or African American, and 8% white, while the Oldtown-Heartside population is 2,130 with 57.6% White, 29.6% Black or African American, and 7.9% Hispanic or Latino. A list of stores compiled by the Kent County Essential Needs Task Force was used to determine which stores fell in the two borders of interest outlined on the Johnson Center map. The CX3 survey provided by the California Department of Public Health was used to compare store availability and environment between neighborhoods. Using this survey, data on healthy foods, quality of healthy foods and advertisements were collected on 4 different stores (2 in each neighborhood).

Results: The selections of stores in both neighborhoods were limited. Heartside had a wider variety of stores, but very few offered healthy foods. When comparing a small market in Heartside with a small market in Grandville, this market had a larger variety of produce and greater number of advertisements for healthy foods, but these foods were more expensive.

Conclusion: There was limited availability to stores providing food in both low-income neighborhoods. My study results agree with previous research indicating low-income Caucasian

neighborhoods have a greater selection of healthy foods as well as more advertisements for healthy foods as compared to low-income neighborhoods of color.

Introduction

The environment in which one lives plays a large factor in determining a person's health. Populations that experience food insecurities are at a greater risk for developing nutrition related diseases such as diabetes and obesity (1). Studies have found that having healthier options such as fresh fruits and vegetables available results in a greater intake of those healthful foods and thus a decrease in health issues (2). While availability to food stores that offer healthy options can increase the consumer's intake of those foods, price also plays a large role. Studies suggest that individuals in urban areas of low socioeconomic status pay 3% to 36% more for food compared to wealthy individuals in suburban neighborhoods (3).

The food environment around a person's residency affects the consumer's nutritional choices and, therefore their health. In addition, previous research has indicated the ethnicity of a neighborhood may influence the availability to healthy foods (4). Studies have found that minority neighborhoods have a decreased access to supermarkets and a greater number of fast food restaurants compared to Caucasian neighborhoods (2). Previous research has indicated that the presence of supermarkets decreases the risk for obesity (5). In African American neighborhoods, each additional supermarket resulted in 32% increase in fruits and vegetables (1). Therefore, the influence of neighborhood supermarkets is important for one's health and healthy food intake in all ethnic groups, but appears to be especially important for communities of color.

While availability to food stores is a factor that contributes to a person's dietary choices and overall health, in-store availability, advertisements and product placement are also important factors to consider (6). Therefore, it is essential to evaluate neighborhoods store environments. The neighborhood store environment can drive purchases of healthy foods not only through food availability but food quality, prices and advertisements of healthy foods.

The goal of this study is to examine two neighborhoods in the Grand Rapids area that are both low-income but are of different ethnic mix in order to determine if there is a difference in food store types and food store environment, availability, quality, and price. This study also evaluated food store's interior and exterior to look at ads and promotions as well as product placement. It is hypothesized that residents in minority neighborhoods will have limited access to healthy options and a greater number of stores that provide unhealthy foods as compared to Caucasian neighborhoods.

Materials and Methods

Neighborhoods:

The Grand Rapids neighborhood borders and demographics were obtained from the Johnson Center Community Profiles (www.cridata.org). I decided to compare the Oldtown-Heartside and Grandville neighborhoods, as these are both low-income neighborhoods but with a different ethnic mixes. The Grandville population is 2,206 with 77.2% Hispanic and Latino, 11% Black or African American, and 8% white. The population in Oldtown-Heartside is 2,130 with 57.6% White, 29.6% Black or African American, and 7.9% Hispanic or Latino. Despite the differences in ethnic mix, the neighborhoods have similar poverty level with 57.6% of individuals living in Grandville and 52.5% individuals living in Oldtown-Heartside below the poverty level.

Store Type:

A list of stores compiled by the Kent County Essential Needs Task Force was used to determine which stores fell in the two borders of interest outlined on the Johnson Center map. Due to the limited amount of stores present within each neighborhood, a ½ mile radius from the center of each neighborhood was created using the Johnson Center Community Profiles Interactive map.

Stores were selected based on the ability for anyone to be able to walk in and purchase food items. Food distribution centers and locations that required a membership for access (fitness centers) were eliminated from the study. One convenience store and one small market, in each neighborhood met this criteria and were selected for this project.

Healthfulness of stores:

The healthfulness of stores was collected using the CX³ survey from California Department of Public health. The survey measures nine variables (variety, price, quality, promotions, shelf placement, store placement, nutrition information, healthier alternatives and single fruit sale) to assess the healthfulness of retail food stores.

Results

Store types:

There was a greater variety of stores present within the Heartside borders as compared to the Grandville neighborhood. The chart below shows the store types that are present in both Grandville and Heartside neighborhoods. In both neighborhoods, there were no supermarkets and a small number of small markets and convenience stores.

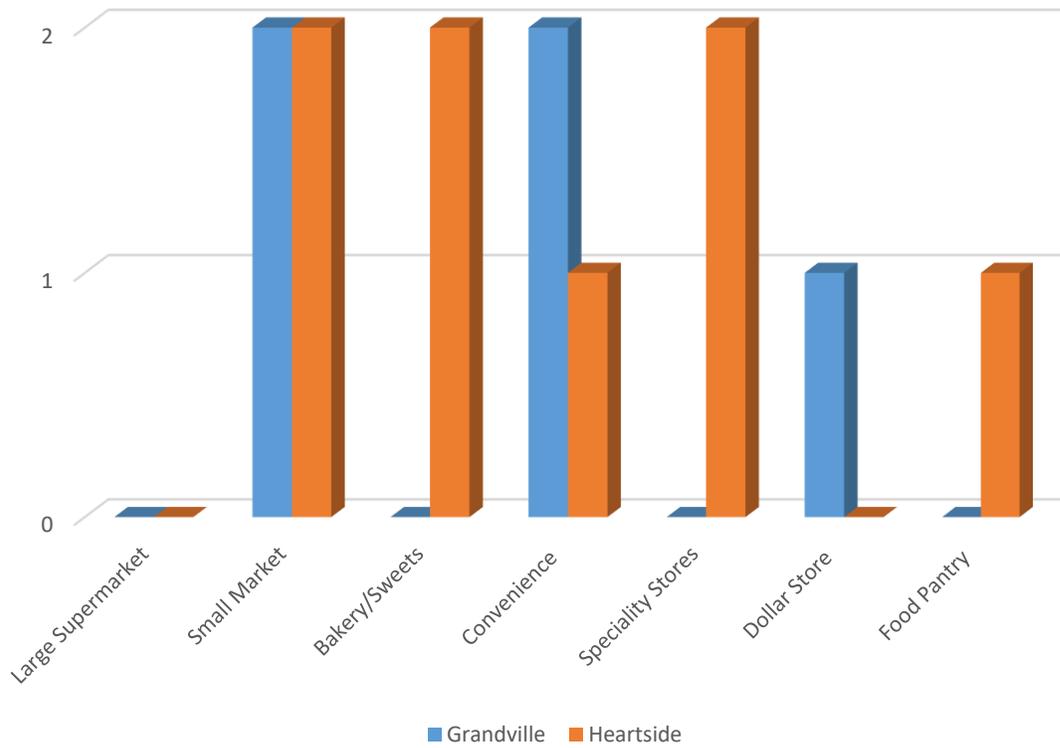


Table 1: Store Types in Each Neighborhood

Healthfulness of stores:

The small market in Heartside had a larger variety of produce compared to the small market in Grandville; however, this larger selection was more expensive. The Heartside market also had several images and advertisements of healthy food items, while the Grandville market displayed a majority of unhealthy food advertisements with no healthy images.

The convenience store in Heartside had more advertisements for unhealthy foods as well as the presence of unhealthy products next to or below the check-out counter as compared to Grandville. The only healthy items sold at the Heartside convenience store were 2% milk and mozzarella cheese, while the Grandville market had these items along with beans, tuna, and sardines.

Conclusion

The results from this study were consistent with other studies in the aspect that low-income neighborhoods have limited availability to stores that provide healthful foods (4). There were no supermarkets and only a few small markets present in both of the low-income neighborhoods. This limited availability of food stores provides members of these communities with very few healthy options. The results also agree with studies that found greater selections of healthy foods as well as an increase in advertisements for healthy foods in Caucasian neighborhoods as compared to minority neighborhoods (6). While the small market in Heartside had a greater variety of fresh fruits and vegetables, these healthy items were very expensive. This expense could be an additional barrier to access in these low-income neighborhoods.

A limitation of this study was the small number of stores within my 1/2-mile radius convenience sample. Stores outside of this radius were not measured for neighborhood use even though members of these two neighborhoods may drive outside of these specific borders to do their shopping. Due to these limitations, it is suggested that future studies survey members within the community to assess their perception of the availability of healthy food stores as well as to determine where members have access to transportation outside their neighborhoods.

Acknowledgements

A special thank you to Deborah Lown, PhD for her guidance in completing the project.

References

1. Cummins, S., & Macintyre, S. (2006). Food environments and obesity—neighbourhood or nation? *International Journal of Epidemiology*, *35*(1), 100–104.
<https://doi.org/10.1093/ije/dyi276>
2. Sharkey, J. R. (2009). Measuring Potential Access to Food Stores and Food-Service Places in Rural Areas in the U.S. *American Journal of Preventive Medicine*, *36*(4, Supplement), S151–S155. <https://doi.org/10.1016/j.amepre.2009.01.004>
3. Chung, C., & JR., S. L. M. (1999). Do the Poor Pay More for Food? An Analysis of Grocery Store Availability and Food Price Disparities. *The Journal of Consumer Affairs; Madison, Etc.*, *33*(2), 276–296.
4. Franco, M., Diez Roux, A. V., Glass, T. A., Caballero, B., & Brancati, F. L. (2008). Neighborhood Characteristics and Availability of Healthy Foods in Baltimore. *American Journal of Preventive Medicine*, *35*(6), 561–567.
5. Zenk, S. N., Schulz, A. J., Israel, B. A., James, S. A., Bao, S., & Wilson, M. L. (2005). Neighborhood Racial Composition, Neighborhood Poverty, and the Spatial Accessibility of Supermarkets in Metropolitan Detroit. *American Journal of Public Health*, *95*(4), 660–667. <https://doi.org/10.2105/AJPH.2004.042150>
6. Black, C., Ntani, G., Inskip, H., Cooper, C., Cummins, S., Moon, G., & Baird, J. (2014). Measuring the healthfulness of food retail stores: variations by store type and neighbourhood deprivation. *International Journal of Behavioral Nutrition and Physical Activity*, *11*, 69. <https://doi.org/10.1186/1479-5868-11-69>

7. Algert, S. J., Agrawal, A., & Lewis, D. S. (2006). Disparities in Access to Fresh Produce in Low-Income Neighborhoods in Los Angeles. *American Journal of Preventive Medicine*, 30(5), 365–370. <https://doi.org/10.1016/j.amepre.2006.01.009>
8. Block, J. P., Scribner, R. A., & DeSalvo, K. B. (2004). Fast food, race/ethnicity, and income: A geographic analysis. *American Journal of Preventive Medicine*, 27(3), 211–217. <https://doi.org/10.1016/j.amepre.2004.06.007>
9. Jetter, K. M., & Cassady, D. L. (2006). The Availability and Cost of Healthier Food Alternatives. *American Journal of Preventive Medicine*, 30(1), 38–44. <https://doi.org/10.1016/j.amepre.2005.08.039>
10. Laraia, B. A., Siega-Riz, A. M., Kaufman, J. S., & Jones, S. J. (2004). Proximity of supermarkets is positively associated with diet quality index for pregnancy. *Preventive Medicine*, 39(5), 869–875. <https://doi.org/10.1016/j.ypped.2004.03.018>
11. Liese, A. D., Weis, K. E., Pluto, D., Smith, E., & Lawson, A. (2007). Food Store Types, Availability, and Cost of Foods in a Rural Environment. *Journal of the American Dietetic Association*, 107(11), 1916–1923. <https://doi.org/10.1016/j.jada.2007.08.012>
12. Moore, L. V., & Diez Roux, A. V. (2006). Associations of Neighborhood Characteristics With the Location and Type of Food Stores. *American Journal of Public Health*, 96(2), 325–331. <https://doi.org/10.2105/AJPH.2004.058040>
13. Powell, L. M., Auld, M. C., Chaloupka, F. J., O'Malley, P. M., & Johnston, L. D. (2007). Associations Between Access to Food Stores and Adolescent Body Mass Index. *American Journal of Preventive Medicine*, 33(4, Supplement), S301–S307. <https://doi.org/10.1016/j.amepre.2007.07.007>

14. Seligman, H. K., Laraia, B. A., & Kushel, M. B. (2010). Food Insecurity Is Associated with Chronic Disease among Low-Income NHANES Participants. *The Journal of Nutrition*, *140*(2), 304–310. <https://doi.org/10.3945/jn.109.112573>
15. Sharkey, J. R., Horel, S., Han, D., & Huber, J. C. (2009). Association between neighborhood need and spatial access to food stores and fast food restaurants in neighborhoods of Colonias. *International Journal of Health Geographics*, *8*, 9. <https://doi.org/10.1186/1476-072X-8-9>
16. Turrell, G. (1996). Structural, material and economic influences on the food-purchasing choices of socioeconomic groups. *Australian and New Zealand Journal of Public Health*, *20*(6), 611–617. <https://doi.org/10.1111/j.1467-842X.1996.tb01075.x>