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How Do Food Shopping Behaviors Differ Between High-income and Low-income Shoppers in the Grand Rapids Metropolitan Area?

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How Do Food Shopping Behaviors Differ Between High-income and Low-income Shoppers in
the Grand Rapids Metropolitan Area?

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A Thesis Submitted to the Graduate Faculty of

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Abstract

Background The social determinants of health and health equity are influenced by access, environment, and socioeconomic status (SES). Health inequities are preventable and can be avoided with systemic policy change surrounding the distribution of wealth and resources. Few studies have researched the differences in different income levels and the influence income has on food shopping behaviors.

Objective The purpose of this study was to investigate the differences in food shopping behaviors between high-income and low-income shoppers living in the same zip code.

Subjects Sixty-eight individuals who live in the 49341 zip code which represents a small city in Kent County, Michigan.

Methods Participants were recruited in collaboration with North Kent Connect and the Rockford Farmer's Market. The participant survey contained demographic and food security questions. The survey allowed for participants to voluntarily enter their email address if they wished to attend a virtual interview for an in-depth discussion on food shopping behaviors. The surveys were analyzed using SPSS 25, two personal interviews, one for each income group were conducted via Zoom, transcribed, and hand-coded using thematic analysis.

Results The main themes from this qualitative study of a low and high-income participant in the 49341 zip code were that high-income food shopping behaviors were influenced by (1) types of foods needed, (2) household determinants of food value, (3) location and time of shopping, and (4) food safety habits. The low income shopper's food behaviors were influenced by (1) type of store, (2) household determinants of food quality, (3) location and time of shopping, and (4) influence of children on shopping.

Conclusion There were differences and commonalities found in both the high and low-income participants surrounding their food shopping behaviors. The shoppers differed on dietary needs, meal planning, type of store shopped at, nutritional quality of foods but were fairly similar on COVID-19 impact, child influence, perception of health, and impulse purchases. More research is needed to expand on these findings including increasing sample size and racial and socioeconomic diversity.

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Abbreviations

Socioeconomic status (SES)

United States Department of Agriculture (USDA)

Theory of Planned Behavior (TPB)

Cardiovascular disease (CVD)

Supplemental Nutrition Assistance Program (SNAP)

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

Double Up Food Bucks (DUFb)

Chapter 1 Introduction

Health inequities that arise from food insecurity, food access issues, systemic racism, and low socioeconomic status (SES) can lead to a decrease in diet quality, poor health outcomes, and shorter life expectancy.¹⁻⁵ Health inequities are found between and within countries, states, and cities.^{6,7} Globally, food access inequities have led to nearly 820 million individuals being undernourished.⁷ In the United States, one of the world's wealthiest countries, 11.1 percent of households identify as food insecure which means undernourishment and poor health outcomes are more likely in these individuals.⁸ Certain populations experience higher rates of food insecurity including households with children, households with children and a single parent, living alone, minority households, and households with an income level 185 percent below the federal poverty level.⁸ Other research showed that nearly 51 percent of households experience some form of food insecurity at least once over a 5-year period which means their answers about health inequities and food security now may be different next year and can affect the overall incidence.⁹ This shows that food insecurity status changes over time and can recur multiple times.⁹ Health inequities are preventable and can be avoided with systemic policy change surrounding the distribution of wealth and resources.^{10,11} Without systemic policy change, individuals of low SES will continue to struggle with the problems influenced by health inequities.

In the 1980s, health inequities became a more talked about issue in the U.S.^{12,13} People began to realize that health inequities were prevalent in minority communities and small scale research showed large differences in health based on geographic area and that clinic practices were not random.¹² Epidemiologists in Europe have been investigating social class differences of health since the 19th century, however, the U.S. government began to take interest and created a

task force to research minority health outcomes in 1985.^{12,13} Food security research began even later in the United States with the United States Department of Agriculture (USDA) creating a standardized questionnaire to address food security issues in 1995.¹³ Today, health inequities and food insecurity remain high. Minority populations are at an increased risk of low SES, chronic diseases, food insecurity, and shorter life expectancy.^{1-6,14} The research that has been done advocates for policy change and large-scale development changes in order to fix the problem of health inequity. Systemic policy change is needed but there is a lack of research on what individuals experiencing the health inequities and food insecurity firsthand feel would be the best practice for change.

This study investigated how food shopping behaviors differ between high-income and low-income shoppers in the Grand Rapids metropolitan area. Topics addressed are various food shopping behaviors, food security, food access, and ideas for change in individuals within the same community. Conducting research that investigated both a low- and high-income population allowed for the different behavioral themes from each group to be compared and contrasted, thus highlighting the differences in struggles between the low- and high-income individuals. The research is beneficial for local governing bodies to see the differences in food shopping behaviors which may influence the health inequities of individuals within their community. It also helps to advocate for policy change to reduce health inequities and food insecurity/access issues based on input from individuals who are experiencing the hardships surrounding food acquisition.

This research study was conducted at Grand Valley State University and approved by Grand Valley State University's Institutional Review Board. A survey was disseminated via Qualtrics to obtain demographic and food security data; paper copies were also made available.

The participants were able to voluntarily enter their email address if they wish to participate in a personal interview. Two personal interviews were conducted via Zoom separated by income level. The researcher guided the personal interview discussions with set questions to further investigate main food shopping behavior themes. The same questions were asked to each interviewee. When new themes appeared during the interview, the researcher let the participants expand on these ideas. Triangulation was utilized in order to have a comprehensive understanding of ideas discussed. The interviews were recorded, transcribed, and hand-coded for analysis. The interviews were audio-only, and participants used pseudo names.

Chapter 2 Review of Literature

The following review investigates the current literature available on food shopping behaviors, and the differences that are results of social and health inequities. The review is organized by themes which emerged during the analysis of current literature. The Theory of Planned Behavior is used as a framework for this study. Location/environment and income level are the two largest barriers that appear to impact access to healthy food options and increased diet quality.

Theoretical framework

The Theory of Planned Behavior (TPB) is used to determine an individual's engagement in health behaviors at a specific time.^{15,16} One's intention to perform a behavior is a main component of TPB.^{15,16} The control to perform a behavior is influenced by resources available and intention.^{15,16} However, not all individuals have the same resources to perform a certain behavior such as shopping for and consuming a healthy diet. In low-income individuals, health disparities, lack of resources, and systemic policy issues are problems that are faced when making food purchases.^{1-4,17} These barriers diminish self-control and disrupt the intent to eat in a certain manner.¹⁵ They take away power, may disrupt social norms, and increase the level of difficulty in performing the desired behavior.¹⁵ When food purchases have to be altered due to cost, time, or access, diet quality is often compromised.^{3,18-22} A decreased diet quality can lead to poor health outcomes in an already at-risk population.¹⁸⁻²² Limited research exists on the food shopping behaviors between low-income individuals and high-income individuals. This study was completed to see the inequities that appear around food shopping between low- and high-income individuals. Using the TPB, differences in resources, intention, and behavioral control were investigated between two different income levels, above and below \$40,000.

Synthesis

Social Determinants of Health

The social determinants of health and health equity are influenced by a distribution of wealth, access, environment, and socioeconomic status. The social determinants of health are defined as factors where individuals are “born, grow, live, work, and age.”¹⁷ Health equity means that individuals should have the ability to reach full health potential regardless of their life circumstances.¹ The Commission on Social Determinants of Health² created an evidence-based guide for reducing health inequities globally. The Commission recommends three, large-scale changes to develop health equity for all by improving daily living conditions, reducing the poor distribution of wealth and resources, and measuring the inequities to have a baseline for change.² Location/living environment and income level are two large factors that affect health equity.^{2,4,18} These factors can affect an individual’s overall health, risk of non-communicable diseases, and life expectancy.¹⁸⁻²²

Influence of Location to Stores and Environment on Food Access

The location of and environment in which an individual grows up and resides in influences their health.¹⁸ An example of a neighborhood resource is a well-stocked grocery store with quality, fresh produce options, however lower-income areas may not have access to this type of resource. Food deserts are locations where there is a lack of availability of affordable healthy food options determined by income, distance from supermarkets, and access to a vehicle.²² Lower socioeconomic status (SES) communities are often areas classified as food deserts.^{19,22} Living in a food desert or food swamp negatively impacts the health of individuals in a community and increases the risk of chronic diseases.^{19,22} Food deserts are caused by large, systemic issues of poverty, while being close to stores that do not sell healthy food options

results in a food swamp of empty calories; neither provide healthy food options that are affordable or palatable.^{23,24} The TPB suggests that behavioral intention by an individual to purchase healthy foods when available is influenced by perceived power and whether or not healthy foods are affordable in their community.^{15,16}

A 2016 study looking at the five dimensions of food access, availability, accessibility, affordability, accommodation, and acceptability, conducted focus groups in a rural, low-income population to determine major themes around grocery shopping.²⁵ The strongest theme found was that geography of place, where one lived, was the most influencing factor in accessing healthy food options.²⁵ The results showed a lack of transportation, lack of sidewalks, a long travel time to obtain food, and fear of crime restricted access to stores with a wider food selection.²⁵

A recent cross-sectional study investigated dietary quality and food security in low-income areas to see if there was a connection between shopping behaviors and type of store.²⁶ The research team looked at location of participants to stores and type of store shopped at.²⁶ The results showed that 80-92 percent of individuals shopped at supermarkets but very-low food security individuals shopped at convenience or dollar stores more.²⁶ The very-low food security group also used public transportation more and traveled the shortest distance to stores per week, 9.6 miles on average.²⁶ The researchers proposed that these findings indicate continued support for community-based policy interventions which will increase food access in those who are food insecure to help increase their diet quality and food options.²⁶

Environmental factors like access to healthy foods and ease of shopping may influence poor dietary patterns and increased risk of chronic diseases.^{2-4,20} In 2011, the National Prevention, Health Promotion, and Public Health Council recommended policy change as a way

to create community environments that promote healthy behaviors.^{4,19} Some ideas to improve the community environment include transforming corner stores into healthy stores with local government policy, free classes to increase cooking skills, taxing unhealthy foods, increasing bike lanes and safety around active transport.^{4,19} The physical landscape of communities have the ability to change nutrition and activity habits which may increase the overall health of the community.^{4,27}

Income Level

Income level is a large determinant of overall health and influences access to health care, education, and lifestyle patterns.² Income level, regardless of any other determinants of health, is one of the largest factors of health outcomes for individuals.³ This may be due to income level affecting an individual's dietary pattern.^{27,21,25,26,28} Income level has been shown to reduce overall diet quality, fruit and vegetable consumption, and important intake of vitamins and minerals.^{21,25,26,28} In 2013, Hiza et al.²⁹ evaluated the diet quality of Americans and various demographics using the Healthy Eating Index-2005. The results of this study, when taking income level into account, showed that young and middle-aged, low-income adults had the poorest diet quality.²⁹ High-income adults had a greater consumption of sodium but a better overall diet quality.²⁹ Low-income children had better diet quality which may be due to school lunch program participation.²⁹

The influence income has on dietary patterns may be a risk factor for non-communicable diseases influenced by diet.^{2,3,19,21,22,28} Cardiovascular disease (CVD) is the leading cause of death in Americans and the incidence of CVD is higher in individuals with low socioeconomic status putting an unfair health burden on those who can least afford it.^{2,3,19,22,26,28} CVD is a modifiable disease that is influenced by income level and access to care along with diet

quality.^{2,3} Several studies investigated risk factors for CVD, including diet quality, and compared them in countries of various income levels.^{19,28} The results showed a descending quality in diet from higher to lower income countries.^{19,28} The lower-income countries were lacking fruits, vegetables, fish, and fiber.^{19,28} High-income countries had a better overall diet score but consumed more saturated fat, sodium, and processed foods.^{19,28}

Food Shopping Behaviors

Food shopping behaviors are influenced by an individual's income level, proximity to stores, type of stores available, transportation, access to healthy, affordable foods, and family. In 2019, the average American spent about 53 hours per year shopping for groceries.³⁰ With an average shopping frequency of 1.2 times per week.³⁰ In rural settings, individuals spend more time obtaining food, have more difficulty with transportation, and experience a lack of store options.³¹⁻³⁷ On average, low-income individuals in a rural setting have an extra 11.9 minutes spent on travel time to do food shopping than high-income individuals who live in an urban area.³⁶ These factors combined create unique and personal food environments and impact dietary habits.

Federal Food Assistance Programs

Households using federal food assistance programs have inimitable challenges around grocery shopping. Income constraints, stigma related to reliance on welfare, and timing of benefits all contribute to mealtime stress. Certain programs such as Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) allow individuals to obtain food items from eligible stores if they meet the requirements of the program. These programs are income-restricted, and WIC is solely for pregnant, postpartum, and breastfeeding women and infants/children up until age five. A 2016

study on WIC participants found that food access was compromised due to income level and food budget.²⁵ Many participants had no income or very low income and were relying on both WIC and SNAP for their food purchases.²⁵ The main shopping trips were scheduled around when food benefits would get reloaded onto the participants' accounts.²⁵ The results also showed that individuals shopped at stores where there was more social acceptance and ease of shopping with a food assistance card.²⁵

A recent study investigated WIC participants and decision making, often with a child present during the trip.³¹ The results showed the largest influence on food purchases in this population was child preference and request for food items.^{25,31} Child influence caused parents to make purchases they do not normally make in order to treat their children and make them happy.^{25,26,37} This purchasing behavior caused mothers to reprioritize what else they were planning on buying on their shopping trip due to budget constraints.^{25,26,37} Several other influences on shopping behaviors that have been found in households using food assistance programs were price, sale items, WIC-eligible items, priorities of certain items (i.e. meat), and buying food that would not be wasted.^{31,32}

Many SNAP and WIC participants can use their food benefits at farmer's markets along with grocery stores. However, low-income individuals do not attend farmer's markets as frequently as higher-income individuals.³⁸⁻⁴⁰ Race may play a role in why low-income individuals and minorities do not frequently attend farmer's markets. Farmer's markets often target wealthier individuals and are located in areas of a city that have a higher socioeconomic population.⁴¹ If the farmer's market has vendors that accept food assistance benefits, they are often set up near each other which segregates the individual shoppers who are low-income from the rest of the market customers.⁴¹ There is also backlash from farmer's wanting to accept

vouchers due to already having cash-paying, wealthier, and usually white customers.⁴¹ Several studies have been done looking at the barriers to low-income individuals shopping at farmer's markets. The main barriers are a lack of awareness of shopping at a farmer's market, lack of transportation to the market location, food safety concerns, not eating healthy foods or knowing how to prepare them, and issues with the market vouchers.³⁸⁻⁴⁰ This is unfortunate as farmer's market utilization by low-income individuals and those on food assistance programs can increase access to fresh fruits and vegetables.³⁸⁻⁴⁰

Education appears to be a large barrier around shopping at a farmer's market. An education initiative on farmer's markets was completed in New York City for WIC participants.⁴² The initiative included WIC staff training, educational handouts to participants, market tours, and the use of Health Bucks.⁴² The results of the initiative showed that the use of Health Bucks increased from 30 percent in 2014 to 88 percent in 2015 which was when the initiative took place.⁴² This study showed that more education on using farmer's markets may help increase the number of low-income individuals who shop at them.⁴²

Double Up Food Bucks (DUFb) is another initiative by the USDA to increase low-income individual's participation in shopping for food at farmer's markets. DUFb programs usually provide a dollar-to-dollar match incentive given to SNAP participants who spend a certain amount at a farmer's market on fresh fruits and vegetables.^{43,44} The amount needed to spend ranges per state.⁴⁴ In Michigan, there are locations where up to \$20 can be matched and the customer will receive that same amount in a token, gift card, or funds on their SNAP card for use in the farmer's market.⁴³ Less than 2 percent of individuals on SNAP used their benefits at a farmer's market which reduced the benefits of DUFb.⁴⁴ There have been contradicting results from DUFb studies; some studies showed an association with DUFb use at farmer's markets and

an increase in fruit and vegetable intake, while others showed no change and fewer SNAP participants returning to the farmer's market.^{43,44}

Food pantries are another resource that is used by households to obtain supplemental food for free or at a discounted rate. Remley et al.³³ conducted a study using a survey to investigate the perceptions of food pantries from individuals who utilize the food pantry for food assistance. The participants were mostly females, over age 35, and 96.4 percent were non-Hispanic.³³ Between 19-29 percent of respondents stated that the food pantry gave all the food types that they wanted.³³ Those who did not get all the foods they wanted stated they would like more fresh produce and lean meat options.³³ Individuals who had a chronic condition felt that the food pantry lacked enough options and wanted more to choose from.³³ There was more positive feedback about food pantries when individuals were allowed to choose their food instead of being given certain food items that they may not use.³³

Food pantries were created to be an emergency food service only, not for regular use. Individuals who use food pantries as a resource to obtain food often have a lack of choice, restrictions on hours to shop, and limited frequency of use.⁴⁵⁻⁴⁹ Several studies investigated food pantry items along with feelings of individuals utilizing the food pantry. The results of these studies showed that food pantry food was not able to meet essential nutrient needs and did not provide a sufficient amount of food.^{33,46-49} Unreliability of food pantries and restrictions on use were other issues identified.^{32,46-49} Participant feedback showed that many food pantries lacked culturally and/or age-appropriate foods and did not have enough food options.⁴⁸ When relying on food pantries for food assistance, individuals have an added stress which reduces their power and behavioral control since choice is eliminated.^{15,16}

Type of Store

In low-income households, supermarkets were the main type of store shopped at for groceries, regardless of proximity to the store; while individuals with very-low food security shopped more frequently at convenience and dollar stores than other food security levels.^{26,31,32} Most supermarkets allow for the use of food assistance benefits such as SNAP and WIC which was a primary reason why low-income individuals tried to shop at them more frequently.^{25,26,31,32} In several focus group studies, low-income individuals on food assistance programs stated that they go to various stores in order to get the best prices.^{25,26,31,32} Supermarkets and large grocery stores often have lower prices than small family owned stores.⁵⁰⁻⁵³ However, these stores are not as commonly found in urban areas where food deserts are more prevalent, minorities and lower-income individuals are more likely to live, and lower food prices are needed.⁵⁰⁻⁵³ Many individuals avoid using drug stores and dollar stores since prices were found to be higher, however, if they ran out of something they needed soon, they would shop at these stores to due to their closer proximity to home.^{25,26} Supermarkets and large grocery stores followed the mostly white, middle-class individuals to the suburbs to develop new stores.⁵¹ Now, it is more difficult for stores to develop in the urban communities because higher rent prices, less space, and zoning laws.⁵⁰⁻⁵³

In rural communities, drug stores, convenience stores, and dollar stores are being used more often as main sources for food purchases even though the availability, price, and quality of foods are described as worse.^{25,26,36,51,54} Dollar stores were found to have a large selection for food but lacked fresh produce and meat, yet these stores are becoming more popular in rural settings.⁵¹ Convenience stores and corner stores are more popular places to shop at in low-income, urban settings. Fifteen percent of low-income individuals used convenience stores as

their primary food store.²⁶ Two studies looking at the relationship between diet quality and obesity risk showed that individuals who use convenience and corner stores more frequently consume more energy dense foods and lack fruits and vegetables.^{50,54} Based on the studies, public health interventions should be aimed at increasing healthy food options in alternative food stores since they are used for grocery purchasing by low-income individuals.

Time Spent Shopping/Frequency of Trips

The time spent acquiring food for low-income individuals is varied and appeared to be influenced by location to stores, transportation, children present when shopping, and income levels.^{25,26,37} Several studies using focus groups and surveys found that low-income individuals shopped less frequently and for less time due to other obligations such as family and employment.^{37,46} Other studies contradicted this result and found that low-income individuals took more time shopping due to farther travel to supermarkets and grocery stores, an increased use of public transportation, and visiting more stores to find the lowest price.^{25,26,34}

Frequency of trips in low-income individuals was not significantly different than higher-income individuals, however in very-low income individuals and those utilizing food assistance programs there was a difference in shopping frequency.²⁶ Several studies found various frequencies of shopping trips ranging from 1.2-8.1 times per month.^{25,26,28,29,31,32} This range was influenced by location in the United States, types of stores participants had access to, paycheck timing, and access to a vehicle.^{25,26,28,29,31,32} Households using federal food assistance programs plan their shopping trips around when benefits are reloaded onto their cards.²⁵ Within rural communities, there was found to be a large shopping trip for the month, followed by smaller trips when things ran out.³⁴⁻³⁷ This method of shopping likely reduces the amount of fresh produce consumed.³⁴⁻³⁷

Types of Food Purchased

Cost and time are two large factors that are connected with one's ability to eat healthy due to healthier food options being more expensive, lack of access to healthy foods in low-income areas, and less time to prepare scratch meals.^{25,26,28,29,31,32,34-37} Low-income women with children stated that buying new foods that their children may not like was a waste of money or they could not afford items that the children wanted to try.^{31,37,55} Whereas high-income women think about the food wasted if children do not like it, but the economic burden is not as high or stressful if the food is thrown away.⁵⁵ Another study investigated the ways low-income individuals evaluate food cost.³⁷ The results showed that low-income shoppers judged food items absolutely (how it will meet the family's needs for the price) and relatively (how the price of food is in comparison with other options.)³⁷

Individuals who have time constraints around cooking and healthy eating have been shown to buy more convenience foods and utilize fast food outlets over scratch cooking.^{31,53-57} A qualitative study investigated barriers to fruit and vegetable consumption in African-Americans and found that the three largest barriers to purchasing, prepping, and cooking with fruits and vegetables were cost, convenience, and preference.⁵³ Time constraints were also a barrier, more so with vegetable purchases than fruit.⁵³ In another study focused on low-income parents, time scarcity was a large influence on the use of convenience foods that are easy to prepare and using takeout foods.⁵⁵ In single-parent households, time was found to be a greater influence on cooking habits than money.⁵⁶

Federal food assistance programs are a determining factor in the purchase of foods. WIC participants tend to buy foods that are included on their benefits in order to maximize the program.²⁵ This nutrition program encourages healthy eating through education but offers

minimal funding for fruit and vegetable purchases each month. Other studies looking at WIC participants found that their food purchases are highly influenced by child preferences, what is on sale, perception of health of food, and prioritizing meat.^{25,26,31}

Type of store is another large influence on what foods are purchased. Alternative stores, like dollar stores and drug stores, typically offer less fresh fruit and vegetable options, reducing the dietary quality of consumers who use these stores.^{51,54,58} When shopping at alternative food stores instead of a supermarket, 71 percent of individuals consumed an unhealthy diet defined as high in sugar-sweetened beverages, baked goods, candy, and savory snacks.⁵⁸

Individuals of low SES often use sales ads and coupons as a way to save money when grocery shopping. Checking what is on sale before going shopping allows low-income individuals to develop a grocery shopping list based around food items that are on sale.^{25,26,31,32,50,52} Individuals also use coupons to drive food purchases and have been found to more likely stock up on items when they are on sale or have a coupon.^{25,26,31,32,50,52,58} Lower-income households with tight budgets for food shopping trips utilized more coupons, sales ads, list making, and shopping around for the best price than those with higher-incomes.

^{25,26,31,32,50,52,58} The Bureau of Labor and Statistics found that the lowest income level (\$11,285 before taxes) spent an average of \$4,100 on food per year which is 35 percent of total income and the highest income level (\$204,975 before taxes) spent around \$13,350 which is 8 percent of total income.^{59,60} Based on the Thrifty Meal Plan developed by the USDA, a family of four following the Thrifty Meal Plan spends around \$7,080 per year.⁶⁰ In comparison, a family of four following the Liberal Meal Plan spends around \$13,200 on food per year.⁶⁰ Given the large differences in total dollars spent on food one could assume that shopping and consumption patterns vary with household income.

Conclusion

The TPB is used to determine an individual's likelihood of certain health behaviors at one time.^{15,16} An individual's likelihood of carrying out a health behavior is highly influenced by their environment, social support, accessibility, socioeconomic status, and internal motivation. While nutrition professionals encourage healthy eating for all of their clients, it is immeasurably harder to follow that advice when deterred by income, access, and availability.^{15,16} This review of literature has shown that low-income individuals often have struggles related to food acquisition. Structural racism and resulting health inequities arise from lack of access to affordable healthy foods, reliable transportation to supermarkets, limited time to shop due to employment and family constraints, and restrictions imposed by federal and charity food programs.^{25,26,31-33,46,55,56,58} The literature is lacking studies that directly investigate the inherent differences in food shopping behaviors between high- and low-income populations in the same geographic area. Many studies have been completed looking at low-income behaviors and challenges that are faced around food shopping. The lack of research comparing high- and low-income food shopping behaviors does not fully showcase the struggles surrounding food acquisition, food access, and food security that low-income individuals experience when compared to their high-income counterparts. The differences in behaviors between these groups may help lead to policy change around food access and health inequities based on income level. This research aimed to fill the gap by investigating food shopping behaviors within both a low- and high-income population in the Grand Rapids metropolitan area to compare and contrast the different behavioral themes that arise in each group.

Chapter 3 Methodology

Health inequity and food insecurity are large problems in the United States. Low-income populations are at greater risk of health inequities due to systemic racism, lack of policy changes, and poor access to resources. When food shopping behaviors are compromised due to health inequities, poor access to food, cost factors, and/or time constraints, diet quality may be decreased which may lead to worse health outcomes.^{1-5,25,26,31,32,54,58} The purpose of this study was to investigate the differences in food shopping behaviors between high-income and low-income shoppers. The participant section explains who the participants were and inclusion and exclusion criteria. The instrumentation section explains the study design, ways data was gathered, and why these data collection methods were chosen. Data collection explains how participants were recruited, the timeline for data collection, the researcher's role, and what topics were addressed by the data instrumentation. Data analysis explains the statistical platform used, the type of test performed, and coding procedures.

Participants/Subjects

The participants included in the study were individuals 18 years old or above who live within the 49341 zip code. The exclusion criteria are surveys completed by participants under 18 years of age and surveys that do not have the zip code 49341; individuals who do not speak English or do not have the ability to access to Qualtrics/Zoom are unintentionally excluded due to lack of survey/interview access. Incomplete surveys were removed from analysis separately.

The zip code 49341 has a population of 33,737 people and is a mix of urban and rural communities.⁶¹ The median household income is \$74,626.⁶¹ This led the researcher to choose \$40,000 as the margin for lower versus higher income for the personal interviews for the zip code. Thirty percent of individuals who live here have no earnings from employment.⁶¹ The

median age of individuals who live here is 38.⁶¹ In this community, ninety-six percent of individuals are White/Caucasian.⁶¹ However, the influence of racism on food access and food security addressed in the literature review is still important to note since the nearby city of Grand Rapids has a large minority population where these problems persist. In the 49341 zip code, the four percent of individuals of a minority race may feel more struggles within their community, therefore, racial differences were open to be explored.

Instrumentation

The study was conducted using qualitative research methods. A survey was developed by the researcher and used to collect demographic and food security data. The survey was face validated prior to use. Qualtrics was used to disseminate the survey, along with paper copies used at North Kent Connect. The survey questions were influenced by the research purpose and demographic data was collected to recruit participants for the focus group. Using a survey to obtain data allowed for increased safety due to no contact with participants, de-identified data, accessibility to many individuals, and efficient data compilation. De-identified data was collected to protect the participant's privacy. Characteristics collected in the survey were zip code, primary shopper, gender, age range, income level, number of family members shopped for, and use of federal food assistance programs.

Two personal interviews were held after the participant survey to further expand on food shopping behaviors and individual thoughts and feelings. The personal interview questions were based on a literature review of similar research and addressed topics such as time and transportation, influences on food purchases, types of stores shopped at, money spent, and stressors related to food shopping.

Data Collection

Participants for the study were recruited through collaboration with North Kent Connect and the Rockford Farmer's Market, one time at each facility. Both organizations formally agreed to survey distribution at their facilities (see appendix A,B). The collaboration with these organizations was done to reach participants from both income levels as well as the facilities understanding the need for the research. Flyers and handouts containing a QR code that linked directly to the survey was placed at both facilities (see appendix C,D). The researcher also handed out flyers and paper surveys at Rockford Farmer's Market while following the social distancing and sanitation guidelines. The survey began with an informed consent page to be completed before participants can proceed to the survey. Survey participants were able to voluntarily enter their email address at the end of the survey if they wanted to participate in the virtual interview. The survey was distributed in early August and closed in mid-September; 86 surveys were collected.

Volunteers for the personal interviews were contacted via email. A random number generator was used to determine the order the high-income level participants were contacted for participation in the interview. Eleven individuals gave their email to volunteer for the interview, so participants were assigned a random number from one to eleven and they were entered into a random generator to reduce any bias from the researcher. The low-income level only had one individual volunteer to participate so no random generator was needed. The interviews were scheduled for late September/early October after the surveys were completed.

The target number of participants for the personal interviews was one person per income level. The interviews were divided by income level; the high-income being above \$40,000 and low-income being below. This division by income levels allowed for a more open conversation on the topics that were discussed. The interviews were held via Zoom and recorded for data

collection and transcription. The interviews were conducted with audio-only and with participants using pseudo names. The researcher guided the discussion with set questions to further investigate main food shopping behavior themes (see appendix E). If new themes appeared during the interview the researcher let participants expand on these ideas. Data and method triangulation were utilized in order to have a comprehensive understanding of ideas discussed by interviewing multiple informants and completing a survey and personal interview.

Data Analysis

Survey data analysis was done using SPSS 25. Of the 86 participants who filled out a survey with completed informed consent, 68 surveys (79.1%) were included for analysis. 18 surveys were excluded due to the incorrect zip code being listed (n=11) and incomplete (n=7). Crosstabulations were done on the survey questions to see if any adjustments were needed to the interview questions as well as obtain demographic data. The personal interviews were transcribed, and hand-coded using an inductive coding process for a content analysis. The researcher read through the transcripts and identified text segments that appeared which were organized by major themes that arose from each income group. The coded segments were analyzed and sorted and used to write the discussion.

Summary

The purpose of the research was to investigate the differences in food shopping behaviors in high- and low-income individuals in the zip code. The participants included in this study are those who are 18 years old or above and live within the 49341 zip code. Flyers were given out for participant recruitment via collaboration with North Kent Connect and the Rockford farmer's market. The survey contained questions about demographic and food security data. The survey allowed for participants to voluntarily enter their email address if they wish to attend a virtual

interviews for an in-depth discussion on food shopping behaviors. Two personal interviews were held for the different income levels to allow for open discussion on food shopping behaviors.

Chapter 4 Results

Survey Demographics

The demographics and food security data from the 68 completed surveys are shown in Table 1. The 49341 zip code has 96 percent of individuals as White/Caucasian.⁶¹ Therefore, it can be inferred that the majority of the participants who completed the survey and interview were White/Caucasian.⁶¹ After survey analysis, two personal interviews, one for each income group were conducted via Zoom, transcribed, and hand-coded using thematic analysis.

Table 1. Self-reported demographic data from individuals who live in the 49341 zip code and completed the survey.

Characteristic	Completed Surveys with Correct Zip Code (n=68)
	<i>number (%)</i>
Primary food shopper	66 (97.1)
Sex	
Male	7 (10.3)
Female	61 (89.7)
Age	
18-29	3 (4.4)
30-49	32 (47.1)
50-69	23 (33.8)
69 or older	10 (14.7)
Income range	
Less than \$26,000	12 (17.6)
\$26,001-\$40,000	7 (10.3)
\$40,001-\$79,000	10 (14.7)
\$79,001-\$100,000	10 (14.7)
Over \$100,000	29 (42.6)
Family members shopped for	
1	12 (17.6)

2	15 (22.1)
3	8 (11.8)
4	25 (36.8)
5	7 (10.3)
6	0 (0)
7 or more	1 (1.5)
Average meals eaten at home	
1-4	1 (1.5)
5-8	5 (7.4)
9-12	9 (13.2)
13-16	16 (23.5)
17-19	20 (29.4)
20-21	17 (25.0)
Enrolled in federal food assistance	
Yes	9 (13.2)
SNAP	6 (8.8)
WIC	1 (1.5)
Free and Reduced School Lunch	2 (2.9)
Emergency Food Assistance	1 (1.5)
No	59 (86.8)
Interest in Personal Interview	11 (16.2)

*One participant enrolled in both WIC and Emergency Food Assistance.

High-income Personal Interview

The high-income personal interview was conducted with a female, age range between 18-29, food shopping for two individuals who eat 9-12 meals at home per week, use no federal food assistance programs, and have an income level between \$79,001-\$100,000. Four main themes appeared from the high-income interview: (1) influences on types of foods purchased, (2) household determinants on value of foods, (3) location and time of shopping, and (4) food safety

habits. Several subthemes also appeared from analysis of the personal interview. Table 2 shows the main themes, subthemes, and quotations that represented the discovered themes.

Theme 1: Influences on types of foods purchased. Within this theme, there were three subthemes identified.

Dietary needs. The participant noted that dietary needs had a large influence on foods purchased since she is avoiding lactose and in general focused on buying “healthy” foods. Impulse purchases included new products that accommodated her dietary restrictions.

Meal planning. Meal planning appeared to influence foods purchased since the participant creates meal ideas for the week and makes a grocery list from these meals. Also, staple foods always that were always kept in the household were added to the grocery list as supplies dwindled.

COVID-19. Since the COVID-19 pandemic, the change in the availability of foods has caused the participant to purchase larger quantities of certain foods when they are available. The meat shortage caused an increase in prices along with limited supply which the participant noted as a budget stressor. When things are out of stock, she stated it threw off the rest of the shopping trip.

Theme 2: Household determinants on value of foods. Two subthemes were found within this theme.

Price. Price was a large influence on food purchases and the participant noted sticking to the budget was important to her household. The participant also understands that food purchases are a necessity but being able to budget and be aware of spending was reported. Brand names were not reported to have an increased influence on purchases

compared to store brands, as she did not notice a “huge difference” in quality so the participant chose to purchase store brands.

Season. The participant reported being a seasonal shopper and looks for value in foods based on what season it is and how they cook (i.e. grilling in the summer). Also, she attempts to eat seasonally including foods that are locally in season.

Theme 3: Location and time of food shopping. Two subthemes were found within this theme.

Alternative stores. The participant reported using alternative stores close to home if she needed something she didn’t get on the shopping trip, but she would not use these stores for routine food shopping.

COVID-19. Crowds were something that influenced the food shopping of the participant. She reported not being able to find a good time to go shopping since the store she shops at is always busy. This also influenced the use of alternative stores since they were usually less crowded usually.

Theme 4: Food safety habits. One subtheme was found under food safety.

Shopping the store. The participant reported starting with the dry, non-perishable food items first and from there starting with the back of the store and moving towards the freezer/cooler items including meat and produce to ensure safety while at the store.

Table 2. Semi-structured personal interview to identify themes surrounding food shopping behaviors in a high-income (>\$40,000) individual within the 49341 zip code.

Main Theme	Subtheme	Quotations
Type of foods purchased	Dietary needs	“I recently found out that I was lactose intolerant, so we've been trying to find brands that are um you know vegan or um doesn't contain milk or dairy products, so trying to find substitutes for that.”
	Meal planning	“Obviously the dietary needs” “Sometimes we try to plan out like kind of what we're going to do for the week, so we'll get specifically the ingredients that go with them.”

	COVID-19	<p>“Throughout the previous week if there's anything that we do run out of that we kind of always have in our house, we will add it to the grocery list so we kind of have a running list already going.”</p> <p>“When it comes to like quantities, so like if I see chicken is in stock and they have a small three pack and a big six pack or whatever, like I'd get the six pack just to make sure I have enough for you know 2-3 weeks or whatever.”</p> <p>“Definitely because of the pandemic it's definitely different. I feel like especially NOW you know people are stocking up on things. So, when things are out of stock and it kind of throws you for a loop on what you can substitute or what you need to get instead of that”</p> <p>“There's been a huge price increase in like meats and stuff like that and a shortage of it as well”</p>
Value of foods	Price	<p>“It kind of depends. I mean we've tried store brand and name brand of you know yogurts and milks and stuff like that and I don't see a huge difference in them. So then, it kind of goes to like the price.”</p> <p>“I know it's the necessities and kind of what we need but just being able to budget that out and think about being more aware of what we're spending.”</p>
	Season	<p>“We kind of stick with what we know and we're kind of um seasonal people when it comes to the menu items that we make. So, like obviously in the summer we grill a lot more, so we get more stuff for grilling. Or when we like kind of going into this fall season we do like pot pies and Shepherd pie and soups and stuff like that.”</p>
Location/Time	Alternative stores	<p>“Just location, it's a lot closer than going back to the grocery store.”</p>
	COVID-19	<p>“I can never find a right time to go because anytime I go it's busy, and I just don't like crowds like a ton of people or anything like that”</p> <p>“Seems to be less crowded”</p>
Food safety	Shopping the store	<p>“I start with like dry products and just items that are non-perishable and you know not cold, doesn't need to stay in a cooler or be cold or anything like that. Just to be safe while I'm at the store.”</p>

Low-Income Personal Interview

The low-income personal interview was conducted with a female, age range between 30-49, food shopping for three individuals who eat 17-19 meals at home, utilize the Free and Reduced School Lunch Program, and an income level between \$26,001-\$40,000. Four main themes appeared from the low-income interview: (1) type of store shopped at, (2) household determinants on quality of foods, (3) location and time of shopping, and (4) child influence on

shopping. Several subthemes also appeared from analysis of the personal interview. Table 3 shows the main themes, subthemes, and quotations that represented the discovered themes.

Theme 1: Type of store shopped at. Within this theme, there were two subthemes identified.

Farmer's Market. The participant noted she shopped at a farmer's market weekly and reported that shopping there gave her a more personal experience and the ability to connect with community members. She only noted she would not make a list of what she needed from the farmer's market since she felt she was very intentional about purchases and had a mental list of what she would like to purchase to save money and get better produce. The Double Up Food Bucks program was mentioned by the participant as increasing shopping done at the farmer's market when the program was active and she has continued to shop there.

Grocery store. The participant noted that she shopped at a grocery store once every 2-3 weeks and feels it is a less personal experience since she doesn't know the workers. She stated she always makes a list when going to the store since the options there are more concrete. The participant reported more impulse purchases were done at the grocery store like snacks that would be good for the kids. Alternative/convenience stores are not frequently used by the participant since prices are higher and it is more junk food.

Theme 2: Household determinants on quality of foods. Two subthemes were found within this theme.

Perception of health. The participant reported good, fresh produce was a large determinant of her shopping behaviors since she does a lot of scratch cooking for her family. The participant tries to choose minimally processed foods since what she and her

kids eat is an investment in their health. Fast food was reported to be eaten one time per week.

Price versus quality. The participant stated that price would sometimes come second when choosing foods. If the nutrition and quality was increased, that would overpower what the price was.

Theme 3: Location and time of food shopping. Two subthemes were found within this theme.

Personal nature of shopping. The participant spends an hour and a half to two hours at the farmer's market when obtaining food. This is influenced by the participant wanting to have a personal experience and talking to the vendors as well as other members of the community. She reported spending an hour at the grocery store at most.

Availability. The participant recently changed her grocery store shopping since she has less time to do the shopping within her community. Her child has a ballet class in a different community so for convenience she goes to the grocery store while her daughter is there instead of finding another time to do it within her community.

Theme 4: Child influence on shopping. Two subthemes were found under child influence.

Child preference. The participant reported asking her children before going shopping if they needed anything. Child input led to the decision of what foods were purchased.

Impulse purchases. The participant noted more impulse purchases were made with children present. She stated she asks herself if it is a good snack for herself or the kids and would purchase something based on that.

Table 3. Semi-structured personal interview to identify themes surrounding food shopping behaviors in a low-income (<\$40,000) individual within the 49341 zip code.

Main Theme	Subtheme	Quotations
Type of store shopped at	Farmer’s market	“I am using farmers market even more than what I used to and I think part of the reason was because I got into the double up food bucks program through the EBT card system, I think it just it helped me realize, wow I can eat a lot healthier and maybe even at times spend less money on groceries if I’m buying from farmers market versus buying from a regular grocery store” “I’m really intentional about my purchases there”
	Grocery store	“I do make a concrete list just because at farmers market it’s a lot more limited in some respects about what you can get there” “I only go to the grocery store about every two or three weeks” “Hardly ever just because they are higher in price usually and a lot of times it is just junk food at those kinds of places usually”
Household determinants on quality of food	Perception of health	“I do prefer shopping at farmers market just because I feel like I can get healthier foods there.” “Also is there a good selection of produce? I look for that. And is it fresh?”
	Price versus quality	“A lot of times I’m looking for what is the quality of the food. If it’s a high quality food you know very nutritive, I give that greater weight than the price sometimes.”
Location and time of food shopping	Personal nature of shopping	“I like to talk to the vendors at farmers market so that’s part of my routine.” “Farmers market because I like talking to the vendors and sometimes I run into people I know from the community”
	Availability	“I now go over there once a week because my daughter has a ballet class over there, so it’s convenient for me to shop over there as of recently” “I have less time for shopping in my community”
Child influence on shopping	Child preference	“when I make a list, I might ask the kids before going to the grocery store, what is it you need?” “I did buy my son jerky at the most recent visit on Saturday. I don’t usually buy jerky and then I also bought and just about every time I go I do get some kettle corn because they’ve got really good kettle corn and I figure it’s a fairly nutritious snack for my kids”
	Impulse purchases	“When I go to the grocery store there might be maybe two to three impulse purchases of just things, oh hey this might sound good as a snack for the kids or for me.”

Chapter 5 Discussion and Conclusions

The main themes from this qualitative study of a low and high-income participant in the 49341 zip code were that high-income food shopping behaviors were influenced by (1) types of foods needed, (2) household determinants on value of foods, (3) location and time of shopping, and (4) food safety habits. The low income shopper's food behaviors were influenced by (1) type of store, (2) household determinants on quality of foods, (3) location and time of shopping, and (4) childhood influence on shopping in the low-income household. There were clear distinctions and commonalities between the two different income levels. The TPB theory is summarized as one's intention to perform a behavior.^{15,16} The control to perform a behavior is influenced by resources available; lower resources diminish self-control and disrupt the intent to eat in a certain manner.¹⁵ As expected, the low and high-income participants in this study had different resources available to them, including income, time, knowledge, and food access.^{15,16} When food purchases have to be altered due to cost, time, or access, diet quality is often compromised.^{3,18-22}

Both the low and high-income participants noted that the COVID-19 pandemic has influenced their current shopping behaviors. The low-income participant reported feeling more comfortable shopping at a farmer's market because she did not feel obligated to wear a mask because it is outside. The high-income participant noted feeling stress about shortages of certain food items, increase in price of meats specifically, and avoiding crowds because lack of COVID-19 rule following (masks and distancing). Because the COVID-19 pandemic was so new, little research had been done on the effect it has on food shopping. However, there has been many individuals who have lost a job because of the pandemic which in-turn may affect income level and impacting food shopping behaviors.

The reviewed literature found little research on high-income individuals' shopping behaviors. As expected, the family of three (low-income) did spend more per month on groceries, however they did eat out less. The family of two (high-income) did not note if the money spent on food each week included takeout or was strictly groceries; the low-income food budget did include money for takeout. In this study, 51 percent of individuals who make over \$79,001 per year ate at home 17 times or more per week which is consistent with the low-income participant, not the high-income participant. However, this finding may be influenced by the impact of COVID-19 on food shopping behaviors.

Another factor that may influence how much is spent on food per month is that the participant was only shopping for two people whereas the low-income participant was shopping for three. Regarding price, both the low and high-income participants were cost conscious. The high-income participant noted that sticking to the grocery budget was important; age may be an influence on this as the participant was younger. Current research has shown that high-income individuals may adhere to a budget but do not have as much stress if they go over budget.^{52,55}

Both the low and high-income individuals reported location and time influencing their food shopping behaviors. The low-income participant reported time was a large determinant of food shopping behavior since her child recently started ballet and she had less time to shop in her own community. The low-income population frequently has less time to spend obtaining food per current literature.^{19,22,37,46} The high-income participant reported using alternative stores that were closer to home due to time influence of going back to the grocery store. The frequency of shopping for both the low and high-income participants as well as the literature was similar at about once per week.³⁰ However, the low-income participant reported only shopping at a grocery store once every 2-3 weeks and a farmer's market weekly.

In the literature, alternative stores were utilized by low-income individuals even though the price for food at these stores are often increased and the nutritional quality is lesser.^{25,26,31,32,36,46,50-54} The low-income participant contradicted this finding and discussed not using alternative stores because the price was often higher and the food was mostly junk. The high-income participant discussed that she used alternative stores if she needed to pick up something quickly since the location was closer than going back to a grocery store.

The reviewed literature showed that impulse purchases happened in both income levels.^{31,37,55} The most influencing factor on impulse purchases was child preference.^{25,26,37} Child influence was reported by the low-income participant to influence impulse purchases and she reported buying something that may be a good snack for her and her children. The high-income participant did not have children that she shopped for but reported new dietary needs influences new purchases she may make, and wine was one of her reported impulse purchases.

The reviewed literature shows that only two percent of individuals with SNAP benefits utilize their benefits at a farmer's market which reduces the benefits of DUFB usage.⁴²⁻⁴⁴ The low-income participant reported utilizing her EBT card previously and benefiting from DUFB to get more produce at the farmer's market. The participant noted she was not longer utilizing the EBT program but has continued to shop at the farmer's market because the quality of produce and nutrient density of the food she can get there. Another topic noted from the survey was a lack of enrollment in federal food assistance programs, 18 percent appeared to be income eligible but only 13 percent were utilizing the assistance.^{25,26,31,32,37} The participant utilized the EBT program as perceived power within the TPB to begin facilitating healthier eating and now the participant continues to purchase produce weekly without the EBT program showing her use of behavioral intention and control.^{15,16}

Both the low and high-income participants noted keeping a shopping list of what they need to get from the grocery store. This is consistent with what is shown in the current literature.^{25,26,31,32,50,52} The low-income participant reported not making a shopping list when going to the farmer's market to shop as she stated being very intentional about her purchases including buying the best quality of produce and food options with high nutrient density. This intentional buying may also be due to her low income level causing her to be more conscious about her food purchases.

Income level has been shown to reduce diet quality and fruit and vegetable consumption.^{21,25,26,28} However, the low-income participant in this study presented many anomalies to the reviewed literature on food shopping behaviors. The low-income participant utilized a farmer's market weekly to purchase fresh produce and reported that she tries to purchase quality, non-processed items most often since she does a lot of scratch cooking. The current literature contradicts all of these things she does since most often low-income individuals have less time for scratch cooking, worry about purchasing produce and that it will go bad, and do not shop at farmer's markets as frequently as their high-income counterparts.^{21,25,26,28,31,37-40,42,43} The participant also noted that she prioritizes nutritional quality over price as food is "an investment in our health."

The high-income participant reported some factors that did not appear in the reviewed literature including food safety consciousness, seasonal influence on food shopping habits, and use of alternative stores due to closer proximity to home. One influence that contradicted the literature was that the high-income participant only reported eating 9-12 meals per week at home which means they ate out more often than the low-income participant. Current literature reports

that low-income individuals often eat out of the home more frequently due to time and income constraints.^{29,53-57}

Limitations

There are several limitations of this research. The first being minimal participants to gain needed insight into the food shopping behaviors within the different income levels. It was difficult to recruit lower income shoppers for in-depth interviews. More participants would provide a more robust understanding of issues facing food shoppers of varying income levels. Another limitation in this study is that the high-income participant does not have children where the lower-income participant does. The participants were chosen via random sampling so having a matched pair was not the intention but this difference in demographics may affect food shopping behaviors because of child influence.^{25,26,31,37,55} Lastly, COVID-19 was voiced by both participants that it altered their shopping behaviors so answers may be different if there was not an ongoing pandemic during the study.

Recommendations

More comparison research is needed surrounding food shopping behaviors in various income levels within the same community. There is a general lack of research on high-income food shopping behaviors so this is one area where more research would be beneficial. Most research done looks at low-income individuals and having comparable research focused on the high-income population will allow for comparing and contrasting the differences in behaviors to be done.^{21,25,26,28,31,37-40,42,43} The lack of research comparing high- and low-income food shopping behaviors does not fully showcase the struggles surrounding food acquisition, food access, and food security that low-income individuals experience when compared to their high-income counterparts. Also, more research similar to this study design would be beneficial to continue to


show the differences in food shopping behaviors in different income levels, especially since the low-income participant purchased produce from a farmer's market weekly which is not consistent with current literature. Another recommendation, following this study design, is having a larger study population to get more perspectives about food shopping behaviors. This larger study population should include a zip code with more racial and socioeconomic diversity to increase the external validity of the results.

Appendix A. Approval Email from North Kent Connect

From: Catherine Landers <catherine.landernkconnect.org>
Subject: RE: Thesis Research
Date: June 29, 2020 at 4:57:52 PM EDT
To: Alison Cooney <cooneyal@mail.gvsu.edu>

Hi Alison – Yes, we are looking forward to working with you on this. We will be able to distribute your flyer through our monthly client pantry.
Thanks so much,
Catherine



Catherine Landers
Director of Client Services
616.866.3478 ext. 355
Office Hours: Mon-Thurs 8:00am-6:00pm


From: Alison Cooney <cooneyal@mail.gvsu.edu>
Sent: Monday, June 29, 2020 4:55 PM
To: Catherine Landers <catherine.landernkconnect.org>
Subject: Thesis Research

Good evening Catherine,

I hope you are doing well and staying safe in this uncertain time. I wanted to reach out today about my thesis research. This is a formal request for collaboration with North Kent Connect on my research investigating grocery shopping/acquiring behaviors in different income levels in individuals of Rockford. This research will be valuable in showing the disparities between various income levels local to the Rockford community when it comes to grocery shopping. I would need North Kent Connect's assistance in creating awareness for the survey which could be done by hanging a sign up with the QR code up around the building or having handouts available to shoppers to take home with them. The focus groups will be held virtually now due to coronavirus.

The timeline has shifted from what I originally thought. The survey would be distributed towards the middle of August with your prior approval. The virtual focus group would likely happen sometime in September. If you could respond with an affirmative or negative to this collaboration it would be greatly appreciated and needed for my thesis approval at Grand Valley.

Thank you again and I look forward to hearing from you!

Best,

Alison Cooney
Graduate Student - Clinical Dietetics
Grand Valley State University
cooneyal@mail.gvsu.edu | 5867475108

Appendix B. Approval Email from Rockford Farmer's Market

From: Erika Lake <elake@rockford.mi.us>
Subject: RE: Thesis Research
Date: July 1, 2020 at 1:39:14 PM EDT
To: Alison Cooney <cooneyal@mail.gvsu.edu>

Hi Allison,

I talked to the City Manager and the Market Manager who works the market on Saturdays and they both said that this would be ok. We'll have to give some thought on how many flyers and if we'd have you distribute them or just hang them up. What is the timeline you are looking at? We do have a non-profit both every Saturday that would possibly work for you to stand at and hand out the flyers but that is reserved most Saturdays. But it might work!

Erika

From: Alison Cooney <cooneyal@mail.gvsu.edu>
Sent: Friday, May 1, 2020 9:42 AM
To: Erika Lake <elake@rockford.mi.us>
Subject: Thesis Research

Good morning Erika,

My name is Alison Cooney. I left you a voicemail last week regarding my thesis and wanted to reach out again this week. I am a graduate student at Grand Valley State studying Clinical Dietetics. I am conducting my Master's thesis within the Rockford community investigating grocery shopping behaviors in different income levels in individuals of Rockford. I plan on doing this research via an online survey and from the results of that survey, conducting a virtual focus group to further develop the data.

What I would need from the Farmer's Market is approval to have a flyer up around the market with a QR code which would link to my survey. It would be wonderful if I could have a flyer at each vendor stand but if this is not possible, having a few up around the market would be perfect. I also would be willing to come to the market a couple times and pass out the flyers personally to attract a larger number of responses. You would be able to approve the survey before distribution if you would like.

I am also collaborating with North Kent Connect in Rockford to increase survey awareness to the population they serve.

The timeline for this has been slightly shifted due to [covid-19](#). The survey would be distributed sometime in August to the beginning of September. The optional, virtual focus group would likely happen at the end of September/early October. If you could respond with an affirmative or negative to this collaboration it would be greatly appreciated and needed for my thesis proposal application at Grand Valley.

Please feel free to let me know if you have any questions!

I look forward to hearing from you and hope you are doing well in this uncertain time.

Best,

Alison Cooney
Graduate Student - Clinical Dietetics
Grand Valley State University
cooneyal@mail.gvsu.edu | 5867475108

Appendix C. Online Flyer for Participant Recruitment



VOLUNTEERS NEEDED FOR STUDENT THESIS RESEARCH

Grand Valley State University



- Do you live in the 49341 zip code?
- Are you 18 years of age or older?
- Do you grocery shop?
- Do you want to talk about your shopping experiences with others?

Participation Involves:

- Filling out a 5 minute, anonymous survey
- Having a **voluntary** focus group discussion via mobile phone or computer about grocery shopping and food access

Questions?

- Contact Alison Cooney via email at cooneyal@mail.gvsu.edu

If you would like to participate, click the following link.

https://gvsu.co1.qualtrics.com/jfe/form/SV_ereWFiB0frnpwPj

OR

If you have a smartphone, open your camera app and hold it up to the QR code on the right. This will take you directly to the survey.



Appendix D. In-person Handout for Participant Recruitment



VOLUNTEERS NEEDED FOR STUDENT THESIS RESEARCH

Grand Valley State University



- Do you live in the 49341 zip code?
- Are you 18 years of age or older?
- Do you grocery shop?
- Do you want to talk about your shopping experiences with others?

Participation Involves:

- Filling out a 5 minute, anonymous survey
- Having a **voluntary** focus group discussion via mobile phone or computer about grocery shopping and food access

Questions?

- Contact Alison Cooney via email at cooneyal@mail.gvsu.edu

If you would like to participate, type the following link into your computer.

https://gvsu.co1.qualtrics.com/jfe/form/SV_ereWFiB0frnpwPj

OR

If you have a smartphone, open your camera app and hold it up to the QR code on the right. This will take you directly to the survey.



Appendix E. Focus Group Questions

1. When you think about your grocery shopping habits, what are the three biggest determinates of where you shop?

Follow-up

- a. Is transportation to the store an issue?
- b. Have you switched stores lately? Why or why not?
- c. In the stores you shop at, do you find foods that satisfy your family?
- d. What foods do you purchase weekly? Why those foods?
- e. Do you use convenience stores i.e. gas stations, dollar stores, or pharmacies like CVS for groceries? Why or why not?

2. Think of a storyboard for your average shopping trip.

Follow-up

- a. On average, how often do you shop for groceries?
- b. What do you do to prepare for the trip to the store?
- c. Do you have a special approach to shopping the store? Where do you start?
- d. How often do unexpected things land up in your cart i.e. impulse purchases
- e. On average, how much time do you spend obtaining food per week, including travel time and time spent in the store?
- f. On average, how much do spend on groceries per month?
- g. How often do purchase takeout, fast food?
- h. What influences the foods you purchase?
- i. Are there any stressors that influence food shopping? If so, what are they?
- j. Are experiences shared today different than if this was done last year? How so?

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