Community perceptions of the barriers and benefits to local food access in Northeast Ohio

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Table of Contents

Acknowledgments 3
Introduction 4
Northeast Ohio and Food Access 4
Efforts to Increase Access in NE Ohio: City Fresh and Fresh Stops 7
Food Deserts and the Impact on Health 8
Small Farmers and Food Distribution 12
Theories on the Barriers to Accessing Fresh, Local Produce 15
Community-Based Social Marketing 16
Study Question 17

Methodology 19
Participants 19
Survey 21
Procedure 23
Analysis 24

Results 26
Behavior of Fresh Stop and Non-Fresh Stop Groups
Towards Purchasing Produce 26
Produce Selection 27
Social Norms 29
Perceptions of Fresh Stop and Non-Fresh Stop Groups
Towards Buying Produce 30
Summary of the Fresh Stop Interview Responses 30
Summary of the Non-Fresh Stop Interview Responses 33
Comparison of the Two Groups’ Responses 34

Discussion 37
Understanding the Groups’ Responses 38
Recruiting New Shareholders 41
Using Techniques from Community-Based Social Marketing 43
Further Recommendations for City Fresh 46
Limitations to this Study 47
Suggestions for Future Research 48
Conclusion 49

References 51
Appendix A: Fresh Stop Surveys 54
Appendix B: Non-Fresh Stop Surveys 60

Table 1. Characteristics of Fresh Stop participants’ shopping patterns.
Table 2. Amount spent on produce per week by FS and NFS individuals.
Table 3. Produce use and preferences.
Table 4. Most commonly purchased produce items at the grocery store.
Table 5. Average number of fresh, canned and frozen produce purchased at grocery store.
Table 6. Ranked types of food bought at grocery store.
Table 7. Barriers and benefits to Fresh Stops and the reasons for joining a Fresh Stop.
Table 8. Comparison of perceptions of benefits to different aspects of buying produce.
Table 9. Comparison of perceptions of barriers to different aspects of buying produce.
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Introduction

Across the United States, many low-income communities do not have access to high quality, fresh produce. With soaring obesity rates in the nation, many policymakers, health professionals and academics are seeking to understand how to encourage more people to eat healthier food, especially fresh produce. There are theories about what influences these communities’ food choices; some theories, for instance, stress access to healthier grocery stores, while others stress cultural knowledge and traditions for cooking and eating. These theories, however, do not necessarily include an understanding of how low-income communities themselves perceive eating fresh produce.

To build effective programs that increase participation in a fresh, local food economy – whether through non-profit organizations, businesses, or government initiatives – it is crucial to understand how the targeted groups view fresh produce consumption. This research will seek to address this issue by answering the following questions: How do communities in Northeast Ohio (specifically, in Oberlin, Elyria and Cleveland) perceive the barriers to and benefits of, purchasing local produce? How do people already purchasing local produce think differently about produce? What possible steps can be taken to increase access in low-income communities to a local, fresh produce economy?

Northeast Ohio and food access

Purchasing fruits and vegetables can be challenging in Northeast Ohio. During winter months the cold and wet weather makes it more difficult to travel long distances or to be outside. In the economically abandoned, fast food chain laden streets of Elyria and
Cleveland, residents do not always have a quality grocery store nearby. The broken regional transportation system worsens the problem, especially during cold months for people without another means of transportation. Additionally, the region’s relatively short growing season provides means that locally grown produce is only available for about half the year.

Although agriculture is a large part of Ohio’s economy, its primary crops are corn and soybeans. In 2007, for example, over 3.5 millions acres of corn were produced for grain, and over 4 millions acres of soybeans were grown, compared to only 47,000 acres of vegetables harvested for sale.\(^1\) Much of the food produced, then, is intended for sale not to local residents but rather to food processing plants whose products are then distributed nationwide. The Northeast Ohio region produces less than 1% of the food it consumes in a year.\(^2\)

Increased consumption of local foods is important for several reasons. Local agriculture better supports small businesses rather than large corporations, thus building the local economy. A recent study of the Northeast Ohio region suggests that if the entire region shifted to purchasing 25% of food locally, this could create almost 28,000 new jobs and increase annual regional output by $4.2 billion.\(^3\) Local food is better for people too. The fresh produce available in convenience and even large grocery stores is generally not local or even seasonal, and is therefore less flavorful, fresh, and desirable to eat. Local produce, by contrast, tends to be much fresher and riper. For people not accustomed to eating produce, a fragrantly fresh tomato is much more likely to make an

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\(^1\) 2007 Census of Agriculture, Ohio State Profile.  
\(^2\) CCCFPC, 2010.  
\(^3\) Masi et al., 2010.
individual want to eat produce than a hardened, under-ripe tomato that has traveled thousands of miles. Lastly, food produced locally greatly reduces fossil fuel emissions because it is not shipped thousands of miles to reach the consumer. In an era of rising fuel prices and worsening climate change, this is particularly important.

In Cleveland, a city that has experienced steep population loss and the disappearance of major manufacturers, it is estimated that residents in the city’s core must travel 4.5 times farther to reach a full-service grocery than to reach a fast food venue.\textsuperscript{4} There is a growing movement in the city to repurpose the abundantly vacant land as community gardens, although many communities still lack access. As more people consume local produce in Cleveland, it is increasingly important to find effective ways to engage with different groups to increase access for all.

Elyria faces many challenges similar to East Cleveland, including foreclosed properties and economic depression. Some individuals have begun to organize around the problems of food access by creating community gardens or purchasing from the local Fresh Stop. Eden Vision, a faith-based community organization started by a few young residents, partners with volunteers and other organizations to focus on community food production and youth development. The organization is new but is already involving residents in building community gardens, although there is still a long way to go in getting more residents involved.

In the small town of Oberlin, home to Oberlin College, there is a pronounced disparity between the college and town communities. Although many of the college students and faculty are interested in local food issues, the town itself faces many

\textsuperscript{4} Masi et al., 2010.
challenges, including a 19.4% poverty rate. There have been many efforts to increase local food access in the town, including community and teaching gardens, farmers markets, and restaurants that showcase local produce.

The issues with food access in Northeast Ohio are representative of a larger national problem: poor, urban areas do not have enough grocery stores where residents can purchase healthy food, particularly fresh produce and local foods. These neighborhoods – called “food deserts” – typically have convenience stores or grocery stores with a poor selection of produce, if any produce at all. Across the nation, nearly 6% of US households do not always have access to the food they want or need. In addition, the USDA estimates that 23.5 million US residents live in low-income areas that are more than a mile from the nearest supermarket (Weisbecker). The small (convenience) stores often found in low-income neighborhoods also tend to be more expensive than supermarkets or large grocery stores and the quality of the food available there is usually much lower: the majority of products are processed convenience foods and the few produce options are unlikely to be fresh, local or appetizing (Fisher; USDA, 2009).

Efforts to Increase Access in NE Ohio: Fresh Stops

Among the efforts in Northeast Ohio to create a just local food system is City Fresh. City Fresh is a program of the New Agrarian Center, which is a non-profit in Northeast Ohio whose mission is to create a more just and sustainable local food system in the region. The organization seeks to increase access to fresh, local food for urban residents while creating opportunities for local farmers to market their products in the
city. Besides facilitating garden installations and nutrition education, City Fresh operates a network of 17 “Fresh Stops” – neighborhood produce pick-up locations sourced from local farms. These Stops are distributed in Cuyahoga County, Summit County, and Lorain County. During the growing season, each Stop operates a weekly pick-up window in which participants who have pre-purchased shares can collect their box of produce. Participants do not choose what produce is in their box; instead they receive whatever seasonal produce was available from the farms that week. Unlike many CSA (Community Supported Agriculture) operations, City Fresh does not require participants to sign up for an entire season of produce, allowing more shareholder flexibility. Participants do, however, have to commit to paying a week in advance so the organization can order the correct amount of produce. Low-income participants can receive a produce box for half of the price of a regular box.

While many of the participants in City Fresh are from higher-income communities, the organization also operates a number of Fresh Stops in areas with desperate need, including East Cleveland and Elyria. But they have had only limited success engaging with the potential low-income shareholders in food-poor areas: these two stops have only around 20 shareholders each, while some of the Stops elsewhere in Cleveland (i.e., in more wealthy areas) have over 100.

Food deserts and the impact on health

Food deserts, which characterize the landscape of much of northeast Ohio, were defined in the 2008 Farm Bill as areas made up primarily of lower income neighborhoods where residents do not have access to affordable and healthy food. The term food desert
describes the level of food access, or how easy it is for households in a neighborhood to reach affordable stores that sell the food they want. The difficulty of reaching a food venue “depends on the location of the store in relationship to the consumer and the consumer’s travel patterns, consumer’s individual characteristics (e.g., income, car ownership, disability status), and neighborhood characteristics (e.g., the availability of public transportation, availability of sidewalks, and crime patterns in the area).” This concept is distinct from the idea of food security, which focuses more on whether a household can afford food that allows a healthy lifestyle. The focus on food access takes into account not just income but characteristics of the neighborhood and social factors that may affect a person’s ability to purchase different kinds of food.

Supermarkets are scarce in food deserts, and the corner convenience store predominates, as does its highly processed foods and wilted, yet overpriced fruits and vegetables. Quality supermarkets are far away, and the residents – who are most often low-income – do not always have the means to reach such a supermarket. Areas with limited food access are often characterized by higher racial segregation and income disparity. Many studies support the fact that low-income areas have far less access to grocery stores and that the food available in these neighborhoods does not support a healthy diet.

For example, a study focused in the states of Mississippi, North Carolina, Minnesota, and Maryland found that there were four times more supermarkets in wealthier, white neighborhoods and three times more venues to consume alcohol in

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5 USDA, 2009.
6 USDA, 2009.
7 USDA, 2009.
poorer, black neighborhoods. Another study in St. Louis, Missouri found that the type of food sold in high-poverty areas made it harder for residents to make healthy choices regarding their diet. In Los Angeles, corner liquor stores were found to offer half as many of selected healthful options as did supermarkets in the area. Nationwide, low-income and minority groups consistently have less access to quality grocery stores.

In addition, the food sold in low-income neighborhoods is often more expensive than in large supermarkets. For example, one study found that convenience stores in Los Angeles sold healthy foods at higher prices than did larger supermarkets. It is harder to have a full-sized grocery store in low-income areas: not only do low-income customers have less purchasing power but dense, urban areas are less likely to have room for a full-sized store that can attract many people. Modern grocery stores operate on very thin profit margins and make a profit by selling a large quantity of products; a small grocery store in a low-income neighborhood does not have the ability to make a high volume of sales, thus these stores must compensate by selling their products at a much higher cost. Because low-income urban areas cannot support larger sized venues, food stores in these areas make a profit by marking up their products.

The issue of urban food access has important potential implications for diet and, ultimately, health. A number of studies looking at the relationship between dietary intake and food access found that better access to supermarkets is associated with a healthier diet. Studies examining the relationship between obesity and food access have generally

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8 Morland et al., 2002.
9 Baker et al., 2006.
10 Azuma, AM et al., 2004-2006.
11 USDA, 2009; Azuma, AM et al., 2004-2006.
12 Hartford Food System.
found that access to a supermarket is associated with a reduced risk in obesity, while access to convenience stores is associated with an increased risk. The current research on this topic, however, has not provided conclusive results about the relationship between food access, diet and obesity. External factors related to neighborhood characteristics (e.g., access to parks) or other factors such as income or psychological distress can confound the effects of proximity to a grocery store and make it difficult to establish a causative relationship between food access and health. The studies that focus on more immediate outcomes, such as changes in food shopping behavior, may be able to establish a causal relationship between supermarket location and shopping patterns, but are too short-term to account for long-term impacts on health.

Nonetheless, there have been studies that examine the relationship between consumption of certain foods (produce, whole grains, low-fat milk, etc) and the incidence of diet-related diseases. Because these studies focus on the foods that are often absent in food deserts, this research helps explain how food access affects the incidence of diet-related diseases. Generally, plant based foods such as vegetables, fruits, nuts and whole grains were linked to a reduced risk for cardiovascular disease while diets high in saturated fat, trans fats, and refined sugars were linked with greater chance for both diabetes and cardiovascular disease. A diet high in these refined foods and low in plant-based options would likely contribute to increased risk of cardiovascular disease.

Although looking at the impact of diet on health does not directly answer the question of how food access affects health, the results of these studies indicate that the type of food consumed has important health consequences. A neighborhood where healthy foods are

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13 Larson et al., 2009.
14 USDA, 2009.
too expensive or are simply not present would reasonably have more diet related health problems as a result of consuming high quantities of cheap, refined foods and low quantities of fresh, plant-based items.\footnote{USDA, 2009.} Because small grocery stores in lower income and urban areas tend to have fewer healthy options and generally higher prices, there appears to be a strong connection between low availability of quality food and poor health.

\textit{Small farmers and Food Distribution}

Small-scale farmers, meanwhile, struggle to identify profitable markets for their products. Small farms, much like small grocery stores, do not have the ability to sell a large volume of products to make a profit. Sales to wholesalers and distributors constitute the majority of sales for farmers, but many have turned to restaurants, schools, farmers markets and Community Supported Agriculture (CSA) systems to sell their produce. Some of these sales are more profitable for farmers than others. Direct marketing is the most profitable option for farmers (farmers receive 50\%-80\% more by selling directly to consumers than selling to an intermediary vendor), while wholesale sales to retailers is less profitable, followed by wholesale sales to distributors, with sales to processing companies bringing in the least revenue.\footnote{Integrity Systems Cooperative Co.} By expanding direct marketing opportunities, farmers would receive more money per dollar spent by consumers. Currently, farmers receive only $22 for every $100 that consumers spend on food; but under a more sustainable, direct marketing system (such as farmers markets) farmers could increase
their profit to $30 for every $100 spent because the system would have lower marketing and distribution costs.\textsuperscript{17}

Neither producer nor consumer ultimately benefits from such a complex food distribution system. While farmers can sell their goods to distributors in bulk, their profits are smaller. Especially for small farmers, it makes better economic sense to capitalize on higher profit margins while selling fewer products. At the same time, consumers – especially those in urban and low-income areas – are also hurt by indirect marketing systems. Small grocery stores have higher product markups, forcing consumers trapped in these areas to pay more for food that has traveled long distances.

It makes economic sense to shorten food marketing chains – to directly link farmers and consumers. Whether through farmers markets, CSAs, or sale to local schools or restaurants, farmers are already finding ways to forge a more direct connection with customers. Low-income communities, however, have lagged in gaining access to these sources of fresh produce.

There are a variety of obstacles to operating farmers markets in low-income neighborhoods. In some ways, farmers markets face many of the same challenges in low-income neighborhoods that grocery stores do. Markets with primarily low-income customers have trouble being profitable because the sales volume is lower\textsuperscript{18} - they sell fewer products and thus make less money relative to the cost of operating the market stand. It can be inherently more difficult to operate a market for low-income clients: with fewer vehicle owners in the area, there is a smaller radius of customers who can support the market; the ability of low-income customers to purchase produce can vary throughout

\textsuperscript{17} Integrity Systems Cooperative Co.

\textsuperscript{18} Fisher, 1999.
the month depending on cash flow; in addition, customers may have long work days that limit the hours when they can shop. The diversity of customers can also make it more difficult to sell a culturally appropriate mixture of foods. Some markets operate in areas that straddle low and middle-income neighborhoods to attract clients with higher purchasing power while still giving access to poor residents. This strategy, however, often still misses the most isolated core areas.¹⁹

In order to make it easier to operate direct sale operations, like farmers markets, in low-income areas, it is essential to understand how low-income residents perceive the barriers and benefits of purchasing this produce. This touches on two issues: first, what influences an individual’s desire to purchase fruits and vegetables in general, and second, what influences their ability to purchase from venues such as farmers markets or CSAs, which are generally better sources of local produce than grocery stores. What prevents them from entering a farmers market, or indeed from buying fruits or vegetables in any store?

Just looking at food access, however, ignores cultural factors that may influence what food people buy. Simply putting a grocery store with abundant fruits and vegetables in a low-income area does not ensure that families will buy the produce. For example, the Fresh Stop in Elyria is located on the premises of Save Our Children Inc, a non-profit dedicated to providing after-school enrichment for at risk youth. The Fresh Stop operates weekly during the hours when many parents pass through to pick up their children. Despite the fact that the Fresh Stop Manager/Director at Save Our Children sent home flyers alerting parents to the Fresh Stop program, not a single parent signed up to buy

produce last season. Whether these families buy the fresh produce is clearly influenced by factors beyond price or proximity to the venue.

Theories on the Barriers to Accessing Fresh, Local Produce

Many of the studies cited above focus on the geographic barriers to consuming fresh food; however, these studies have not captured the social and economic factors that influence how individuals decide what food they are going to buy. There are several other theories about what prevents members of low-income communities from purchasing fresh foods. One report theorized about the difficulties low-income communities faced in utilizing fresh produce from farmers markets. The barriers included: people not being in the habit of eating produce; cost (especially out of season); time and skills associated with preparation; and a reluctance to try new things. Taste and preference were also named as major factors.20

Another study, focused on the Washington State food system, proposed several barriers to the individual: a lack of transportation and knowledge about healthy eating. Similar to above, these authors also hypothesized that cost and a lack of time were barriers to eating healthy foods.21

An economic analysis of spending preferences by income level found that as household income increases, households are at first unwilling to budget more for produce and instead prefer to purchase more processed and high calorie foods. The authors of the

report hypothesized that there is a blind preference for calories rather than for a particular type of food; produce provides fewer calories, hence it is not prioritized.\(^{22}\)

Though all these studies provide useful theories about potential barriers to consuming fresh produce, it is necessary to move beyond speculation and to uncover what different communities themselves identify as the barriers and benefits to purchasing local produce.

Community-Based Social Marketing

Doug Mackenzie-Mohr, author of *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing* proposes a process for understanding one’s audience in order to implement programs that will cultivate behavior change. This process begins with gaining an understanding of the barriers and benefits that the intended audience sees to carrying out the desired activity. This technique has been used to assess how people perceive certain sustainable activities such as composting or carpooling to work. By understanding an audiences’ perceptions, a researcher can work to minimize the barriers and enhance the benefits, thus making the activity appear more appealing to do. Mohr proposes a three-step process to understanding an audience – observational studies, focus groups, and surveys. He suggests a series of questions for figuring out what an audience believes are the pros and cons to carrying out an activity and how much different people (such as family or friends) care whether the individual does the activity. Mohr separates activities into phases to understand the difficulties of carrying out each step; for example, he suggests asking about each step of the composting

\(^{22}\) Stewart and Blisard, 2008.
process, which includes collecting food scraps, adding scraps to a compost bin, mixing the compost, and applying compost once it is ready. Potential composters might see certain steps of this process as more prohibitive to taking action than others.

There are several elements to a community-based social marketing campaign that can be implemented to help change behavior. These elements were developed from studies on what best influences behavior and in each situation are based on an understanding of an intended audience’s values and perceptions obtained from the initial interviews. Mohr suggests obtaining a written commitment from people to carry out a certain action – such as a pledge to install energy efficient light bulbs. Publicizing the names of people who make such a written commitment makes it even more likely that people will follow through on their pledge. Making an initial small commitment also means an individual may be more likely to agree to larger action later on, because, Mohr argues, the act of making a commitment helps someone change her self view to be of the type of person that cares about whatever issue is at hand. In addition, strategically placed prompts can remind already conscientious actors to make sustainable choices – such as stickers reminding people to turn off the lights or to buy products with recycled packaging. Lastly, working to create social norms around completing an action can create a greater willingness and desire to make sustainable choices. According to Mohr, norms can be fostered by making certain actions publicly visible, like placing stickers on garbage bins proclaiming “This household composts,” or asking grocery store shoppers to wear pins upon entering that declare their support for buying recyclable products.
Study Question:

There is a need for research that looks at the perspective of non-local foods consumers, particularly those in low-income communities with far less access to healthy foods. Much research on this topic focuses on income or grocery store location yet there is less research on why people do or do not choose to purchase fresh, local produce and what would be needed to facilitate this shift. Community-Based Social Marketing is a particularly appropriate approach for starting to answer these questions: How do (low-income) communities in Northeast Ohio perceive the barriers and benefits to accessing local produce? What opportunities are there for organizations such as City Fresh to increase participation in their Fresh Stop program, and hence, to increase access to fresh produce in these communities?

I hypothesized that the Fresh Stop communities I surveyed would be much more comfortable with eating different types of produce and that the non-Fresh Stop group, conversely, would eat less produce and would thus be less accustomed to preparing it. I predicted that besides getting to the grocery store itself (Step 1), this non-Fresh Stop group would perceive the third step of eating fresh produce to be the most difficult (the act of preparation) because they would not have the time, kitchen equipment or knowledge for preparing fresh produce.
Methods

Participants

Northeast Ohio represents a large geographic area so I chose to focus on a few urban areas that would be representative of the food access issues in the region. There were several sub-populations chosen for this study. My experimental sample was drawn from participants in City Fresh’s Fresh Stop program. I surveyed participants in the Oberlin, Elyria and East Cleveland programs. My control sample contained people from similar geographic areas who were found at Huron Hospital in East Cleveland, Oberlin Public Library and Lorain County Community College in Elyria.

East Cleveland is a city surrounded by Cleveland on three sides with many of the same problems with food access. As of 2006, East Cleveland had a population of 25,213 people; 93% of residents are black and 32% of residents live below the poverty line. Only 8.5% of the population has a Bachelor’s degree or higher. Elyria, with a population of nearly 56,000 people, is 81% white and 14% black. About 12% of the population lives under the poverty line, while 13% has a Bachelor’s degree or higher.23 Oberlin, meanwhile, has a population of about 8,1200 people. Whites make up 72% of the population, while blacks make up 18.5%. While the poverty rate 19%, 41% of the population has a Bachelor’s degree or higher.24

My sample had 20 Fresh Stop (FS) and 20 non-Fresh Stop participants; both samples had a mixture of people from Cleveland, Elyria, and Oberlin (though one of the


24 Oberlin, Ohio Census Data & Community Profile, AmericanTowns.
Oberlin participants actually resided in nearby Wellington). There was no significant difference in household size or number of children in a household between the FS and NFS samples. The Fresh Stop group was, on average, significantly older than the NFS group. The average income of the NFS group was $26,456. I did not directly ask the FS participants about their income because I felt it might cause shareholders to feel uncomfortable; instead I asked whether they purchased a full or half price share. (Although City Fresh generally trusts shareholders to judge whether they qualify for a half price share, they are technically supposed to adhere to guidelines for the US poverty threshold, which are based on income level and household size.\textsuperscript{25}) Two-fifths of FS participants purchased half-price shares, though there is no guarantee that this number represents exactly how many participants fell under the poverty line. Based on household size and income, the same number of NFS participants fell under the poverty line as well, however many of these households had very small incomes that were only a few thousand dollars above the poverty cutoff. This suggests the NFS group may have had an average lower income than the FS group.

I chose to survey at Fresh Stops in order to obtain a sample of people who were intentional about choosing local, fresh produce as part of their diet. The Elyria and East Cleveland Fresh Stops are located in neighborhoods that could be described as food deserts and that are predominately low-income. Thus, the participants, while not all low-income, come from an area without much access to fresh produce. The Oberlin Fresh Stop is located at the local public elementary school and attracts a diverse mixture of

\textsuperscript{25} These guidelines can be found at the following website: http://www.irp.wisc.edu/faqs/faq1.htm
customers, including teachers, parents, town members and people affiliated with Oberlin College.

The control sample was comprised of people from the same geographic area who did not participate in the Fresh Stop program. Although they lived in the same area, the fact that this group did not participate in Fresh Stop enabled me to determine how people who purchased local fresh produce differentially perceived the barriers and benefits as compared with similar people who did not engage in the same behavior. I did not survey any Oberlin College students, as they originate from all over the U.S. and would be less representative of the Northeast Ohio population.

My experimental sample had 3 men and 17 women. The number of men in the sample was so low because women tended to pick up the produce. The average age of the participants was 51. The sample had 12 Caucasian individuals, 1 Hispanic, 6 African-Americans and 1 multiracial individual. Five participants were single, 10 were married, and 4 were divorced. I had 7 participants from Cleveland/East Cleveland, 9 from Elyria and 4 from Oberlin. The control sample had 9 men and 11 women. The average age of the participants was 39, mainly because the participants at Lorain County Community College were students and tended to be younger than the rest of the sample. The sample had 7 Caucasian individuals, 12 African-Americans and 1 multiracial individual. Thirteen participants were single, 2 were divorced, and 4 were married. Seven participants were from Cleveland, 8 from Elyria and 5 from Oberlin. There was no significant difference in household size or number of children between FS and NFS samples.
Survey

Fresh Stop and non-Fresh Stop surveys were developed to be as similar as possible to facilitate comparison. Each participant completed a four page survey and also participated in a verbal interview (See Appendices A and B). This mixed format was adopted to sufficiently address more complex topics without requiring a long interview of each volunteer. The survey covered basic questions including food shopping choices, produce preferences, how much normative influence different groups (i.e. children or coworkers) had on the amount of produce an individual purchased, and demographic information. The verbal portion concentrated on the perceived barriers and benefits to purchasing fresh produce and were adapted from suggestions given by McKenzie-Mohr (1999). I separated the process of consuming fresh produce into three distinct steps and asked survey participants about the barriers and benefits they perceived to carrying out each step. Step 1 was defined as getting to the grocery store/Fresh Stop; Step 2 was the experience of shopping at the venue; Step 3 was defined as the process of preparing the produce purchased. All participants were asked about each step of shopping at a traditional grocery store and the Fresh Stop sample was also asked about each step of shopping at Fresh Stops. Breaking the process of consuming fresh produce into steps enabled me to isolate which aspects of purchasing and eating produce were most prohibitive. This enabled me to compare the Fresh Stop versus grocery store experience as well as the two sample groups. I chose to make the barrier/benefit portion a verbal interview because a survey format would be too prescriptive in the possible responses available: I wanted to allow participants to tell me what barriers and benefits existed for them, rather than offering a checklist of what I believed possible answers would be.
Procedure

Fresh Stop participants were surveyed during pick-up windows, which occur on a weekly basis at each location. A volunteer works at each location to coordinate distribution and run the Fresh Stop. The volunteer at each stop gave permission for surveys to be conducted. Participants were approached and asked if they would be willing to participate. If they agreed, they took the survey at a table provided by the experimenter. They were offered $10 in exchange for their time. Most people agreed to participate in the survey; those that declined did so because of limited time.

Non-Fresh Stop survey participants were selected in a similar manner. Three locations were chosen to conduct these surveys: Lorain County Community College located in Elyria, Oberlin Public Library and Huron Hospital in East Cleveland. A table was set up in the main lobby of each venue. Participants were found in several ways: at Huron Hospital some were directly asked to participate or were pointed my way by Manager of Materials Management at the Hospital. Some heard by word of mouth, and in Elyria and Oberlin I used signs advertising the opportunity to earn $10 in order to passively recruit participants for the survey. At Huron Hospital both patients and hospital staff were interviewed (the staff were residents of the surrounding community and so were also considered representative of the neighborhood). At Lorain County Community College, survey participants were students but varied in age and background. Participants at Oberlin Public Library were made up of community members not affiliated with the College.

Volunteers answered questions for the verbal portion (which often took the form of a conversation that incorporated the interview questions). They then filled out the
written survey on their own. Volunteers could ask for clarification as they took the survey. Two individuals received help filling out the survey because they were unable to read it on their own.

Analysis

I attempted to measure the amount of normative social pressure an individual felt for buying local produce and to see who exerted the most normative pressure on individuals (family, friends, children, coworkers, or church members). Survey participants were asked to rate on a scale from 1-5 how much each of those groups of people cared whether they purchased local produce. They were then asked to rate on the same scale how much they cared about that group’s opinion of them. In order to determine how much normative social pressure a particular group exerted on a person, the two scores were multiplied, meaning scores ranged between 1-25. For example, if a survey participant marked “3” for how much family members cared if they bought local produce, and marked “4” for how much they cared about their family’s opinion, the total normative pressure felt from family members would be 12, a moderate amount of pressure.

Total normative social pressure on an individual was found by calculating the mean of social pressure imposed by all groups (family, friends, children, coworkers, and church members).

I calculated the sum of produce (fresh, frozen or canned) purchased by an individual by adding the total number of items the individual mentioned buying per week
from the store. The total number of barriers/benefits listed by a given individual was calculated by summing the characteristics the individual listed for every step.

I attempted to create a ranking system of different categories of food to see what types of food individuals bought most of. Participants were asked to rank different categories of food (meat, dairy, prepared foods, processed foods, produce and other) by how much they bought in a given week.
Results

Behavior of Fresh Stop and Non-Fresh Stop Groups Towards Purchasing Produce

Fresh Stop participants bought either single shares ($12/week) or family size shares ($24/week). Low-income participants purchased the same shares at half-price. Most FS participants also purchased produce at the grocery store (Table 1).

Both groups spent a similar amount of money per week on produce, with the Fresh Stop participants spending marginally more. For the Fresh Stop group this included both money spent at the Fresh Stop and at the grocery store, while for the non Fresh Stop group this included solely money spent on produce at the grocery store (Table 2).

Many survey participants never had leftover produce. Contrary to expectations, the FS and NFS samples did not differ on how many people usually had leftover produce. Most participants purchased canned and frozen produce at the grocery store, but many people actually preferred fresh. Those who sometimes preferred canned or frozen produce cited reasons such as the convenience and price of non-fresh produce or because of the seasonal unavailability of fresh produce. No participant said they always preferred frozen and canned. As expected, the samples did differ on how many people preferred fresh produce: more people in the FS group consistently preferred fresh, whereas more people in the NFS group sometimes preferred canned or frozen produce depending on the circumstances (Table 3).

Table 1. Characteristics of Fresh Stop participants’ shopping patterns measured in percent of sample.

<table>
<thead>
<tr>
<th>Share Size</th>
<th>79% single share</th>
<th>21% family share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share Price</td>
<td>60% full-price share</td>
<td>40% low-income half-price share</td>
</tr>
<tr>
<td>Produce at Grocery Store</td>
<td>90% also purchased produce at grocery store</td>
<td>10% did not purchase produce at grocery store</td>
</tr>
</tbody>
</table>
Table 2. Amount spent on produce per week by Fresh Stop and non-Fresh Stop individuals.

<table>
<thead>
<tr>
<th></th>
<th>Fresh Stop</th>
<th>Non-Fresh Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Produce Expenses</strong></td>
<td>$26.39</td>
<td>11.23</td>
</tr>
</tbody>
</table>

Table 3. Produce use and preferences for Fresh Stop and non-Fresh Stop samples.

<table>
<thead>
<tr>
<th></th>
<th>FS</th>
<th>NFS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Produce Use</strong></td>
<td>78% had no leftover produce</td>
<td>80% had no leftover produce</td>
<td>79% had no leftover produce</td>
</tr>
<tr>
<td><strong>Produce Preferences</strong></td>
<td>74% always preferred fresh produce</td>
<td>60% always preferred fresh produce</td>
<td>67% always preferred fresh produce</td>
</tr>
</tbody>
</table>

Produce Selection:

The most common types of fresh produce purchased at the grocery store for the entire sample were apples, bananas, grapes, melon, tomatoes, potatoes, onions, corn, lettuce, peppers, cucumbers, and carrots. The most commonly purchased frozen produce items were corn, spinach, and peas while most common canned foods were tomatoes and corn (Table 4).

Contrary to expectation, the groups did not differ on the kinds of fresh produce they reported purchasing at grocery stores. The NFS group bought significantly more items of fresh produce from the grocery store, with a greater number of people purchasing grapes, oranges, melons, potatoes, collards and corn. The NFS group bought significantly more canned produce items, specifically canned peaches, pears and peas. Both groups bought the same number of items of frozen produce (Table 5).

Contrary to my hypothesis, both groups bought similar quantities of prepared and processed foods, dairy and produce relative to other categories of items. NFS people bought significantly more meat than other items compared to FS people (Table 6).
Several findings point to the fact that the two groups purchase similar amounts of produce per week: the NFS group actually bought a greater variety of produce at the grocery store, both groups spent a similar amount of money per week on produce and both groups bought the same amount of produce compared to other categories of items.

Table 4. Most commonly purchased produce items at the grocery store for the entire sample; this chart represents the percent of people in sample that purchased the item.

<table>
<thead>
<tr>
<th>Produce Item</th>
<th>FS Percent</th>
<th>NFS Percent</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Apples</td>
<td>65%</td>
<td>80%</td>
<td>73%</td>
</tr>
<tr>
<td>Fresh Bananas</td>
<td>80%</td>
<td>85%</td>
<td>82%</td>
</tr>
<tr>
<td>Fresh Grapes*</td>
<td>55%</td>
<td>85%</td>
<td>70%</td>
</tr>
<tr>
<td>Fresh Oranges*</td>
<td>25%</td>
<td>70%</td>
<td>48%</td>
</tr>
<tr>
<td>Fresh Melon*</td>
<td>35%</td>
<td>75%</td>
<td>55%</td>
</tr>
<tr>
<td>Fresh Tomatoes</td>
<td>55%</td>
<td>65%</td>
<td>60%</td>
</tr>
<tr>
<td>Fresh Potatoes*</td>
<td>25%</td>
<td>85%</td>
<td>55%</td>
</tr>
<tr>
<td>Fresh Collards*</td>
<td>20%</td>
<td>50%</td>
<td>35%</td>
</tr>
<tr>
<td>Fresh Onions</td>
<td>60%</td>
<td>75%</td>
<td>68%</td>
</tr>
<tr>
<td>Fresh Corn*</td>
<td>20%</td>
<td>70%</td>
<td>50%</td>
</tr>
<tr>
<td>Fresh Lettuce</td>
<td>65%</td>
<td>90%</td>
<td>77%</td>
</tr>
<tr>
<td>Fresh Peppers</td>
<td>40%</td>
<td>75%</td>
<td>60%</td>
</tr>
<tr>
<td>Fresh Cucumbers</td>
<td>40%</td>
<td>65%</td>
<td>53%</td>
</tr>
<tr>
<td>Fresh Carrots</td>
<td>60%</td>
<td>65%</td>
<td>63%</td>
</tr>
<tr>
<td>Frozen Corn</td>
<td>15%</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Frozen Spinach</td>
<td>10%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>Frozen Peas</td>
<td>40%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Canned Tomatoes</td>
<td>25%</td>
<td>15%</td>
<td>41%</td>
</tr>
<tr>
<td>Canned Corn</td>
<td>25%</td>
<td>55%</td>
<td>40%</td>
</tr>
<tr>
<td>Canned Pear*</td>
<td>0%</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td>Canned Peach*</td>
<td>0%</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td>Canned Peas*</td>
<td>5%</td>
<td>30%</td>
<td>18%</td>
</tr>
</tbody>
</table>

* - Indicates significantly more people in one group purchased the item.

Table 5. Average number of different kinds of fresh, canned and frozen produce purchased at the grocery store.

<table>
<thead>
<tr>
<th></th>
<th>Fresh Stop</th>
<th>Non-Fresh Stop</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Produce</td>
<td>7.75</td>
<td>4.47</td>
<td>12.65</td>
<td>5.09</td>
</tr>
<tr>
<td>Canned Produce</td>
<td>.65</td>
<td>.81</td>
<td>2.45</td>
<td>2.35</td>
</tr>
<tr>
<td>Frozen Produce</td>
<td>.85</td>
<td>1.27</td>
<td>1.20</td>
<td>1.47</td>
</tr>
</tbody>
</table>

Note: Units are in the average number of different items purchased by an individual.
Table 6. Ranked types of food bought at grocery store.

<table>
<thead>
<tr>
<th></th>
<th>Fresh Stop</th>
<th>Non-Fresh Stop</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processed Foods</strong></td>
<td>3.81</td>
<td>4.00</td>
<td>.39</td>
<td>.70</td>
</tr>
<tr>
<td><strong>Prepared Foods</strong></td>
<td>4.17</td>
<td>4.18</td>
<td>.015</td>
<td>.99</td>
</tr>
<tr>
<td><strong>Dairy</strong></td>
<td>2.25</td>
<td>1.83</td>
<td>-.78</td>
<td>.44</td>
</tr>
<tr>
<td><strong>Produce</strong></td>
<td>2.59</td>
<td>1.47</td>
<td>-.20</td>
<td>.84</td>
</tr>
<tr>
<td><strong>Meat</strong></td>
<td>3.19</td>
<td>1.84</td>
<td>-2.60</td>
<td>.014</td>
</tr>
</tbody>
</table>

Note: Rankings ranged from 1-6. Lower numbers meant the food type was purchased more frequently.

Social Norms:

Past research has suggested that social norms influence behavior. Overall, the evidence from this data for normative social influence is weak. The correlation between normative pressure and produce purchases among FS people was -.004, n.s. Among NFS, the correlation between social pressure and fresh produce purchased was .24, but was not significant. The correlation between normative pressure and amount of canned produce purchased by the FS group was -.42, p=.07; the relationship was almost significant and indicated that the FS group did feel social pressure not to buy canned produce. A larger sample size may be able to find a stronger relationship.

In addition, there was no significant difference in the amount of social pressure reported by the FS sample (M = 12.28, SD = 7.54) and the NFS sample (M = 12.04, SD = 5.86) for buying local produce, t (df) = -0.11, p = .91.

---

Perceptions of Fresh Stop and Non-Fresh Stop Groups Towards Buying Produce

I analyzed the perceived benefits by using a 2 (Step: shopping vs preparing) x 2 (group: FS vs NFS) mixed model ANOVA. Overall, participants from both groups mentioned more benefits to Step 2 (shopping at the grocery store) than Step 3 (preparing food), $F(1, 38) = 71.02, p < .05$. Overall, the NFS people mentioned more benefits than the FS group for both steps combined, $F(1, 38) = 5.43, p < .05$. The interaction between the two groups shows that while there is little difference between the two groups for the number of benefits mentioned for Step 3, there is a big difference at Step 2, $F(1, 38) = 177.78, p < .01$.

I analyzed the perceived barriers by using a 2 (Step: getting there vs shopping) x 2 (group: FS vs NFS) mixed model ANOVA. Participants mentioned more barriers at Step 2 (shopping at grocery store) than at Step 1 (getting to grocery store), $F(1, 38) = 34.48, p < .05$. There was no significant difference between the two groups in the number of total barriers listed. $F(1, 38) = .31, p > .05$; nor was there an interaction $F (1, 38) = 55.11, p < .01$.

Summary of the Fresh Stop Interview Responses:

There were a number of reasons that FS participants preferred the produce from Fresh Stops as opposed to from the grocery store. The predominant perception was that the food was of higher quality: the produce had fewer pesticides, spent less time sitting in a truck or on a store shelf, and stayed fresh longer. Some liked the low prices or the health benefits of eating more produce. As expected, a few people also perceived that the food was from a trusted, local source or liked the environmental benefit of buying the
produce. In addition, some mentioned liking the atmosphere of Fresh Stops: the experience was friendlier, they knew people at the Fresh Stop, or they liked the surprise of receiving a new box each week (Table 7).

The most commonly cited reason for joining a Fresh Stop was because the person knew someone involved: a neighbor told them, a sister convinced them to participate, or they saw a friend consuming the produce. The second most common reason was because the participant wanted fresh food without pesticides. Only one person mentioned starting at Fresh Stop because of the low cost (Table 7).

There were very few disadvantages listed for getting to or shopping at Fresh Stops. Many participants lived close to their Stop. Some people said they wished they had more choice, and others did not like some of the produce options (namely beets). Advance payments and limited hours of operation were not considered prohibitive, at least for this sample, although other people may find these factors more of a barrier.

There were also few barriers listed for cooking the produce. One participant did mention that preparation of produce took more time and a few noted not knowing how to cook certain items (one woman told the story of how she tried to cook beets by putting them in the microwave) (Table 9).

The main reason cited for shopping at the grocery store was convenience/variety. Because Fresh Stops do not provide everything necessary for most people’s diet, a trip to the grocery store was necessary to purchase other staples. Traditional grocery stores provided “one-stop-shopping,” more convenient hours and the constant availability of most items. Many participants shopped at several grocery stores in order to meet all their requirements for food: in fact this was the main factor mentioned for why FS participants
shopped at their main grocery stores (mentioned in some form by 80% of participants). Some people said they wanted better selection, others mentioned specific items they bought at the grocery store such as meat, dairy, cereal or juice. Few named benefits to cooking with the food from the grocery store except; 2 people cited convenience (Table 8).

FS customers generally saw several benefits to buying produce: health, taste, and being able to help local growers or the environment, (benefits to the environment and local growers are more applicable to FS produce in particular, rather than all produce (Table 8).

FS participants had several suggestions for how to make Fresh Stops more appealing to different people. The main suggestion was simply to advertise the program more. Participants provided numerous ideas for how to best do this. Some of these ideas included publicizing through churches, recreation centers and newspapers, or working through venues such as the Lorain County Joint Vocational School culinary program or the Lorain County Health department to provide recipes and spread the word. One participant had the idea for an advertisement showing an image of how much $12 could buy at the grocery store versus at a Fresh Stop. There were also suggestions for City Fresh promotional shirts and aprons, sponsored tours of where the food comes from and a delivery service for certain customers.
Table 7. Barriers and benefits to shopping at Fresh Stops and the reasons for joining a Fresh Stop.

<table>
<thead>
<tr>
<th>Barriers to Fresh Stops</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Far Away</td>
<td>15%</td>
</tr>
<tr>
<td>Step 2: No choice</td>
<td>25%</td>
</tr>
<tr>
<td>Step 2: Dislike some foods</td>
<td>20%</td>
</tr>
<tr>
<td>Step 3: Don’t know how to cook some items</td>
<td>20%</td>
</tr>
<tr>
<td>Step 3: Produce Goes bad</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefits to Fresh Stops</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Location</td>
<td>50%</td>
</tr>
<tr>
<td>Step 2: Price</td>
<td>20%</td>
</tr>
<tr>
<td>Step 2: Quality</td>
<td>45%</td>
</tr>
<tr>
<td>Step 2: Fewer chemicals</td>
<td>50%</td>
</tr>
<tr>
<td>Step 2: Atmosphere</td>
<td>20%</td>
</tr>
<tr>
<td>Step 2: Environmental</td>
<td>25%</td>
</tr>
<tr>
<td>Step 2: Health</td>
<td>20%</td>
</tr>
<tr>
<td>Step 3: Taste</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefits of Fresh Stop Produce</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>50%</td>
</tr>
<tr>
<td>No chemicals</td>
<td>30%</td>
</tr>
<tr>
<td>Price</td>
<td>20%</td>
</tr>
<tr>
<td>Health</td>
<td>15%</td>
</tr>
<tr>
<td>Local/Environmental</td>
<td>10%</td>
</tr>
<tr>
<td>Know people</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reasons for Starting to Purchase from a Fresh Stop</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Knew someone involved</td>
<td>35%</td>
</tr>
<tr>
<td>Produce without pesticides</td>
<td>25%</td>
</tr>
<tr>
<td>Local Food</td>
<td>35%</td>
</tr>
<tr>
<td>Health</td>
<td>25%</td>
</tr>
<tr>
<td>Low Cost</td>
<td>5%</td>
</tr>
</tbody>
</table>

Summary of the Non-Fresh Stop Interview Responses:

Similar to the FS group, health was the primary perceived benefit to purchasing produce for the NFS group, with a greater percentage of the group mentioning it. In addition, many in the NFS group said that a benefit to consuming produce was that they enjoyed the taste. A few also mentioned low cost as a benefit (Table 8).

Unsurprisingly, price was also a very common factor mentioned for the benefits of shopping at the grocery store. Variety was also often considered an important benefit, while convenience, and location were important, but slightly less so. There were few
benefits named for cooking with the produce from the grocery store but the two most common were health and quality (Table 8).

As expected, the three factors that NFS people found most difficult about shopping at their grocery store was having the transportation, waiting in line and the cost of the food. Yet an unexpected difficulty was the quality of the food. This perspective was expressed even more strongly when NFS people were asked about the disadvantages of buying produce. The only frequent response to this question was about the quality of the produce; some of the sentiments were that the produce would go bad quickly, was too ripe or not ripe enough, and that, generally, was either wilted, soggy or simply not very fresh. Contrary to the argument that low-income families prioritize higher calorie, processed foods over low calorie foods such as produce, no participant said they did not purchase produce because it was lower in calories. Contrary to my hypothesis, not knowing how to cook with produce was not mentioned as a barrier to purchasing it (Table 9).

The NFS sample named several factors that could prevent them from purchasing local produce: cost, lack of parking, security, location, hours and reputation/name recognition of program. In general, the issue of brand recognition was important to several participants in the NFS group, while FS participants never mentioned it.

Comparison of the Two Groups’ Responses:
Where there were ways in which the two samples were alike, several key differences emerged. The NFS group saw more benefits to buying produce. While the two groups did not differ in total number of barriers mentioned, each group found different aspects of
purchasing produce at their grocery store more prohibitive than others. The two groups also perceived different benefits to buying produce and shopping at their grocery store.

Comparison of Benefits:
- NFS respondents listed significantly more benefits to buying produce on average (Mean benefits=1.75) than did FS respondents people (Mean benefits=1.05, t(38)=2.86, p<.01).
- Step 2: Fresh Stop participants saw convenience as a more significant benefit to shopping at their main grocery stores while NFS people named location, price and quality as benefits significantly more.
- Step 3: NFS people named health significantly more as a benefit to cooking the food from their grocery store. Fresh Stop people mentioned almost no benefits to cooking with food from their grocery stores.

Table 8. Comparison of how Fresh Stop and non-Fresh Stop groups perceive the benefits to different aspects of buying produce.

<table>
<thead>
<tr>
<th>Benefits at Step 2 (Shopping at Grocery Store)</th>
<th>FS</th>
<th>NFS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>10%</td>
<td>25%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Convenience*</td>
<td>65%</td>
<td>30%</td>
<td>48%</td>
</tr>
<tr>
<td>Price*</td>
<td>10%</td>
<td>65%</td>
<td>37.5%</td>
</tr>
<tr>
<td>Quality*</td>
<td>0%</td>
<td>25%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Variety</td>
<td>30%</td>
<td>55%</td>
<td>42.5%</td>
</tr>
<tr>
<td>Name brands</td>
<td>0%</td>
<td>5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefits at Step 3 (Preparing Food from Grocery Store)</th>
<th>FS</th>
<th>NFS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health*</td>
<td>0%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Convenience</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Less time</td>
<td>10%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Quality</td>
<td>0%</td>
<td>15%</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Benefits to Buying Produce</th>
<th>FS</th>
<th>NFS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>50%</td>
<td>70%</td>
<td>60%</td>
</tr>
<tr>
<td>Taste</td>
<td>25%</td>
<td>55%</td>
<td>40%</td>
</tr>
<tr>
<td>Know how to cook it</td>
<td>10%</td>
<td>5%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Cost*</td>
<td>0%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Local/Better for</td>
<td>20%</td>
<td>0%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Comparison of Barriers:
- Step 1: Non Fresh Stop shoppers mentioned not having the transport to reach their grocery store as a barrier significantly more than did Fresh Stop shoppers.
- Step 2: Fresh Stop participants saw variety as a significantly larger barrier to shopping at their main grocery store than NFS participants. NFS participants saw time as a larger barrier than FS shareholders.
- Step 3: The top barriers listed by NFS participants to purchasing produce were the quality, price and that it goes bad quickly. Quality and spoilage were the most frequently named barriers while price was slightly less common.

Table 9. Comparison of how Fresh Stop and non-Fresh Stop groups perceive the barriers to different aspects of buying produce.

<table>
<thead>
<tr>
<th>Barriers at Step 1 (Getting to Grocery Store)</th>
<th>FS</th>
<th>NFS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far Away</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Transportation*</td>
<td>0%</td>
<td>25%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Low Security</td>
<td>0%</td>
<td>5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Barriers at Step 2 (Shopping at Grocery Store)</td>
<td>Location</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Cost</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Variety*</td>
<td>40%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Time (waiting in line)*</td>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>No name brand options</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>General disadvantages of buying produce</td>
<td>Don’t know how to cook it/More time to cook it</td>
<td>NA $^{27}$</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>NA</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Goes bad/not ripe</td>
<td>NA</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Pesticides</td>
<td>NA</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
<td>NA</td>
<td>45%</td>
</tr>
</tbody>
</table>

* - Indicates the item was significantly different between the two groups in terms of frequency mentioned.

$^{27}$ The Fresh Stop sample was not asked these questions.
Discussion

This research yielded an understanding of how people who buy produce from the grocery store and people who buy local produce differentially perceived the barriers and benefits to purchasing produce and shopping at the grocery store. Both groups purchased similar amounts of produce each week and preferred many of the same items, though the NFS group ate more non-local items. While the FS group more frequently valued selection or produce that was local or chemical free, the NFS group more frequently mentioned characteristics such as price, convenience, and time. Both groups frequently mentioned the healthfulness and quality of the produce.

I hypothesized that the people who did not buy local produce would mention several barriers to buying produce, aside from issues of price (Step 2) and proximity to a venue (Step1), including the lack time, knowledge and kitchen equipment for preparing produce (Step 3). My hypothesis was incorrect; none of the NFS participants mentioned these as barriers. In fact, people mentioned far fewer barriers or benefits for both Steps 1 and 3 and mentioned the most at Step 2. The groups’ responses were consistent, however, with prior hypotheses that low-income communities would find cost, location (related to access to transportation), and time to be barriers in accessing local produce.28

Fisher’s hypothesis that preference and being out of the habit of eating produce were barriers to produce consumption was incorrect: the NFS group purchased about as much produce as the FS group. In addition, Johnson and Podrabsky’s hypothesis that a lack of knowledge about healthy eating as a barrier does not seem to hold true because the NFS group named health and nutrition as one of the major benefits to consuming

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produce. The hypothesis that low-income households have a blind preference for food with many calories and thus do not prioritize produce\textsuperscript{29}, did not appear to be accurate since none of the participants mentioned that produce had too few calories. A major, and unpredicted, barrier to buying produce was the low quality of the items available. Low quality may affect low-income families willingness to purchase produce, rather than low calories.

There was no evidence of normative social pressure influencing how much local produce people purchased; there may be an opportunity to create stronger norms around consuming local produce. This could have important implications for an outreach campaign to increase participation in Fresh Stops.

*Understanding the Groups’ Responses*

The main differences between the people who bought local produce and between those who bought produce at the grocery store lie not in *how much* produce they buy, but in how they think about and value produce.

As stated in the results, the NFS group bought more of several different types of produce from the grocery store: grapes, oranges, melons, potatoes, collards and corn. Although some of the foods bought by NFS people are not available at Fresh Stops (bananas, oranges, canned or frozen items), and some of them are only available seasonally (grapes, melon, corn), many of the foods favored by NFS people are regularly sold through Fresh Stops (apples, potatoes, onions, lettuce, and carrots). Therefore, the type of produce available at Fresh Stops is largely similar to what NFS people already

\textsuperscript{29} Stewart and Blisard, 2008.
eat, which could make it easier to recruit participants similar to the NFS group.

Looking at the difference in the groups’ responses can help to illuminate what they each value. For example, in a discussion of the benefits of produce, FS people more often mentioned that it was local, while NFS people more frequently mentioned the (low) cost of produce as a benefit. Many FS individuals liked produce from Fresh Stops because it was chemical free or better for the environment. This may be because FS participants are more likely to already consider the environmental and social implications of their food while NFS participants may be less conscious of these issues and/or more constrained in their income and thus more conscious of the cost of food.

The benefits that both groups named to buying produce and shopping at the grocery store indicate what they look for in a venue for purchasing food. In general, the NFS group named more benefits to buying produce, which was contrary to my hypothesis. Although this was unexpected, it could indicate that the groups interpreted the question differently: FS participants were asked to think about produce in general, and probably considered grocery store fruits and vegetables to have fewer benefits. Both groups named convenience (variety) as an important benefit to shopping at their main grocery store (Step 2), although the FS group named it more frequently. This is likely because the FS group shopped at their grocery store primarily out of necessity for purchasing non-produce products and thus valued the grocery store as a place to buy a range of items. NFS people named quality and health as benefits to the food from their grocery store: FS people never mentioned either of these as a benefit, probably because the quality of food at their grocery store appeared inferior to the food at their Fresh Stop. Besides quality and health, NFS people also indicated price and location as important
benefits to their grocery store; these are the qualities that are particularly important to the NFS group when purchasing food.

Understanding the barriers to grocery store shopping also reveals what each sample values. Although location was not considered a huge barrier for either group, transportation/location and time were more prohibitive for the NFS participants. Similar to the NFS group’s emphasis on convenience and price, having the time and means to get to the grocery store was particularly important for this group. Meanwhile, FS participants saw variety as a more significant barrier to shopping at their grocery store. Although “variety” was also seen as an important benefit for this group, I believe they were defining variety differently in each question. In the case of benefits to a grocery store, the FS group emphasized the variety of items available (meat, dairy, juice, bread etc.) as important to their reasons for shopping there. But in looking at the barriers to buying food at a grocery store, the FS group defined variety as the selection of items available, in other words, the access to items that met their particular standards (organic, local, fresh etc.) for produce and other products. The FS group felt dissatisfied with the type of food items available in their grocery store.

No normative pressure apparently influenced participants in their consumption of local produce, in spite of substantial evidence to the contrary from other studies.\(^{30}\) This could have been a problem in how the question was worded; I asked people about the consumption of local produce while maybe there is greater normative influence around other issues such as consumption of quality, fresh produce.

Recruiting New Shareholders

The most common way that the Cleveland, Elyria, and Oberlin Fresh Stops obtained new customers was through referrals from existing shareholders. Although there appeared to be little normative influence around buying produce, recruitment by family or friends had been an effective way to gain interested customers. It thus seems that there may be an opportunity for City Fresh to use this influence as a way to recruit new shareholders. Mohr explains the importance of promoting an activity in a way that helps to create a social norm around the issue. A program that encouraged current shareholders to recruit new participants would be a perfect way to foster new cultural norms while capitalizing on an already effective process.

In addition to recruitment, advertising campaigns would also be useful. The multitude of advertising suggestions from FS participants and the recommendation to “Advertise more,” confirm that City Fresh has not attempted major advertising campaigns (likely due to lack of financial capacity or manpower) even though there is great potential for engaging with new shareholders. Couple with other tactics, many new shareholders could be recruited using the suggestions from interviews. The following paragraphs will focus on what information might be best to include in an advertising campaign, given the interview findings.

One of the greatest disadvantages to buying produce for NFS people was simply the quality. This was not an expected response, but it is logical given the poor quality of produce in many urban grocery stores. Although the cost, location and convenience of the grocery store were important to the NFS group – which fits prior hypotheses about low-
income food shopping preferences\(^{31}\) – it appears that busy schedules, nearness to a grocery store and low income are only part of low produce consumption. If the only produce available in a store tastes mediocre or spoils quickly, it could be difficult for families to want to budget for food with seemingly so little reward.

Price, variety and convenience were all important benefits to NFS people in their grocery store, which gives insight into what this group values in a food venue. These would be important characteristics to emphasize about a program when crafting a recruitment campaign.

Additionally, the main benefits to the NFS group for eating produce (health and taste) indicate that this group of people is more likely to be swayed by appeals about the food itself – its colors, tastes, or superior quality – than appeals about its larger social implications – about supporting farmers, or eating locally, etc. In fact, Mohr argues that convincing people to change their behavior can be difficult if the action requires an individual to step too far outside her current worldview. Attempting to convince someone to buy local produce because it is better for the environment would be a less effective approach if she does not already value the issue: appealing to her pre-existing values would be more successful. An important priority for City Fresh or any other organization seeking to improve local foods access would be to craft a campaign that emphasizes the pre-existing values of their audience; in the case of people similar to the NFS group important characteristics would be the quality, taste, healthfulness, and low cost of the produce and the location, variety and convenience of the food venue.

\(^{31}\) Johnson and Podrabsky, 2010.
Using Techniques From Community-Based Social Marketing

Community-based social marketing offers several tools for developing an effective campaign to increase food access. The first component of a CBSM campaign is getting people to make a commitment. By making a commitment an individual begins to change her self-perception to view herself as a supporter of the issue at hand and wants to behave consistently with. For example, a church in Portland, OR recruited 366 households to pledge to fulfill a variety of actions related to food consumption including eating more local, organic and seasonal produce and eating less meat. All participants had to sign a pledge form at the beginning of the program; by the end of the trial period 95% of those participants had fulfilled some or all of their pledge.\(^{32}\) In addition, telling people that their commitment will be publicized further increases the chance that they will follow through. Mohr hypothesizes that this is due to several factors: one, participants want their behavior to be seen as consistent and two, the act of making the commitment changes their view of the importance of the issue itself. Published commitments also help to foster group norms, which is another important aspect of CBSM.

Using CBSM techniques to foster norms has also been found to be successful in changing behavior. For example, a program aimed at increasing curbside recycling in Denver divided city blocks into random groups that received different behavioral interventions. One group had no intervention, a second group received a single informational brochure, a third group received a reminder pamphlet each month before recycling day, and the last group had volunteer block leaders inform their neighbors about the program and provide monthly prompts to recycle. All interventions improved

\(^{32}\) North, Rick; www.cbsm.com
participation, but block leaders had the most significant impact on behavior; compared to the control condition, one third of residents in the last group were recycling by the end of the trial period. Prompts increased participation by 20%. This case highlights the important role that individuals play in influencing norms around an issue, and in subsequently influencing the behavior of others.

The theory behind CBSM also suggests using prompts: timely reminders for individuals to carry out a given behavior. But changing whether people purchase food from local markets or CSAs versus the grocery store is less about reminding them when they decide to go to the grocery store and more about convincing them that a given source of food will better fulfill their needs. Prompts may be less useful in instituting lasting behavior change in this regard.

There are several ways that written commitments and norm promotion could help to foster greater consumption of local produce. Written commitments would work differently than with more traditional CBSM campaigns; food access is inherently a more personal issue with a greater tangible benefit for the consumer than recycling or taking public transit. Thus, convincing people to consume more local produce should focus more on this personal benefit than on why they should feel obligated to fulfill the action. Once an individual is already buying from Fresh Stops, however, it would make sense to elicit commitments to further a person’s impact. Examples of such commitments include asking people to pledge to only purchase in season produce while the Fresh Stops operate, to purchase local produce three times a week during the Fresh Stop off season, or

\[33\text{ Midden, C.J.H; www.cbsm.com}\]
to share some of their Fresh Stop produce with at least five different people such as friends or coworkers. Once an individual buys food from a Fresh Stop, Mohr suggests that signing a written pledge can help to further that person’s commitment to the cause and increase the possibility that people will carry out an action.

No strong normative influence was found to affect the quantity of local produce that FS or NFS people purchased. This means there is room to foster norms around local (or fresh) produce consumption. Mohr has numerous suggestions for how to foster norms. He notes that when people make public commitments to an action this can increase normative influence because a community becomes more aware of who supports the issue and who does not. The example of individuals pledging to share a sample of local produce with friends and colleagues would also help to promote a culture of local produce consumption: not only would it allow new people to assess the quality of this produce, but it helps to make shareholder’s consumption of local produce a public and noticeable effort.

There are other possible ways that City Fresh could work to recruit new participants while fostering a stronger culture of fresh, local produce consumption. They (or a similar organization) could create a referral program by which shareholders recruit family or friends who commit to signing up for a certain number of boxes from the Fresh Stop. The shareholders who made the referral would be entered in a drawing for a prize determined by the organization. This accomplishes several goals; first, the program would build on an already effective way of recruiting new shareholders and second, would strengthen a community norm of consuming fresh, local food.

Having shareholders pledge to share samples of produce with their neighbors
could be a starting place. Additionally, individual Fresh Stops could also host community events for their shareholders, in which people brought family or friends and their favorite recipe incorporating Fresh Stop produce. This would help to promote the program and increase excitement about the food available from the Stop, while fostering a sense of community and group behavior around purchasing locally.

Any program that helps to make shareholders participation in the Fresh Stop program a more visible effort and that creates a greater sense of community amongst Fresh Stop shareholders would help to recruit new participants and deepen current shareholders commitment to the program.

Further Recommendations for City Fresh

When I conducted surveys at the Oberlin Fresh Stop, they were in the process of experimenting with a system of customized shares. Rather than being given a predetermined box of produce each week, shareholders could customize the produce they would receive beforehand. Each item was given a point value; a family size share was worth a certain number of points and a single size share was worth half as many. Although the people running the Fresh Stop were running into several logistical difficulties – such as the amount of time required for customizing each box, or that they could not always obtain the food people initially requested, or that communicating with the Amish farmers was difficult because most families did not have telephones or Internet – shareholders were enjoying their newfound choice.

In addition, this Fresh Stop was also experimenting with selling goods other than produce, such as locally baked bread and locally sourced dairy. Some of these items were
included as part of a share while others were on display when shareholders arrived to
pick up their produce. The responses by both FS and NFS participants support the
development of such a system. Both groups named variety as an important quality in their
grocery store; given the FS group’s perception that the Fresh Stops had higher quality
foods, it seems probable that many people would be interested in purchasing other items
from the Fresh Stop as well. This would increase both variety and convenience at the
Stops and could make them more accessible to people with limited time for grocery
shopping.

Limitations to this Study

There are several limitations to this research. First, this study relates to people in a
specific geographic region who experience unique circumstances, so not all conclusions
of this research may be relevant for people in other regions. In addition, because my
samples were small and not perfectly matched to one another, they are not representative
of the entire variety of people that reside in a given community. A more comprehensive
study could attempt to capture the full diversity of perspectives. Conversely, a more in-
depth approach could look more closely at the behavior and choices of a few individuals.
In addition, participants’ self-reports on how much or what produce they ate could not be
independently verified and it is hard to know whether people accurately represented their
consumption habits, especially given their possible assumptions about who I was. A few
people initially thought I was affiliated with City Fresh, which may have influenced their
comfort in naming barriers to shopping at Fresh Stops.
There were also several omissions in the process of developing the surveys that limited my ability to interpret that portion of the data. For example, the ranking system did not include grains: I know how much produce people bought in relation to meat, dairy and processed and prepared foods but not in relation to grains. This was not a critical error since this portion of the survey was less important. I also did not ask NFS participants in the interview about the perceived barriers to buying from a place like a Fresh Stop. This would have helped to uncover ways in which farmers markets and CSA operations can become more accessible to certain groups of people. I also did not ask the FS group about the perceived disadvantages to buying produce. This question would have enabled me to better compare how the two groups perceived the difficulties of buying and eating fresh produce, in general.

**Suggestions for Future Research**

Though I got a strong initial understanding of how these two groups differ, further research could contribute to a deeper understanding of how the two groups differ. For example, it would be useful to ask FS participants about their shopping habits *before* they began purchasing from Fresh Stops in order to provide a better comparison. Observational studies of how FS versus NFS groups go about buying and cooking food would also be useful. Most NFS participants had never heard of City Fresh; it would be useful to talk to people who know of the program but do not participants and ask what they think of the program, who they think participates in it, and what would be needed for them to start purchasing from the program.
It would also be interesting to look at how limited access to fresh food has affected food cultures, eating habits and preferences.

Lastly, this study looked mostly at the perceptions of people who either saw few barriers to accessing Fresh Stops, or people who only purchased from the grocery store. Farmers markets and CSA operations may present significant barriers to participation for low-income families that were not captured by this research. Examples of such barriers could include the difficulty of using food stamps or the limited hours of operation of a market. Future research could use the same technique of focusing on people’s perception of barriers and benefits, but would look at this new issue.

Conclusion

The focus of this research is not meant to trivialize economic factors that systematically exclude certain communities from buying healthy foods. Rather, one should consider these economic barriers in conjunction with others, such as the perceived value of the food being purchased. If the produce available is unappetizing, people will be unlikely to prioritize purchasing it. While this fact may seem obvious, it is important to note that the NFS group in this study saw quality as the singular disadvantage to purchasing produce. Other factors were also important to this group’s overall grocery shopping patterns, but the absence of quality fresh produce in food deserts has clearly had an important impact on how much produce a family purchases.

My hypothesis was incorrect – few people mentioned the lack of cultural knowledge, kitchen equipment, or time as a barrier to preparing produce – however, these more subtle cultural constraints may still be at play, just in a way that the sample
participants were unable to vocalize. A more in-depth study of Step 3 (preparing produce) may be able to uncover some of these barriers. Indeed, the poor quality of fresh produce available in food deserts may have impacted food culture by changing people’s food preferences. While increasing access to healthy, local foods certainly requires addressing issues of distribution, access to transportation and cost of food, it also requires making high-quality, fresh products widely accessible and fostering norms around the consumption of these more healthy and delicious options.
References


Baker EA, Schootman M, Barnidge E, Kelly C. "The role of race and poverty in access to foods that enable individuals to adhere to dietary guidelines". Prev Chronic Dis, July, 2006.


Appendix A: Fresh Stop Surveys

Verbal Interview:

SURVEY #

1. What are the challenges of getting to Fresh Stops?
2. What are the challenges of buying produce at Fresh Stops?
3. What are the challenges of preparing fresh produce to eat?
4. What are the benefits for you of buying produce?
5. Benefits of buying produce from a Fresh Stop?
6. What are the benefits of preparing food with fresh produce?
7. What are the challenges of buying food from places other than a Fresh Stop – grocery store?
8. What are the challenges to getting to other grocery stores?
9. What are the benefits to buying food from other places?
10. What are the benefits to preparing food from other stores?
11. Do you have any suggestions for how to make buying from Fresh Stops appealing for more people?
Written Surveys:  

SURVEY # __________

SURVEY ABOUT FOOD PREFERENCES

Thank you for your interest in participating in this study! I am researching the kinds of food people buy and eat, and why they shop where they do. In this survey you will answer a series of questions about the type of fruits and vegetables you buy, what the benefits are to buying food from your current store and what are the things that currently make buying produce difficult.

1. How long ago did you start purchasing from Fresh Stops? (circle one)
   Just started          Within the last month          Within the last 6 months          Within last year         Over a year ago

2. Why did you start?

3. Has the amount of produce you buy from Fresh Stops changed over time?
   Buy less   About the same   Buy more

4. Do you buy from a Fresh Stop every week? Y/N
   If no, why not?

5. Do you buy a Family Share or a Single Share? (circle one)
   Family Share           Single Share

6. How much do you pay per share? (circle one)
   ½ price           full price

7. Do you ever buy local dairy or meat? Y/N

8. Do you consider this more difficult to do than buying local produce? Y/N
   Why?
9. Does the availability of certain kinds of produce affect how much you buy from Fresh Stops?
   Not at all           Somewhat           A lot

10. How much do the following people care if you buy local produce from a place like Fresh Stop? (circle)
   1= Really do not want me to      3= Do not care if I do
      5= Really want me to

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11. How important is their opinion to you? (circle)
   1= Not at all important to me      3= A little important to me
      5= Very important to me

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12. Do you also buy fruits and vegetables at grocery stores? Y/N

13. How much fruits and vegetables do you buy/week from the grocery store? (circle one)
   Less than $10.00      Between $10.00-$30.00      Between $30.00-$50.00
   More than $50.00

14. What grocery store(s) do you buy from?

15. Why do you buy there?
16. If yes, what produce do you usually buy at the grocery store in a week? (mark all that apply with a √)

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17. Do you usually use all the produce you purchase? Y/N

18. If no, what is usually left over?

19. Rank the quantity of types of food you purchase in a grocery store on a scale from 1-6 with 1 being the most common type of food you buy:
Meat __
Dairy (milk, cheese, yogurt etc.) __
Prepared meals (frozen, boxed etc.) __
Processed food (crackers, chips, candy etc.) __
Fruit/Vegetables __
Other __

20. Do you ever buy frozen or canned fruits and vegetables? Y/N

21. How much frozen or canned produce do you buy compared to fresh produce? (circle one)
   Less frozen or canned than fresh produce
   Same amount as fresh produce
   More frozen or canned than fresh produce

22. Do you prefer frozen or canned produce over fresh produce? (circle one)
    Yes
    No
    Sometimes

23. Why?

24. What are your favorite types of produce that you receive from Fresh Stop?

25. What are your least favorite types of produce that you receive from Fresh Stop?

The following demographic information about you will help us interpret the results of our survey:

1. How old are you? ______________ years

2. What is your gender? (check one) _______ Female _______ Male
3. How would you describe your race/ethnicity?
   o Black (African American, Caribbean American, African, Caribbean)
   o White
   o Asian American, Asian
   o Native Hawaiian or other Pacific Islander
   o Hispanic, Latino(a)
   o American Indian, Alaska Native
   o Multiracial
   o Other (please specify) ________________________________

4. What is your marital status?(check one) _______ Married     _______ Divorced
      _______ Single

5. How many people are in your household? There are _____ people in my household.

6. How many children do you have? I have _____ children.

Please turn in your survey, and tell me you are done so you can sign the receipt and receive your $10.

THANK YOU FOR PARTICPATING!
Appendix B: Non-Fresh Stop Surveys

Verbal Interview:

(Interviewer Reads Below)

“Fresh Stops are locations that sell boxes of produce that comes from local farms. Instead of picking the produce yourself, everyone is given a box with the same quantity of produce, often including green beans, grapes, carrots and whatever other fruits and vegetables are available that week. You can buy a small share or a family size box one time each week. Boxes are affordable prices with 50% discounts for low-income qualifying customers. The nearest Fresh Stop is at ______”

1. What are the benefits of shopping at your main grocery stores?

2. What are the benefits to preparing food produce from the places you buy from?

3. What is difficult about buying food from these places?

4. What is difficult about getting to these places?

5. What are the disadvantages of buying produce?

6. What are the benefits of buying produce?
Thank you for your interest in participating in this study! I am researching the kinds of food people buy and eat, and why they shop where they do. In this survey you will answer a series of questions about the type of fruits and vegetables you buy, what the benefits are to buying food from your current store and what are the things that currently make buying produce difficult.

1. How much do the following people care if you buy local produce from a place like Fresh Stop? (circle)
   1= Really do not want me to want me to
   3= Do not care if I do
   5= Really

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<td>Children</td>
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<tr>
<td>Coworkers</td>
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<td>Church members</td>
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</tbody>
</table>

2. How important is their opinion to you? (circle)
   1= Not at all important to me
   3= A little important to me
   5= Very

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Friends</td>
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<tr>
<td>Family</td>
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<td>Children</td>
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<td>Church members</td>
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</table>

3. How difficult does it seem to start buying local produce?
   Very Difficult  A little difficult  Not at all difficult
4. What would stop you?

5. Would the availability of certain kinds of fruits or vegetables affect your interest in buying from Fresh Stops?
   Not at all    Somewhat    A lot

6. Do you ever buy dairy or meat from local sources? Y/N

7. What grocery store(s) do you buy from?

8. Why do you buy there?

9. How much fruits and vegetables do you buy/week from the grocery store? (circle one)
   Less than $10.00   Between $10.00-$30.00   Between $30.00-$50.00   More than $50.00

10. What produce do you usually buy at the grocery store in a week? (mark all that apply)

<table>
<thead>
<tr>
<th>Canned</th>
<th>Fresh</th>
<th>Frozen</th>
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</thead>
<tbody>
<tr>
<td>Apple</td>
<td></td>
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<tr>
<td>Banana</td>
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<tr>
<td>Grapes</td>
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<tr>
<td>Oranges</td>
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<tr>
<td>Pear</td>
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<td>Peach</td>
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<td>Melon</td>
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<td>Tomato</td>
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<td>Potato</td>
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<td>Collards</td>
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<tr>
<td>Onion</td>
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</tbody>
</table>
Beets
Corn
Spinach
Turnips
Lettuce
Peppers
Cucumbers
Carrots
Peas
Other

17. Do you usually use all the produce you purchase? Y/N

18. If no, what is usually left over?

19. Rank the quantity of types of food you purchase in a grocery store on a scale from 1-6 with 1 being the most common type of food you buy and six being the least common:

Meat __
Dairy (milk, cheese, yogurt etc.) __
Prepared meals (frozen, boxed etc.) __
Processed food (crackers, chips, candy etc.) __
Fruit/Vegetables __
Other __

20. Do you ever buy frozen or canned fruits and vegetables? Y/N

21. How much frozen or canned produce do you buy compared to fresh produce? (circle one)

Less frozen or canned than fresh produce
Same amount as fresh produce
More frozen or canned than fresh produce

22. Do you prefer frozen or canned produce over fresh produce? (circle one)

Yes
No
Sometimes

23. Why?
24. What are your favorite types of produce?

26. What are your least favorite types of produce?

The following demographic information about you will help us interpret the results of our survey:

1. How old are you? I am ___ years of age.

2. What is your gender? (check one) _______ Female     _______ Male

3. How would you describe your race/ethnicity?
   - Black (African American, Caribbean American, African, Caribbean)
   - White
   - Asian American, Asian
   - Native Hawaiian or other Pacific Islander
   - Hispanic, Latino(a)
   - American Indian, Alaska Native
   - Multiracial
   - Other (please specify) ____________________

4. What is your marital status? (check one) _______ Married     _______ Divorced
   _______ Single

5. How many people are in your household? There are _____ people in my household.

6. How many children do you have? I have _____ children.

7. What is the yearly income in your household? _________
Please turn in your survey, and tell me you are done so you can sign the receipt and receive your $10.
THANK YOU FOR PARTICPATING!

I affirm that I have adhered to the Honor Code on this paper.
Gabriela Rosalie Baker