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The Importance of Ethnic Food Stores in Identifying Food Deserts: A Case Study of Huntsville, Alabama

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Abstract

The paper examines the importance of including specialty and ethnic food stores in defining and identifying food deserts in a multi-ethnic suburban neighborhood. The paper uses an in-store food availability survey and GIS techniques to test the hypothesis that the availability of healthy and affordable food options will be considerably under-reported when not accounting for ethnic and specialty food stores in food desert analysis. Although a relatively large portion of the study area remains a food desert, ethnic and specialty food stores significantly offset the lack of supermarkets and grocery stores in providing healthy and affordable food options.

Keywords: ethnic food stores, food availability, food desert, West Huntsville neighborhood

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Introduction

The food desert literature has made much progress in assessing the existence of food deserts and have clearly documented that some areas can be considered food deserts (Bitler and Haider, 2009). However, local-area studies also point to numerous problems that exist with the data that have been used in large-scale studies (National Poverty Center, 2010). In particular, most food desert studies use mainstream supermarkets and grocery stores as proxies for healthy food suppliers, often ignoring small ethnic and other retail food stores (Sadler, Gilliland, and Arku, 2011; Behjat, Koc, and Ostry, 2013; Joassart-Marcelli, Rossiter, and Fernando, 2017). This paper builds on previous studies, particularly that have argued that a focus only on supermarkets and grocery stores is likely to underestimate the availability of healthy food options, some of which are also available at ethnic stores, specialty stores, and farmers' markets (Behjat, Koc, and Ostry, 2013; Joassart-Marcelli, Rossiter, and Fernando, 2017).

Defining Food Deserts

There have been many efforts to define food deserts and to define a methodology for identifying geographic areas that qualify (Sohi et al., 2014; Bonica and Story, 2016). Among the several definitions, the U.S. Department of Agriculture's (USDA) description is the most commonly used: Census tracts are identified as food deserts if i) the community is "low income," defined as "a) a poverty rate of 20% or greater, or b) a median family income at or below 80% of the area median family income;" and ii) the community is "low access," defined as a community with more than one-third of living at least 1 mile (for urban communities) or 10 miles (for rural communities) from a supermarket (U.S. Department of Agriculture, 2015). Based on this definition, West Huntsville, Alabama, and its surrounding communities are food deserts. By expanding the USDA definition to include ethnic food stores and specialty food stores,[1] this study re-examines whether the West Huntsville neighborhood is truly a food desert.

Data and Methods

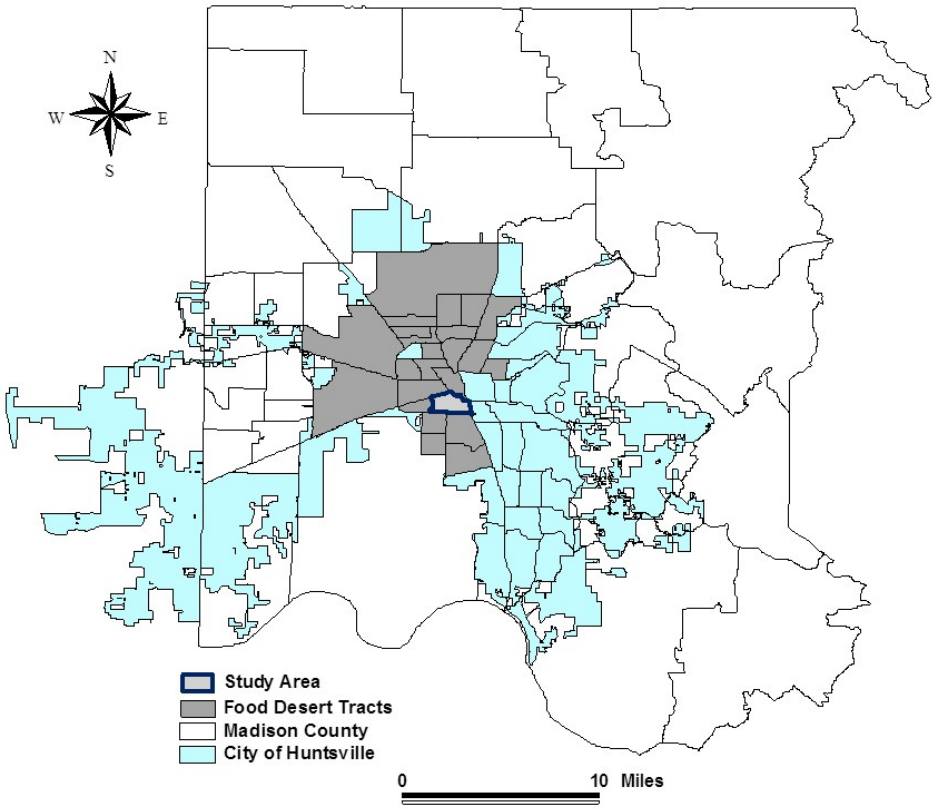
Study Area

West Huntsville is a suburban neighborhood (based on population density) located at latitude 34.715 and longitude -86.603 in Huntsville, Alabama (Figure 1). The 2015 population was estimated at 3,495, of which 26% of residents were 17 years of age or younger and 9% were 65 or older. The neighborhood stands out for having an average per capita income lower than 98.5% of the neighborhoods in the United States (NeighborhoodScout, 2017). With 71.5% of the children here below the federal poverty line, West Huntsville has a higher rate of childhood poverty than 98.3% of U.S. neighborhoods. Residents in West Huntsville most commonly identify their ethnicity or ancestry as African American (69.5%) and Mexican (9.2%). There are also a

[1] Specialty food stores are defined as food stores specializing in an item and include meat, seafood, and produce markets. Ethnic stores are any type of non-chain grocery store or supermarket selling food items that are distinctly cultural, often catering to specific segments of the immigrant population and whose signage is in a language other than English (Behjat, Koc, and Ostry, 2013).

number of people of Irish (7.3%), English (6.9%), Puerto Rican (2.3%), and Sub-Saharan African (1.9%) ancestry as well as other white American (2.9%). The greatest number of commuters in West Huntsville neighborhood spend under 15 minutes commuting one way to work (47.3% of working residents; and most residents (82.7%) drive alone in a private automobile to get to work.

Figure 1. Map of the Study Area: City of Huntsville, Alabama



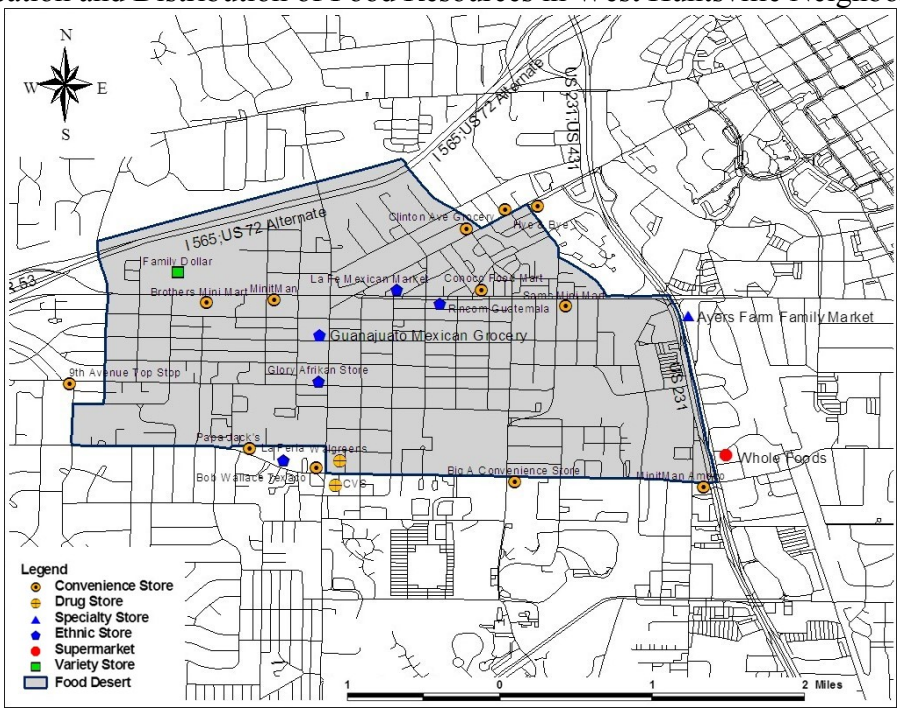
Source: Generated by author using information from City of Huntsville, GIS Division.

Food Store Data

Information on retail food resources (supermarkets, grocery stores, convenience stores, variant stores, drug stores, specialty and ethnic food stores, excluding prepared food such as restaurants) in the West Huntsville neighborhood was collected using a field questionnaire. Food resources outside the neighborhood but close to the study area boundary were also included to develop an accurate measure of food availability in the West Huntsville neighborhood. There are 22 food retailers located within or in close proximity to the West Huntsville neighborhood (Figure 2). Of these retailers, 55% were convenience stores,[2] 23% were ethnic food stores (23%), and specialty (4.3%) and supermarket (4.3%) located outside of the neighborhood boundary but in close

[2] Convenience stores are typically relatively small and specialize in packaged food and alcoholic beverages.

Figure 2. Location and Distribution of Food Resources in West Huntsville Neighborhood



Source: Generated by author using information from City of Huntsville, GIS Division

proximity to contribute to the food availability in the study area. Other stores identified included variety stores and drugstores, which represented 4.3% and 9%, respectively. The location of each food resource was geocoded into the city of Huntsville street file using ArcGIS 10.4 software.

To identify food stores that supply healthy and affordable food options, an in-store survey based on the *2015–2020 Dietary Guidelines* (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015) was conducted. The survey data indicated that convenience stores, variety stores, and drug stores contribute to the local food environment but do not provide healthy food options. Among food store categories, only Guanajuato Mexican grocery (ethnic) and Ayers Farm Farmers Market (specialty) were found to supply healthy food options that meet the U.S. Department of Health and Human Services and U.S. Department of Agriculture dietary guidelines. Only three food stores (Whole Food, Guanajuato Mexican grocery, and Ayers Farm Famers Market) in the study area were found to supply healthy and affordable food options (Table 1). The analysis and discussion will focus on these three food stores.

Table 1. Type of Food Retailers in West Huntsville Neighborhood

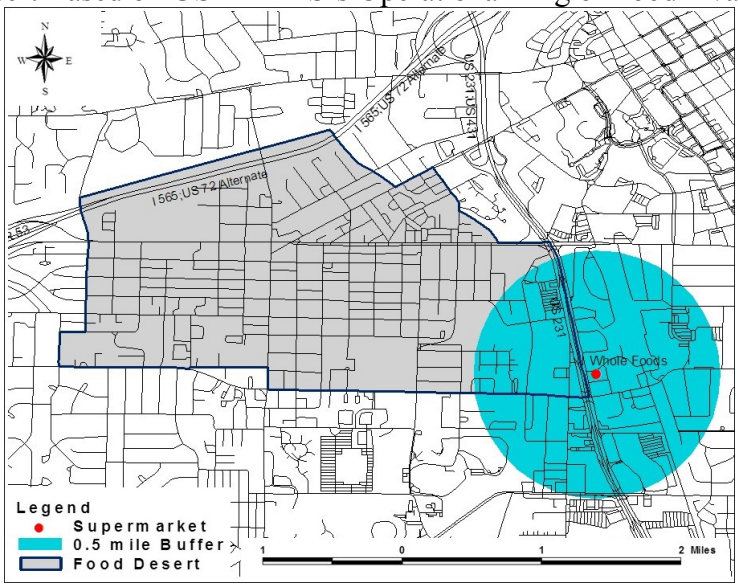
Type of Retail Store	Store Name	USDA Dietary Guidelines
Supermarket	Whole Foods	Completely
Specialty store	Ayers Farm Family Market	Completely
Ethnic store	Guanajuato Mexican store	Completely
Ethnic store	La Fe Mexican market	Partially
Ethnic store	Gloria Afrikan store	Partially
Ethnic store	La Feria	Partially

Ethnic store	Rincom Guatemala	Partially

Results

Figure 3 presents a food desert map based on the USDA's operational definition, which identifies a large portion of the West Huntsville neighborhood as a food desert. When the definition is expanded to include the contributions of ethnic and specialty food stores as suppliers of healthy and affordable food options, a relatively small portion of the West Huntsville neighborhood is identified as a food desert (Figure 4). The implication here is that focusing solely on supermarkets may underestimate food access in urban, low-income neighborhoods where small and specialty grocery stores are more prevalent.

Figure 3. Food Desert Based on USDA ERS's Operationalizing of Food Availability



Source: Generated by author using information from City of Huntsville, GIS Division.

Figure 4. Food Desert Based on the Current Study's Operationalizing of Food Availability

Source: Generated by author using information from City of Huntsville, GIS Division.

The findings of this study are consistent with the results of Martin et al. (2014), who indicated that classifying urban areas with few large supermarkets as food deserts may overlook the availability of healthy foods and low prices in small and medium-sized groceries common in inner cities. Similarly, in a study of ethnic markets in a low-income urban neighborhood in San Diego, Joassart-Marcelli, Rossiter, and Fernando (2017) offer evidence of the positive role that ethnic markets play in providing access to affordable, fresh, healthy, and culturally appropriate foods.

Conclusions

The objective of this study was to improve on methods used to determine food access and availability in low-income neighborhoods. The results support the hypothesis that food desert studies will considerably under-report the availability of healthy and affordable food options when not accounting for ethnic and specialty food stores. As others have noted, failure to include healthy food stores and culturally acceptable food choices in neighborhood studies of food deserts can significantly alter the results and hence mislead food planners and policy makers in decision making. However, although ethnic stores and specialty stores can be alternative sources of healthy food options, they may target specific segments of the local population. Further research is required to understand whether residents of other ethnicities face social and cultural barriers to using these options.

Acknowledgments

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