I got 99 Problems, and Nutrition is one: A Closer Look at Food Deserts in Ypsilanti, Michigan

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FOOD DESERTS, SOCIETAL IMPACTS, AND POTENTIAL SOLUTIONS

Abstract

The purpose of this quantitative study is to explore the impact food deserts have in low socioeconomic status (SES) communities in Ypsilanti, MI, and beyond. Neighborhoods with food deserts lack access to nutritious and quality foods and are often found in areas characterized as having lower SES. (Walker, Keane, Burke, 2010). Low SES communities have populations that tend to include ethnic minority groups affected by inadequate and unjust wealth disbursement, access to resources, and quality of life (American Psychological Association, 2014). The lack of access to an outlet that offers nutritious food often leads people to purchase necessities at liquor and convenience stores, or meals at fast food restaurants. The food purchased at these locations typically lack nutrition (Food Research and Access Center, 2014). We seek to understand how food deserts impact the health of people living in these areas and consider the potential solutions. The method we will use to obtain data is through a survey study of 100 families in low SES households living in food deserts within Ypsilanti, MI. We expect to find disparities in health related social problems regarding residents of low SES areas that lack access to healthy foods.

Keywords: Food desert, food access, low SES, fast food, liquor store, health effect
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For the purpose of this study, “food desert” refers to an area that does not have a supermarket within one mile (United States Department of Agriculture, 2013), and has limited access to healthy food. Food deserts are disproportionately found in low-income and African-American communities (LaVeist & Wallace, 2000; Walker, Keane & Burke, 2010). The lack of supermarkets in these areas is compensated for by an increased presence of liquor stores and fast food restaurants, which may cause adverse health effects for community members (LaVeist & Wallace, 2000), such as increased alcoholism, obesity, and cardiovascular disease. (LaVeist & Wallace, 2000; Mobley et al., 2006; and Walker et al., 2010). This research will examine Ypsilanti, MI. residents’ accessibility to healthy and nutritious food options. The goal of this research is to offer solutions that may prevent Ypsilanti residents from experiencing the adverse health effects associated with food deserts.

**Literature Review**

Walker and colleagues (2010) reported that low income and minority communities tend to have access to small convenience stores in place of large supermarkets that offer a wider variety of nutrition, brand (generic vs. brand name), and cost. Access to supermarkets can be difficult for low-income residents due to lack of transportation, therefore, people residing in food deserts may choose to shop at convenience stores and fast-food restaurants (Walker et al., 2010). Although this option may offer convenience, a long term diet of high fat, sodium, and sugar-filled processed food poses increased health risks, including higher rates of obesity (Mobely et al., 2006; Walker et al., 2010).
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Studies have shown that the organization of a community based on ethnicity/race was an important factor of health outcomes, even after adjusting for education and income (Mobley et al., 2006). LaVeist & Wallace (2000) found that racial composition and income status of a census tract are both independent predictors of per capita number of liquor stores. Figures show that communities with higher percentages of black residents have significantly more liquor stores per capita than communities with a lower percentage of black residents (LaVeist & Wallace, 2000). Neighborhoods composed of primarily black residents had roughly half the access to supermarkets when compared to their white neighborhood counterpart (Walker et al., 2010). Furthermore, the supermarkets that are present in low-income African American neighborhoods were found to be approximately one mile further away in relation to the supermarket locations in impoverished white communities (Walker et al., 2010).

Mobley and his colleagues (2006) observed that there was a correlation between living in neighborhoods with more fitness centers and having lower BMI and CHD risk. However, financially disadvantaged residents are more likely to live in communities that don’t support healthier food options or opportunities for exercise. Social and cultural factors may also influence eating and exercise behaviors (Mobley et al., 2006). Mobley and his colleagues (2006) found that the environment is related to obesity and cardiovascular disease risk in low income women, women living in neighborhoods with housing in close proximity to different businesses (stores, supermarkets, restaurants) have lower body mass index (BMI) and coronary heart disease (CHD) risk than women living in neighborhoods that have businesses farther away from their houses. Low-income women that live in areas farther away were found to be about 12 pounds heavier and have a 19% greater chance for CHD in a 10 year span than women living in areas of closer proximity to a variety of businesses (Mobley et al., 2006). Their findings didn’t have any
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cogent evidence that supported access to fast food restaurants and convenience stores correlated with higher BMI and CHD risk (Mobley et al., 2006).

Once supermarkets are present in low-income, high minority communities, the quality of health and life are predicted to rise. Foster et al. (2014) studied the promotion of healthy food in newly built markets in neighborhoods that were previously food deserts. Foster et al. (2014) concluded that a great availability of healthier foods, if translated to purchases, may positively affect diet quality among those at great risk of obesity—low-income, racial, and ethnic minorities. (Foster et al., 2014).

The basis of the research is centered on the “4 Ps” of marketing: price, promotion, product, and placement. (Foster et al., 2014). Foster et al. used eight randomized supermarkets and placed healthy food interventions for six months to increase purchase of healthier food items. (Foster et al., 2014). Intervention strategies proved to be successful in most areas, but were not able to positively affect the promotion of healthy food choices in all categories. (Foster et al., 2014). Skim milk went up in sales while other percentages declined significantly. Cereal sales remained constant and not affected by store interventions. (Foster et al., 2014). Frozen meals surprisingly had increased sales with interventions strategies implemented in grocery stores. In-aisle beverages received no difference while checkout cooler beverages had a significant increase of bottled water sales. (Foster et al., 2014). These results demonstrate possibilities for a positive change in diets with the aid of healthy food choices and sufficient grocery stores.

Methods

Our research focuses on the questions: (1) what is a food desert?; (2) how does it impact the Ypsilanti community?; (3) and what can we do to minimize the impact of food deserts on
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Ypsilanti community members? Researchers hypothesize that Ypsilanti residents lack convenient access to nutritious food within one mile of their location, thereby classifying them as food desert residents. We will test our hypothesis and gain insight on how food deserts impact Ypsilanti by administering a quantitative door-to-door survey to 100 Ypsilanti residents. Figure 1 shows the area of which we will administer our survey and Figure 2 includes sample questions of the survey. The survey will be submitted for IRB approval form Eastern Michigan University. We used Sallis and Glanz’s (2011) survey on food deserts in a Minnesotan neighborhood, Lincoln Park, to help structure our survey questions.

**Figure 1: Map of Food Access in Ypsilanti, Michigan 48197**

![Map of Ypsilanti showing food access]

Source: Edmonds & Sheldon (2012)

**Figure 2: Sample Survey Questions Related to Food Deserts in Ypsilanti**

Source: (Lincoln Park, MN food access survey 2011).

1. Where do you usually buy your groceries? Please check all that apply.
   - Meijer
   - Kroger
   - Walmart
   - Target
   - Sams Club
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- Big Lots
- Liquor stores
- Gas stations
- Food co-op
- Farmer’s market
- Other

2. How do you usually get to the store to buy groceries?
- Walk
- Bike
- Bus
- Drive
- By being driven to the stores
- Taxi
- Other (please specify)

3. What is the biggest problem you have getting groceries in Ypsilanti?
- Financial difficulty
- Getting to the grocery store
- Getting home from the grocery store
- Local stores have inadequate selection
- Other (please specify)

Expected Results

Assessing the impact of food deserts, we expect to find disparities in health related social problems regarding residents of low SES areas that lack access to healthy foods. Furthermore, we expect to find gaps in the convenience of obtaining nutritious foods, socio-environmental influences, and a high rate of liquor and convenience stores in these communities. The researchers hope to demonstrate the prevalence of food deserts in Ypsilanti and offer potential solutions that have shown to be beneficial in other communities.

Timeline for data collection:

October: Group will create a food desert questionnaire

November: Apply for Institutional Review Board (IRB) approval

December: Receive IRB approval; Print and administer in person, door-to-door surveys
January: Quantify and contextualize data

February: Complete the first draft of the research project

March: Revise the draft of the project

April: Complete and submit a finalized research report

May: Attend a three day conference in Lansing, MI to present research findings

**Research Budget:**

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References


http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879180/
