Food Justice and Practices in the Five Points Community of Knoxville, Tennessee: A Survey of Residents Living in an Urban Food Desert

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Sylvia Isabel Duluc-Silva
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DEDICATION

To my mom

Silvia Silva

my brothers

Kevin Duluc-Silva

and

Orlando Duluc-Silva

and all justice seekers

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ABSTRACT

This thesis identifies the views related to traditional and alternative food systems and practices among residents living in East Knoxville, Tennessee, which has been designated by the United States Department of Agriculture (USDA) as a food desert. These views were obtained from a mail survey sent out to adult residents living in the community who were responsible for obtaining food for their household. Its foundation is based on general place-based theory and findings associated with environmental and food justice literature. It builds upon this work by identifying and describing key variables and how they may be related via a theoretical model and nine hypotheses. The basic model assumes that a direct effect exists between attitudes about food access and security, traditional food systems, alternative food systems and perceived barriers and bridges for adopting alternative food practices, and general support for alternatives. The findings show that residents who have greater food security in their households, have more knowledge about alternative food systems, view alternative food systems more positively, and believe that there are more bridges than barriers for obtaining fresh fruits and vegetables are more likely to have greater support for alternative food systems and practices.

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CHAPTER I

INTRODUCTION

Lack of access to fresh fruits and vegetables is one of the major factors that prevent many Americans from maintaining a healthy diet and sustainable lifestyle; usually increasing chances of obesity, diabetes, heart problems and other diet-related diseases (USDA, 2015. p.1). The lack of access to fresh, healthy and affordable foods is especially prevalent in inner-city and rural areas, African-American, Native American and Latino communities, female-headed and low-income households, and those with young children (see Vasquez, et. al., 2007. p 34). These and other places that lack access to healthy and affordable foods are referred to in the literature as *food deserts.* The United States Department of Agriculture defines them ". . . as urban neighborhoods and rural towns without ready access to fresh, healthy and affordable food (USDA, 2015. p.1). Moreover, people living in these areas usually do not have any access to supermarkets and grocery stores and rely more on fast food and convenient stores that offer limited healthy and affordable food options. (See USDA, 2015 p. 1).

Social science research that examines these issues has generally focused on the efforts of community organizations and food activists at implementing alternative food systems and practices designed to provide greater access and affordability to locally-grown fresh fruits and vegetables. Such efforts would include promoting community gardens, farmers' markets, local food marketing, and others aspects of "Community-Based Food Systems and Civic Agriculture" (see --cite 1 Cite 2: USDA 2015).

Although research on food activists and organizations has helped to shed light on their views and how they have promoted food programs and policies, considerably less

time and effort has been devoted to understanding the views and practices of people that live in these food deserts. In fact, Guthman, a recognized scholar on these and other issues related to "Food Justice" and the "Food Justice Movement," is ". . . struck by the disjunction between what alternative food activists do and what food desert residents seem to want" (2008, p. 443).

This thesis developed out of a field research project about the food movement in Knoxville, TN. During this time, I visited several community gardens and interacted with gardeners, volunteers, and other students. I went to community gardens such as Beardsley Community Farm, Knoxville Botanical Farm and Arboretum, Project V.E.G.G.I.E and SEEED's Edible Forest; and also attended the Knoxville Food Policy Council community meetings about food access in Knox County. Some of these gardens were unguarded and welcoming while others were in remote locations filled with 'no stealing food' signs and fences that kept locals away. (see Appendix)

While on my gardening adventure I realized that many of the people I met were not residents of the community; these gardens had an abundance of volunteers, but most of them were not residents. Although there was an apparent lack of participation in the community gardens by community members; I learned the Five Points neighborhood was filled with activists and volunteers that wanted to help make healthy food available in the community.

Consequently, this study identifies the views related to current and alternative food systems and practices among residents living in the Five Points community in East Knoxville, Tennessee which has been designated by the United States Department of Agriculture (USDA) as being a food desert. The mail survey targets the adult residents that

identify as being responsible for obtaining groceries for the household.The data collected from this survey was also used to test a theoretical model for better understanding and predicting individual and community support for alternative food systems and practices.

Hopefully, the findings from the study will help to narrow the "knowledge gap" in the literature concerning the views of alternative food activists and the communities they are trying to serve. The findings will be used to inform and guide collective strategies and policies designed to ensure greater access to fresh, healthy, and affordable food to these communities. This thesis is divided into six chapters. This chapter discusses the connections between environmental justice, the environmental justice movement, food justice, and the food justice movement. The second chapter uses an environmental justice framework to review food justice and identifies the significant barriers and bridges for obtaining healthy and affordable foods in food deserts. The third chapter presents the theoretical model and hypotheses pursued in the thesis. Chapter Four details the research design and methodology used to assess the validity of the model and its assumptions. Chapter Five presents both the descriptive and inferential results from the data collected through the mail survey. The last section, Chapter Six, provides a summary of the overall results, general conclusions and the study implications.

Background

Environmental Justice (EJ) and the Environmental Justice Movement (EJM)

Environmental justice is based on the principle that "all people and communities are entitled to equal protection of environmental and public health laws and regulations" *according* to Robert Bullard, a pioneer of the EJM and studies examining environmental

injustices. (cited in Brulle & Pellow, 2006 p.104). Accordingly, The Environmental Protection Agency (EPA) formally defines EJ as:

> The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population, due to policy or economic disempowerment, is forced to bear a disproportionate share of the negative human health or environmental impacts of pollution or environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies (as cited in Brulle & Pellow, 2006, p. 104).

The terms *environmental justice*, *environmental racism* and *environmental inequities* all commonly refer to practices, programs, and policies that lead to environmental hazards and risks that disproportionately impact communities of color and other marginalized groups and communities. The EJ literature suggests that low-income individuals, people and communities of color are more likely than others to live in places with higher rates and concentrations of pollution. The sources of this pollution include, but are not limited to, hazardous waste landfills, waste incinerators, and petrochemical facilities. Many studies suggest that the day-to-day and lifetime exposure to the chemicals, poisons, and toxins emitted by these facilities place residents surrounding the communities at a higher risk of developing serious health problems (Agyeman 2005; Alkon & Norgaard 2009; Bullard 1990; Jones & Rainey 2006; Alkon & Agyeman 2011). For example, Jones and Rainey (2006) point out that ". . . blacks in particular are exposed to a disproportionate amount of pollution and suffer the highest levels of lead and pesticide poisoning and other associated health problems"(474).

The Environmental Justice Movement (EJM) emerged as a response to environmental injustices that were fueled by the demand from community groups and other grassroots organizations to secure the equal protection of all people from environmental pollution

(for a review, see Bullard 1995, Taylor, 1992[1]). One of the earliest campaigns against environmental injustice took place in Warren County, North Carolina in 1982. The state government issued permits to construct a hazardous toxic waste landfill in an area where residents were already suffering from the effects of PCBs and other toxic chemicals. The community group, "Warren County Citizens Concerned about PCBs" was not successful at stopping its construction. However, it was the first time that a large group of African Americans protested against environmental injustices, lead to the arrest of over 500 people, and provoked nationwide attention to their community's plight and a new set of socio-environmental problems (Geiser & Waneck 1994 in Bullard's unequal).

Supporters of the EJM also became critical of government agencies during the 1980s and early '90s for being slow to provide relief to highly polluted communities of color and for levying insignificant or no fines on large polluting industries and companies in their area that broke environmental regulations and laws. (Lavelle & Coyle 1992; Head 1995; see, Jones & Rainey 2006). These and other grassroots efforts by EJM supporters helped it to gain institutional legitimacy and power in 1992; when the Clinton administration and the EPA acknowledged that African Americans and other less powerful and marginalized groups were being disproportionally exposed to environmental pollutants that were associated with a broad range of community health risks. (U.S. EPA 1992; Bailey, Faupel & Holland 1992; Bryant 1995; Jones & Rainey 2006; Brulle & Pellow 2006).

While EJM is best known for protest against discrimination associated with toxins and environmental disparities, several EJ advocates have adopted a broader approach that

[1] Environmental Careers Organization, 1992, *Beyond the Green: Redefining and Diversifying the Environmental Movement*. ECO: Boston, MA

would address issues concerning food access and security that relate to both distributive and participatory disparities *and* other aspects of social and environmental justice.

Food Justice (FJ) and the Food Justice Movement (FJM)

Although there are a variety of definitions and features of Food Justice (FJ), organizations, activists, and researchers have traditionally focused their attention on the *distributional aspects* of FJ while largely neglecting its *participatory aspects*. Consequently, FJ has been primarily defined concerning how to address and correct distributional food inequities. (Loo, 2014). An example of this type of partial conceptualization can be found in Gottlieb and Joshi's (2010) characterization of FJ:

> . . . we characterize food justice as ensuring that the benefits and risk of where, what, and how food is grown and produced, transported and distributed, and accessed and eaten are shared fairly (as cited in Loo, 2014, p. 791).

What is missing in this definition is the acknowledgment of the voices, values and roles played by those who are exposed to these risks, and to other barriers and bridges to their participation in things that might mitigate them and benefit their communities. Thus, any attempts to achieve food justice would try to support and secure the rights of all people and communities to design and participate in decisions, practices, programs and food policies that impact the health and sustainability of their communities. Consequently, issues related to democratic principles, governance, and human rights need to be included in any comprehensive definition of food justice.

Food Justice advocates have many concerns about the current food system. These include unfair and unsustainable land-use practices, greater exposure to health and environment risks, immigrant and farmworker exploitation, greater community dependency and vulnerability, and to other unjust socio- environmental conditions.

However, the underlining goal of food justice regardless of the issues is to challenge the injustices which exist in the current food system that dominates all other voices, values, and alternatives. For example, the non-profit organization, *Just Food*, defines food justice as communities exercising their right to grow, sell and eat fresh, nutritious, affordable, culturally-appropriate food that is grown locally with care for the well-being of the land, workers and animals (2010).

In response to these and other concerns, a variety of individuals and groups came together to form a food-based movement. The Food Justice Movement is composed of citizens concerned about the quality, type, and the way food is provided to their communities by the current food system. Grassroots efforts such as *'Vote with your Fork'* were one of the first attempts to gain public attention on food justice issues. Its supporters urged consumers to take a stand against problems associated with the current food system by exercising their power by buying foods, beverages and supporting businesses that promoted healthy, affordable, equitable and sustainable food practices. Additionally, it urged individuals to protest by "raising their forks" to demand healthy organic foods that are free from pesticides and genetically modified organisms. Even though most of these earlier efforts were composed of predominantly white middle-class and upper-class individuals and largely ignored food insecurity issues faced by marginalized communities, the FJM has made efforts to promote alternative food practices as a solution to combat injustices associated with the current food system. The FJM has encouraged participation of communities from all socioeconomic backgrounds to participate in alternative practices. (Guthman, 2008)

More recently, food problems faced by marginalized communities that were once ignored (or not addressed) have gained widespread attention by members of the FJM. Moreover, studies have been conducted addressing the lack of access to healthy foods such as fresh fruits and vegetables in low-income areas. In 2008, The Conservation and Energy Act required the USDA to study these areas for one year. Some of its key findings were that 23.5 million people live in low-income areas that are more than 1 mile from a supermarket, about 2.3 million households live more than a mile from one and have no access to a vehicle, and another 3.4 million households live between ½ to 1 mile from a supermarket and have no access to a car. It also reported that urban areas are more likely to suffer from limited food access due to racial segregation and income inequality. (USDA)

Rowe (2010) labels these areas as 'fringe food locations' because they lack supermarkets, but have numerous "convenience stores, gas stations, pharmacies, dollar stores, liquor stores, and fast-food outlets" (p.795). In contrast, the term *food oasis* is used to describe low-income areas with easy access to supermarkets. (Walker, Fryer, Butler et al. 2011) However, fringe food areas are most widely known as *food deserts*. The USDA, Treasury and United States Department of Health and Human Services (HHS) have defined a food desert as a "census tract with a substantial share of residents who live in low-income areas that have low levels of access to a grocery store or healthy, affordable food retail outlet"("USDA", 2014). To qualify as a USDA "census tract food desert" a community has to be identified as low-income (i.e., a poverty rate of 20 percent or higher) and low-access (i.e., at least 33 percent of the community members live more than one mile from a supermarket or grocery store in an urban area and more than ten miles in rural area) (2014).

Scholars have also identified criteria for classifying areas as a food desert. For example, Walker et al. (2011) describe food deserts as "areas without a supermarket . . . areas that lack affordable and healthy foods" and suggests that a one-way walking distance to a supermarket that is greater than 15 minutes can be used as a proxy measure for identifying an urban food desert. These areas are filled with fast food restaurants and convenient stores where shopping for fresh fruits and vegetables is difficult. Often the produce that is available in these areas is expensive and of poor quality. The distance makes it difficult for community members to purchase the recommended daily servings to maintain a healthy lifestyle and contributes to rising rates of diabetes, obesity, and other diet-related diseases (Shannon, 2013). The EJ movement grew out of inequalities and lack of representation and participation within public institutions. More recently the same principles have been applied to the disproportionality of food in America. Key food justice scholars, Alison Hope Alkon and Julian Agymen, make parallel connections between EJ and food justice recognizing "the dual components of 'equal protection from environmental pollution and procedural justice,' food justice is similarly concerned with [those same] concepts. " (p. 73)

Alternative Food Systems and Practices

Many alternative food systems (AFS) and practices (AFP) developed as a response to food injustices. Advocates of FJ encourage participation in them to combat the disparities faced by residents living in food deserts (Loo 2014). Guthman (2008) identifies alternative food systems/practices as a "broad range of practices and programs designed to bring producers and consumers into close proximity that educate people of the value of local

sustainable grown and seasonal food" (264). Alternative food systems and practices encompass farmers' markets, community supported agriculture (CSA), farm-to-school programs, community gardens, hands-on educational programs and food cooperatives. Community support is essential for the success of adopting alternative food practices; therefore understanding the dynamics of alternative food practices was central to this study.

Historically, community gardens were designed by the working class to overcome economic hardships. Englander (2001) states that over 700 community gardens have been created across the five boroughs of New York City since the 1970s. This type of gardening is called, "urban agriculture" and refers to a wide range of agricultural ventures within city limits (Jameton & Brown, 2000). Community gardens are also located in suburban and rural areas, as community plots or individual plots where residents can grow flowers or vegetables for the community. Other community gardens are located at schools, hospitals, and along public sidewalks, and some are dedicated to raising food for local markets.

The amount of involvement from residents, activists, and community members varies among alternative food practices. Lawson (2004) claims that activists providing a green square on a plat as a "community garden" and embracing the idealism of "if you build them, they will come" does not address the control needed by those expected to maintain it. Moreover, the creation of a successful community garden requires organization, outreach, and a clear understanding of the sites future and a sturdy commitment from participants, gardeners, and planners (Lawson 2004: p. 171).

Another way communities can gain more control over how food is produced and distributed is by developing and supporting local markets known as farmers markets. In a

farmers market, local farmers and gardeners sell seasonal fruits, vegetables, cheese and meats, and bakery goods directly to consumers. Many of the local farmers also participate in community-supported agriculture (CSA), which is another component of the Food Justice Movement. CSAs work by pairing local consumers, who want fresh, local, organically raised food, with farmers who want a guaranteed outlet for their produce. (They support a 'community' of consumers that help local farms by purchasing shares of the next season's harvest in advance; the farmer grows produce and divides the harvest among the shareholders.) (Lawson, 2004). Another alternative is food cooperatives. Community co-ops are food markets run solely by community members united to meet common economic, social, cultural needs through worker-owned and democratically-controlled businesses supporting healthy food practices.

Alternative food practices offer more than just means to support local agriculture. For example, gardening, working in community gardens, and engaging in activities in other green spaces provides therapeutic effects and psychological benefits (Jones & Davis 2014). Indeed, Lawson (2004) proposes that community gardens are ". . . associated with multiple far-reaching benefits including environmental restoration, community security, economic development, public health, and cultural expression" (169). Additionally, Relf (1992)makes the case that working with plants plays a significant role in all types of communities and provides three ways for healthy community development. It provides a physical and aesthetic landscape that promotes individual and community pride that enhance social and economic conditions in the community. Secondly, it offers a sense of personal empowerment from changes made in the community based on their shared values,

interests and commitments. Lastly, it brings a more comfortable living and working environment.

Summary

This chapter provided a background of environmental justice and the environmental justice movement, food justice and the food justice movement. Moreover, it provides a description of food deserts by laying out significant facts and definitions of food security. Followed by an overview of alternative food systems and practices such as community gardens, food co-ops, and farmers' markets. The goal on this chapter was to codify these concepts and set up a base for the theoretical model discussed in Chapter III.

CHAPTER II

LITERATURE REVIEW

There is a perception that the ability to maintain a healthy diet is a personal choice, but the community one lives in strongly influences eating practices and access to food. For example, community food systems are not equal in their capacity to provide access to healthy foods and practices. Thus issues regarding food security and food justice relate to larger issues of social and environmental justice that point to environmental disparities experienced by the poor, minorities and other marginalized communities and groups.

This review examines theory and research on the different aspects related to food justice. The purpose of this literature review is to understand the barriers and bridges to the adoption of alternative food systems and practices in communities located in food deserts. This process began by identifying and locating articles from scholarly journals in the disciplines of health, sociology, environmental psychology, environmental sociology, geography, cultural geographies, and human geography. The key terms used in the search engine of the University of Tennessee Libraries included: *food desert, community gardens, ethical eating, environmental injustice, environmental justice, food justice, place attachment, gardens, community gardens, food deserts, food injustices, food, food health, community, food justice movement, alternative food practice, sense of place, and place*. I read these articles and noted the authors that were cited the most. I searched for their names via *Google Scholar* and *Google* for additional articles, books, and other published works.

This review is divided into two sections. The first section discusses environmental justice and identifies the major bridges and barriers faced by individuals living in food deserts and other marginalized communities. It includes information about the

experiences, attitudes, and beliefs expressed by residents about their community and the current food system. The second section provides an overview of terms and constructs that have been widely used to define and measure placed-based constructs. That is followed by a detailed review of four major place-based dimensions: community place attachment, community attachment, place attachment and sense of place.

Barriers and Bridges

Before 1990 research on public concern for the environment (i.e., "environmental concern") was almost exclusively based on the opinions of Whites with some individuals suggesting that environmentalism was only a "White thing." The emergence and rapid growth of minorities in the environmental justice movement caught many by surprise because it was assumed that Blacks and other marginalized people and groups had little or no concern about the environment. (see Jones & Rainey, 2006). More recent research, however, has challenged this widespread assumption (Xiao and Hong 2010; McCright 2010; McCright and Dunlap 2011; Clayton 2012). For example, Jones and Rainey's (2006) study of a highly polluted community of color provides ample evidence challenging claims that Blacks are less concerned about the environment than Whites (Jones, 2002). The authors claim, "on the contrary, the findings indicate that Blacks are more concerned about local environmental problems and the poor environmental quality of their neighborhoods and are more troubled by the seriousness of them than Whites." Furthermore, several studies indicate that citizens of less developed countries are very concerned with environmental problems, which also conflicts with popular beliefs. These findings suggest

that Blacks and other marginalized groups are just as concerned and in some cases more interested, about the environment than Whites (Jones & Rainey, p. 492).

As it was the case with the environmental justice movement, the voices, and concerns of Blacks and other minorities have been largely ignored when it comes to issues of food justice. In the last decade, however, scholars have taken a critical approach to food justice; claiming the movement has widely ignored marginalized populations that do not have equal access to ethical eating practices. In their book, Alkon and Agyeman argue that the food justice movement should combine "an analysis of racial and economic injustice with practical support for environmental sustainable alternatives that can provide economic empowerment and access to environmental benefits and marginalized communities" (2011 p.6). Identifying the barriers and bridges to their participation and support is critical to advancing FJ and the FJM. Thus, the next section does this by reviewing the literature on the views expressed by the food desert residents about their community and the current food system.

Due to the rapid increase of obesity and heart disease, health researchers have taken the lead in conducting studies of residents living in food desert areas. Most of their research has focused on food-buying practices, knowledge of healthy diet and community access barriers. The findings suggest residents in food desert communities understood and valued healthy eating but were forced to settle for other options in order to feed their family. Residents were also aware of other structural and cultural barriers to living a healthier life. Several factors that prevented purchasing healthy foods included price (cost), location, food culture, and lack of interest. (Walker, Fryer, Butler, Keane, Kriska, & Burke

2011; Zachary, Palmer, Beckham, & Surkan 2013; Hu, Acosta, Mcdaniel, & Gittelsohn 2013; Rowe 2010)

'Cost' was identified as one of the most important factors that prevented many residents from purchasing healthy foods. The cost was frequently identified as a barrier to healthy eating in a study by Zachary et al. (2013) examining grocery-purchasing practices. The participants identified cost with more than just the price of the food. For instance, many people bought canned foods because the cans could be stored longer which decreased the cost related to transportation (e.i bus fares, taxi fares). Second to cost, transportation is also a significant barrier. They found that limited access to transportation forced residents to shop nearby, at places with poor food and unhealthy conditions. Indeed, in several studies, residents reported that the supermarkets in low-income areas were bad quality. They expressed concerns about shopping in places with bad odor, expired or nearly rotten produce and generally poor physical upkeep. (Zachary et al. 2013; Hu et al. 2013). Consequently, the misconception that Blacks and other residents living in food deserts make personal choices to live unhealthy is debunked since the research strongly suggests structural factors force many people to have unhealthy lives.

Those findings are further supported by studies of people with access to healthy foods. Walker et al. (2011) conducted a study to identify the factors (i.e., the barriers) that influenced food-buying practices in areas with limited supermarket access. The authors did a comparative analysis of low-income food deserts and food oasis areas in Pittsburgh, Pennsylvania. The food oasis was identified as a low-income area, with nearly identical social characteristics as the food desert except it did not lack supermarkets. The results demonstrated that both groups expressed that the economy, source of income and lifestyle

were the most important factors influencing food buying practices. However, perceptions of those living in the food desert focused more about survival than residents living in a food oasis. The residents in food desert areas were mostly concerned with access to transportation, using double and triple coupons and poor food quality. While the residents living in food oasis expressed concerns with 'luxuries' such as more organic foods, better bakeries and showed more knowledge of food resources available within the area. (Walker et al. 2011). This study suggests residents in low-income areas would buy healthier food if they were given access and resources to obtain higher quality food.

Some of the bridges identified in the literature focus on strategies to increase healthy food-purchasing. Residents suggested improving the freshness of the available produce, using healthy product labeling and free transportation to grocery stores as key strategies to healthier diets. Other residents suggested strategies like mobile food carts; farm stands, cooking demonstrations, food tastings and youth mentoring. (Hu et al. 2013) Moreover, residents expressed that organizers needed to be more involved within the community by walking around, passing out flyers and going to local community meetings. (2011).

Although the studies mentioned above primarily focused on barriers and bridges for a healthy lifestyle; the importance of family and community was also a reoccurring theme. This included concerns about having enough food for the entire family, importance of family/Sunday dinners and community issues (Walker et al. 2011) Therefore, the next section will focus on place-based literature that will help better understand the role community plays in public support for alternative food systems and practices.

Definitions and Measures Associated with Placed-Based Constructs.

This section of the literature review will explore some widely used terms and measures associated with place-based constructs. First, a general overview of the term *place* is provided followed by an analysis of four place-based constructs: community place attachment, community attachment, place attachment and sense of place. These four constructs are defined or described, and a list of the measures used for each will be provided. Then a review of studies using sense of place and its key features is provided.

Place and Space

Stanley (2012) defines *place* as a "social process, the product of human relationships lived out in a specific landscape" (p.2). By this definition it can be inferred that place is often a physical, tangible location that is socially constructed. Gieryn (2000) suggests that "places are doubly constructed: most are built or in some way physically carved out…[and] are also interpreted, narrated, perceived, felt, understood, and imagined" (p.465). Furthermore, Gieryn defines place as "a unique spot in the universe . . . [a] space filled up by people, practices, objects, and representations" (p. 464-465). Place is distinct and identifiable because of the meanings individuals attach to it (Gieryn, 2000). Freudenburg, Frickel, and Gramling (1995) suggest there are significant interconnections between physical landscapes and the meanings individuals' attach to them. They argue that individuals shape the physical environment and it shapes individuals during the formation of place.

In his 2012 book titled, *The Poco Field: An American Story of Place,* Talmage A. Stanley, attributes place as ". . . the result of a prolonged interaction and interrelationship between three complex realities . . ." (p. 2). The first reality is the natural environment which

consists of natural physical attributes that ". . . helps determine the type of social relationships and economic systems produced in a specific place" (p. 2). The second reality, the built environment, is an individual's reaction and the human response to and use of the natural environment "for subsistence, profit, and power" (p. 2). The last reality, human culture and history, encompasses facets of the other realities and things such as lifestyles and human interactions with the natural and built environment (Stanley, 2012). Together these three realities combined to *make a space into a place*. Moreover, Stedman (2003) asserts that "place is a meaning-based concept, with meanings derived from experience with the physical landscape, a fairly strong 'social construction' view pre-dominates in some place writings" (p. 672). Due to the differing ideas scholars have about what constitutes a place; defining it is difficult. However, the key facet is that it is a socially constructed. Thus, place is only a place because of the meanings people attach to experiences that occur to the physical and natural environment.

It is also important to recognize that place-based research is not confined to environmental studies but is conducted within other disciplines such as psychology, anthropology, architecture, human geography and sociology. This has created a created a lack of consistency in the way place terms are described and defined. Therefore, I will use the term *construct* to refer to the major place-based concepts reviewed and the term *measure* to define variables used in the analysis of the constructs. Also, *indicators* will apply to actual empirical measures used in research. In short, constructs reflect theoretical ideas; measures are the primary concepts analyzed, and indicators are actual empirical measures that are used to represent these ideas and concepts.

Scholars have conducted numerous studies of place-based dimensions in which certain constructs were utilized more than others. The most widely used ones are community place attachment, community attachment, place attachment and sense of place. Although there are no apparent theoretical differences between them, there were a great deal of variation in the conceptual inconsistencies and indicators used across studies. For example, place attachment is utilized in some studies as a construct; in other studies as an indicator based on a variety of questions and survey items. This conceptual and methodological variation creates ambiguity in the findings across studies, the next section reviews the literature to identify and describe the major conceptualizations, measures, and indicators associated with place-based constructs.

The construct *Community Place Attachment* (CPA) primarily focuses on the personal bonds a person has about their location indicated by their level of agreement and behavioral response to positive and negative aspects of their location and community (Mihaylov and Douglas, 2013; 62). The location centers on the area around a person's home. The agreement among community members is conceptualized on multiple spatial and temporal levels. Behavioral indicators of community place attachment are conceptualized as responses to community development, disruptions, and threats. CPA researchers also take a comprehensive approach so that objects, natural spaces, and buildings are all taken into consideration. (Mihaylov and Perkins 2013) The most commonly used indicators for CPA includes individual perceptions about social and economic conditions, sense of bondedness to the neighborhood and sense of rootedness to the community. (Manzo and Perkins, 2006).

Community Attachment

The second construct, *community attachment*, is more widely used among scholars. Although it is theoretically similar to CPA there is less emphasis on 'place' and more on the social environment. Brehm et al. point out that ". . . community attachment has most often been examined as a manifestation of social attachment in a community" (2004, p.407). Trentelman (2009) agrees with their view and suggests community attachment is a construct not often explicitly defined but typically used as a measure of sentiment regarding the community one lives in and an indicator of one's rootedness to it. Community attachment centers on residents' emotional and sentimental attachment to a particular community (Brehm, Eisenhauer and Krannich 2004). However, community attachment is sometimes used as a measure of community sentiment. Hummon explains that "community attachment appears most strongly rooted in the individual's involvement in local social relations, though the built environment may also contribute to such emotional ties if perceived in favorable terms or if housing quality is high" (1992 p.262). Overall, the location or the physical environment individuals live in is not as important in studies of community attachment but some scholars do incorporate it.

Brehm, Eisenhauer, and Krannich (2006) conceptualize two distinct dimensions of community attachment: *socially-based attachment* and *attachment to the natural environment* in their study examining attitudes about local environmental issues. However, they used measures of place attachment and sense of place to represent the construct of community attachment. Like most place-based constructs, community attachment is very similar to other constructs. Indeed, Brehm suggests that community attachment is a variation of *sense of place* (2006 p. 479). Unlike other constructs "long-term residence has

been found to be the most significant contributor (indicator) to such attachment by allowing for the development of increased social ties" (2004, p.407 (Brehm et al. 2004, Trentelman 2009).

The most widely used indicators for community attachment are associated with a person's position in the social structure (Brehm et al. 2006, Brehm 2007), their local social relations and attachments (Brehm et al. 2004 & 2006, Hummon 1992), views on the natural environment, open communication, collective action (Brehm et al. 2004) and feeling of rootedness (Hummon 1992). Other indicators include a person's stage in the life cycle, the length of residence, and personal satisfaction.

Place Attachment and Sense of place

The next two constructs reviewed, *place attachment* and *sense of place*, appear to be the most theoretically similar making it tough to differentiate them. These constructs have often been used interchangeably in order to analyze individual and community bonds (Hidalgo, 2001).

The study of place attachment dates back to Tuan's (1974) work on sense of place. He conceptualizes place attachment very broadly to include aspects of place dependence, identity, embeddedness, and regionalization. Since then scholars have conceptualized place attachment more narrowly (Kianicka, et al. 2006; Backhaus and Muller 2006; Wigger-Ross and Uzzel 1996; Williams et al. 1992; Altman and Low 1992; Hummon 1992; Relph 1985; Prohansky, Fabian, and Kaminoff 1983; Seamon 1982).

Place attachment, like place, is dynamic and multi-layered (Manzo 2005, 2003). Altman and Low (1992) define place attachment as the bond between people and places. Furthermore, place attachment is defined as an affective bond or link between people and

specific places (Hernandez, Hidalgo and Ruiz 2013). Unlike the previous constructs the connection to the actual place is more important than the bonds within the community. According to Stanley, (2012) place attachment also is not fixed but transcends space and time within our memory, our current experiences, and expectations of the future. He asserts this is ". . . because individual lives and the collective life of particular places carry in them history and the global issues of the time . . . " (p. 3). He describes the "relatively new regional identification" of Appalachia as a way to explore the many layers of place attachment (2013; 158) and argues that its people use place attachment to make sense of changes in their lives.

One of the key points within the place attachment literature is that different socio-cultural groups "may attribute diverse meanings to the same spatial setting" (Kianicka et al. 2006: 55; Greider 1993). Peoples' attachment to a particular place varies; making it difficult to standardize measures of place attachment. Nevertheless, Trentelman (2009) points out that much of the work within in this area is to develop standardized items and refine standardized measures of place attachment, with place identity and place dependence used as indicators. Moreover, Steadman (2003) reaffirms that "place attachment subsumes or is subsumed by a variety of analogous ideas, including *topophilia*---or love of place (Tuan 1974), place identity (Proshansky et al. 1983), insideness (Rowles 1980), genres of place (Hufford 1992), sense of place or rootedness (Chawla 1992), environmental embeddedness, community sentiment and identity (Hummon 1992).[2]

[2] The use of indicators is necessary to measure the strength of attachment; this includes group identity, history, identity, interactional past, memory, place dependence, place identity, proud, rootedness, security, social actors, social relations, and temporal aspect.

Due to the similarities between sense of place and place attachment, many scholars seem to utilize the terms interchangeably when describing ones' attachment to place[3]. Trentelman (2009) differentiates these constructs by arguing that the sense of place construct is intuitively more conducive for considering negative as well as positive aspects of a relationship with a place. Moreover, Kopec (2012) speculates a sense of place develops when a greater level of comfort and feelings of safety are associated with a place, which then encourages a greater sense of belonging.

Sense of place (SOP), is viewed as a multidimensional construct that includes the cognitive, affective and conative[4] domains of human relationships (Jorgensen 2006). Hummon (1992) suggests that sense of place has a dual nature "involving both an interpretive perspective on the environment and an emotional reaction to the environment" (p. 262).

Jorgensen and Stedman's (2006) study of lakeshore property owners analyze potential predictors of sense of place. The measures used in their survey of owners include place identity, place attachment, and place dependence. Their findings are analogous with other research conducted about these three measures. They state that "place identity was conceived as representing beliefs that the self-was defined about one's lakeshore property. Place attachment was defined regarding positive feelings about one's property, while place dependence concerned the behavioral advantage of one's lake property relative to other settings" (p.317). In addition to these measures the owners surveyed were asked about

[3] Place attachment is more commonly used as a measure of sense of place than sense of place is used as a measure of place attachment.
[4] Conations are a part of mental life having to do with striving, including desire and volition.

other variables, such as age, the year property was acquired, development level, days spent at the property in the previous year and number of lake activities available.

The same measures used for the construct sense of place, however, have been identified as measures for other constructs. For example, Nielsen-Pincus et al. (2010) used place identity, place attachment and place dependence as measures of the construct place bonding. They compared longtime residents to absentee owners and found that the amount of time spent at these places by them was the most significant predictor of bonding. Although some researchers have tried to define and make clear distinctions among each construct, others have simply renamed it; adding a layer of complexity to place-based studies.

For example, McCunn and Gifford (2014) found sense of place and neighborhood commitment both had positive correlations to greenness, but this is mainly because the constructs' measures were essentially the same. SOP is used in the study of communities while *organizational commitment* is used solely to identify relationships in the workplace. McCunn and Gifford generated a new scale, which they labeled as *new neighborhood commitment*; they used place attachment, place identity, and place dependence to measure the relationship between sense of place and organizational commitment.

Although most studies use three measures to analyze SOP, some use only two. Tester, Ruel, Anderson et al. (2011) study of sense of place among public housing residents limit themselves to community attachment and place attachment. Other widely used measures for SOP include place dependence (Davenport and Anderson 2005, Jorgensen and Stedman 2006, Trentelman 2009), place identity and place satisfaction (Tuan 1974). But other studies use measures of place identity, rootedness, insideness, activity

participation, social network participation, place characteristics, place satisfaction, place meaning, and attachment to the natural environment.

There are numerous ways in which SOP is analyzed, however, place identity, place attachment and place dependence appear to be the measures used the most. The following section reviews these three measures of SOP.

Measures of Sense of Place

Place identity

Davenport and Anderson suggest that "the measure place identity is tied to more symbolic meanings of place and is based on the notion that places serve various functions in identity development that promote a sense of belongingness" (2005, p. 628). Additionally, place identity is viewed as a sub-dimension of attachment. Place identity is a form of attachment resulting from the symbolic importance of the physical environment to self-definition (Stedman 2003). Conversely, Trentelman (2009) proposes that place identity should be used as an indicator of sense of place (Jorgensen and Stedman 2001), as well as of place attachment (Kyle et al. 200as3; Williams et al. 1992), which represents emotional bonds between people and places.

The most widely cited study measuring place identity is Jorgensen and Stedman (2006) study of lakeshore property owners. The scale items used in it include statements such as: "Everything about my lake property is a reflection of me; "My lake property says very little about who I am"; "I feel that I can really be myself at my lake property", and "My lake property reflects the type of person I am."

Place attachment

The second measure, place attachment, is a person's bond with the social and physical environments of a place. Low and Altman (1992) use place attachment solely to describe the affective relationship between people and the landscape. Jorgensen and Stedman (2001) suggest that place attachment is a distinct component of a broader and more encompassing concept called "sense of place." They drew on attitude theory to propose a tripartite conceptualization of the construct consisting of affective, cognitive and conative components. Stedman continues to reference Eisenhauer et al. describing attachment as a reciprocal relationship between places in nature and social interactions, in their study nearly forty percent of participants responded that places held special meaning because of "family and friend related reasons." The second most popular reasons were the “environmental features and characteristics of places”. (Stedman, 2003)

Place dependence

Place dependence is a third measure used to to gage a person’s attitude about the environment they live in. This measure is used to rate the place one lives in compared to other places. Trentelman (2009) suggests this measure “is used to evaluate one place as compared to other places, to determine the level of agreement with the idea that, particularly due to emotional bonds…[such as] ‘no other place will do as well as this one,’’ or a dependence on the particular place of interest for the things one wants to do”(p. 200). Moreover, Davenport and Anderson (2005) propose that place dependence reflects the physical aspects of place because “it denotes a goal-oriented relationship with place and the belief that a place directly or indirectly satisfies certain physical or psychological needs” (p. 628). Consequently, this measure deals more with behavioral goals of the place

rather than emotional bonds with a place. Furthermore, in Stedman (2003) review of sense of place points out the importance of the physical environment to sense of place. The scale items used in it include statements such as: " My lake property is the best place for doing things that I enjoy most," "for doing the things that I enjoy most, no other place can compare to my lake shore property," "my lake property is not a good place to do the things I most like to do" and "as far as I am concerned, there are better places to be than at my lake property."

Summary

This chapter explored the literature needed to build the theoretical framework for the thesis project. The first section included the general barriers and bridges of individuals living in food desert areas; including experiences, attitudes, and beliefs expressed by residents about their community and the current food system. The second section included literature on place-based dimensions providing a general overview of the term "place" followed by a review of four place-based dimensions: community place attachment, community attachment, place attachment and sense of place. This literature was essential to building the theoretical model and hypothesis for the research project.

The review of the literature suggests researchers have yet to examine the potential role sense of place (SOP) plays in influencing public support to participate in alternative food systems and practices. Moreover, few studies have tested theoretical models that include other factors that are believed to be associated with individual and community support for alternative food systems and practices. In fact, none of these models have been tested and applied to residents living in food deserts or among the general public.

This study will help to fill this research gap by developing and testing an integrative model that examines relationships between place-based beliefs about the community, attitudes towards food access and security, traditional food systems, alternative food systems and practices and public support for them. It will do so by conducting a drop-off survey among adults living in a food desert who are primarily responsible for obtaining household groceries.

CHAPTER III

THEORETICAL MODEL AND HYPOTHESES

This chapter presents the theoretical framework utilized in the analysis of the factors that are assumed to influence resident support for alternative food systems and practices. Its foundation is based on general place-based theory and common rationales and findings associated with environmental and food justice literature. It then builds upon this work by identifying and describing key variables and how they may be related via a theoretical model and nine hypotheses. The basic model assumes that a direct effect exists between attitudes on food access and security, traditional food systems, alternative food systems and perceived barriers and bridges for adopting alternative food practices, and general support for them. It also posits that an indirect effect exists between sense of place and general support for alternative food systems and practices.

The chapter is divided into three sections. The first section presents and describes the basic model and the theoretical rationales supporting it. This is followed by a description of the constructs and the variables included in it. The last section presents the nine hypotheses that the model tests.

Theoretical Model

The model consists of three sets of variables: socio-demographic characteristics, sense of place and food practices and systems. Most of the variables in the model were identified and discussed in the review of the literature and others are discussed in this section. (See Figure 1) The model is built upon rationales and models associated with sense of place. (Jorgensen and Stedman 2006, McCunn and Gifford 2014) The structural,

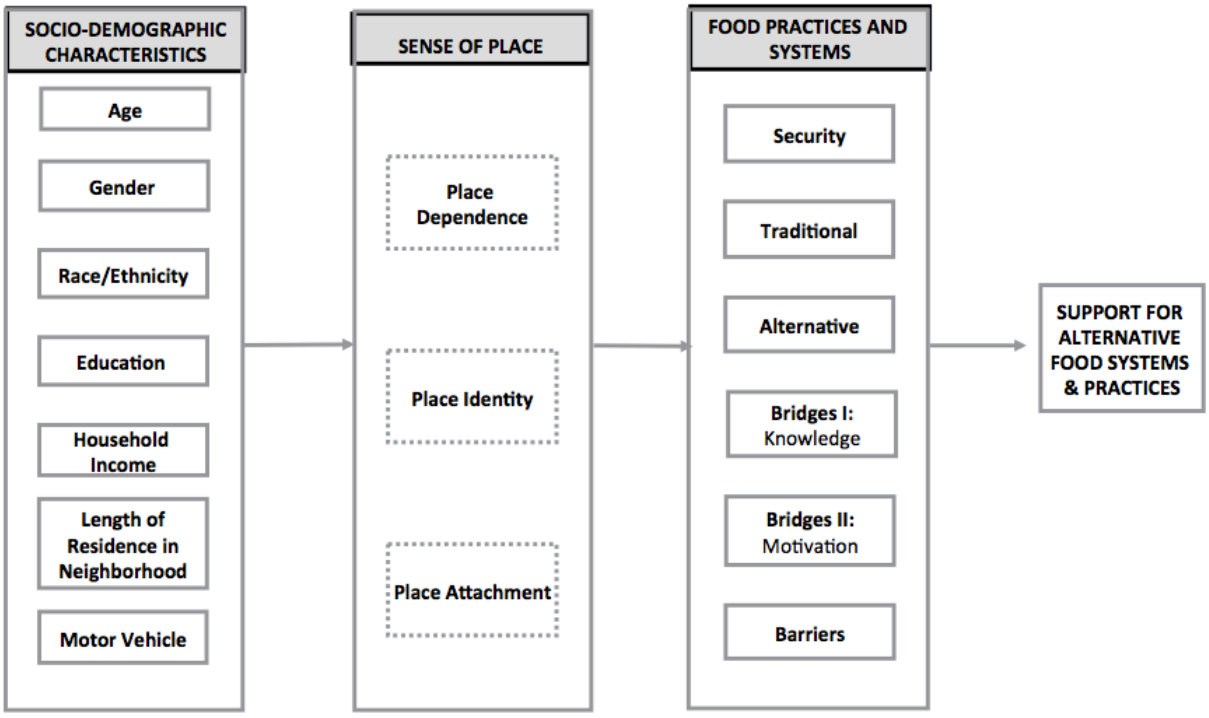

FIGURE 1. MODEL OF RESIDENT SUPPORT FOR ALTERNATIVE FOOD SYSTEMS AND PRACTICES IN AN URBAN FOOD DESERT

community, and individual-level characteristics are conditions existing in food deserts and identified in the literature on food systems and practices. The model explores these relationships by considering the strongest predictors to the weakest predictors of support for alternative food practices and systems. It proposes that the attitudes about food access and security, traditional food systems, alternative food systems and perceived barriers and bridges towards alternative food practices and systems are the strongest set of predictors of support. The second strongest predictor is sense of place, measured in this study by the place dependence, place identity and place attachment variables. Third in the chain of the model, and the most distal set of predictors, are the sociodemographic characteristics of the people living in households in the community. These last sets of variables are necessary for the analysis of the structural and contextual factors associated with food deserts, and with environmental and food justice issues identified in the literature. They include: age, gender, race and ethnicity, education, household income, length of residence in neighborhood and access to a motor vehicle. Here the model assumes these variables have mostly an indirect affect on the support through sense of place and the food system variables.

Hypotheses

The discussion of hypotheses used to test the model is divided into two sections. The first section presents the hypotheses associated with sense of place variables followed by the hypotheses related to food system variables accompanied by theoretical rationales and empirical studies that support them. The last section covers important concepts; these concepts were proposed hypotheses during the initial phase of the project. However, after revisiting them, they are in included as important concepts and not hypotheses because

they add value to the study but were not part of the primary goals of this project or the model. The important concepts are related to structural, individual and community characteristics of residents living in a food desert; which will be covered as part of the descriptive results. Additionally, other original hypotheses needed to be worked on and modified; the new changes used the theoretical model (see Figure 1) to guide these alterations.

I. Sense of Place Hypotheses

The hypotheses in this section propose relationships between sense of place and food systems and practices variables that are assumed by the model and identified in the literature.

The study by Jorgensen and Stedman (2010) examined relationships between sense of place variables and environmental attitudes among owners of shoreline property. The attitude variables were measured via questions about shoreline housing, natural vegetation and lake importance. Attitudes towards natural vegetation were found to be the most consistent and strongest predictors of three place-based dimensions examined (i.e., place identity, place attachment and place dependence). The other attitudes were weaker but significant. Consequently, this and other studies suggest that perceptions and conceptions of place influence attitudes about specific attributes associated with existing local and environmental conditions and resources. Somewhat similar socio-environmental and place-based connections have been found in studies of food deserts. For example, Rowe's study (2010) reported that ". . . participants indicated a strong connection between their

food choices and practices of shared social cultural values, histories of disenfranchisement, and available economic resources" (p. 797).

Even though relationships between food perceptions and sense of place have not been empirically examined, the broader literature on food deserts areas suggests that community, family and socio-environmental structures and characteristics are significantly related to cultural norms influencing food-eating practices (Rowe 2012). Similarly, the model assumes residents who have a stronger sense of place know more about their community, its existing socio-environmental structures and conditions, the opportunities (bridges) *and* the lack of opportunities (barriers) they provide. Accordingly, I propose that sense of place is associated with food security, attitudes toward traditional and alternative food systems, perceptions of the barriers and bridges for supporting alternative food systems and practices. Specifically, the model assumes the following:

Those who have a stronger sense of place (SOP) *for their neighborhood:*

H_1 – have greater food security
H_2 – have more knowledge about alternative food systems
H_3 – have negative attitudes toward traditional food systems
H_4 – have positive attitudes toward alternative food systems
H_5 –perceive more barriers than bridges for adopting alternative food systems and practices.

II. Food Practices and Systems Hypotheses

This set of hypotheses are assumed to have the most proximate relationships to the dependent variable of support. They include attitudes about food access and security, traditional food systems, alternative food systems and barriers and bridges for adopting alternative food practices.

Rowe (2010) conducted a community-based research study to understand African American Woman's perspectives on healthy lifestyles. It used a series of focus groups to explore their views on obesity, causes of disease and on the social, cultural, historical, environmental, and psychological forces preventing healthy eating habits. The most important themes identified were linked to cultural and social norms about specific food rituals, such as what types of foods are eaten and who prepares the food. Furthermore, food access issues were also important to the women and many noted the demise of local farmers' market and family gardens and an increase in fast food restaurants replacing more locally-owned and healthier food shops. The women were asked for opinions on how to encourage healthier eating practices in their communities and they suggested creating "community-centered cooking classes for small groups, support groups for women who are interested in changing their eating habits and conducting community-based talks focusing on healthier versions of cultural foods and taking into consideration generational differences in foods eaten (2010:796). Overall, this suggests women who express negative attitudes towards diet and health also seem to want community-based alternatives created to combat unhealthy eating habits.

The model posits the following based on the above discussion and other considerations:

H_6 Residents who perceive more barriers to food security are more likely to express stronger support for alternative food practices and systems.

An ethnographic study conducted by Zachary, Palmer, Beckham and Surkan (2013) on grocery shopping practices in low-income areas found that purchasing food was planned within the structure and context of the economic and physical environment. These things required residents to develop household and community-level---or placed-based---

strategies that would optimize their use of resources and time. Furthermore, the participants understood and valued healthy eating practices but needed to make choices that were cost effective and would feed their entire family. They offered suggestions to increase healthy food purchasing such as conducting local food tastings, improving the freshness of the produce available, using healthy product labels and providing free transportation to grocery stores.

Additionally, this component of the model asserts that residents of urban food deserts that express negative attitudes about traditional food systems (supermarkets, grocery stores, quick marts, etc.) will be more likely to show greater support for alternative food systems and practices than those that express positive attitudes about traditional food systems. On the other hand, the model assumes that those who express stronger positive attitudes towards alternative food systems and practices will have greater support for them. Many successful farmers markets and community gardens exist in minority communities and this suggests that community members feel welcomed in these places and participate in these activities. Accordingly, the model posits the following:

H_7 Residents who have negative attitudes toward traditional food systems are more likely to express stronger support for alternative food systems and practices.

H_8 Residents who have positive attitudes toward alternative food systems and practices are more likely to express greater support for them.

Walker, Fryer, Butler et al. (2011) conducted a comparative study that interviewed residents living in a food desert and those residing in a food oasis. Both groups were asked to describe their food shopping experience and the overall food environment in their areas. Descriptions obtained from residents in the food desert were grouped into three

categories: survival, mental health, and macro-level factors. Statements about limited access to transportation, using double and triple coupons, and poor food quality were most noted among food desert residents. In contrast, statements made by those living in the food oasis were focused more on 'luxuries', such as organic produce, better bakery goods, and the shopping experience. They also expressed more knowledge of the food-related resources available in their area. On the other hand, the model proposes that residents that identify more things that encourage their adoption of food systems and practices are more likely to express stronger support for them. Thus, the model asserts the following hypothesis based on the above and other considerations:

> **H_9 Residents who perceive more bridges than barriers for adopting alternative food systems and practices are more likely to express greater support for them.**

III. Other important concepts.

Even though the primary and secondary hypotheses are fundamental to the thesis, the model is also used to *explore* other possible relationships. These include links connecting the characteristics of primary food shoppers and the community to sense of place and indirect links connecting these characteristics to resident support via food system variables. These findings may be important in future studies that undertake more rigorous analysis of how this set of variables may influence support for alternative food practices and systems.

Sense of place, place attachment and other place-based studies have been conducted to further understand the relationship between humans and their environment. Although each researcher has a focal point in which the study focuses, the temporal variables have

always been significant to these studies. They have been tested differently among studies with indicators, such as the year a property was acquired, the number of days spent at a property in the previous year (Jorgensen and Stedman 2006, Stedman 2002, Stedman 2003), length of residence in community (Brehm, Eisenhauer and Krannich 2004), length of residence in house, neighborhood and city (Hidalgo and Hernandez 2001) and even months lived in neighborhoods (McCunn and Gifford 2014). Although the measures differ among the studies, variables measuring length of time spent have been positively linked to sense of place. Accordingly, the model asserts that *residents living in the community longer express a stronger sense of place.*

Walker et al. study (2011) on food desert and food oasis areas found that participants living in food oasis areas reported awareness of available resources, such as information provided by churches, coupons available for farmers market, and resources for SNAP and WIC (low-income food programs). The participants also identify issues such as neighborhood stores closing down, lack of transportation and poor quality of food. These members had lived in the area for at least 12 months.

Similarly, the model also assumes residents who have lived in their communities longer know more about their community, its existing socio-environmental structures and conditions, the opportunities ("bridges") ***and*** the lack of opportunities (barriers) they provide for adopting alternative food systems and practices. Accordingly, the model stipulates the relationship that *residents living in the community longer will know more about the barriers and bridges to traditional food systems and practices.*

The majority of studies centered on food eating habits and practices have found women as the primary person for obtaining and cooking food for their households. (Zachary et al.

2013). Indeed, several have reported that over 80 percent of these activities are done by women (Walker et al. 2011, Zachary et al. 2013, Griffith, Wooley & Allen. 2013). *Significantly more women than men are the primary food shoppers for their household.*

Summary

This chapter covered the theoretical model and hypotheses proposed in my thesis. The first section included the proposed model, a description of the model and the theoretical rationale. The first section presents and describes the basic model and the theoretical rationales supporting it. This is followed by a description of the constructs and the variables included in it. The last section presents the nine hypotheses that the model tests.

CHAPTER IV

RESEARCH DESIGN

The purpose of this chapter is to provide details of the methods used in the study. The first section gives an overview of the research design followed by a description of the study area and its sociodemographic characteristics. The next section provides a description of the project sampling frame and procedures, the survey design, delivery and collection, data entry, analyses and security measures used in the study.

Study Area and Sociodemographic Characteristics

Tennessee and Knox County

The United States Department of Agriculture (USDA) disclosed that in 2015, forty-two million people lived in households considered food-insecure. The state of Tennessee has been experiencing food hardship since the 1970s, and it is currently ranked 48th for hunger and food security. According to the USDA from 2011 to 2013 17.4% of Tennessee's households were food insecure. These households "experienced difficulty providing enough food due to lack of money or resources."[5] Furthermore, Tennessee "has the 14th highest child food insecurity rate of 25.4 percent."[6] The organization Feeding America conducted a study to learn about food insecurity across the nation. Their study estimates that 1,102,580 people are food insecure in Tennessee.

This research study was conducted in the Five Points Neighborhood and immediate surroundings in Knox County, located in the East Tennessee region of the state that is part of the Southern Appalachia Eco-region of the United States. Knox County covers 508.22

[5] https://talkpoverty.org/state-year-report/tennessee-2014-report/
[6] http://secondharvestmidtn.org/mmg2015/

square miles and has an estimated population of 432,226 (U.S Census 2013). The majority of residents in Knox Country are white (86.4%), and few residents are black (9.1%). According to the USDA, the county has 19 census areas designated as a food desert, and most of located in the Knoxville's Metropolitan area (see Figure 3).

Moreover, Knox County has 63,660 food insecure people, which is nearly 15% of the population in the county.[7] The Five Points Neighborhood located in the study area is a food desert. It is located near the Five Points Park of East Knoxville, is composed of predominantly black individuals (80%). Nearly 38 percent of these people live below poverty level. The median household income of these residents is $21,992, which is significantly below the State of Tennessee's average of $44,298 and Knox County's average of $47,694. There is an equal distribution between females (50.4%) and males (49%) living in the area. However, the area is composed of older residents compared to Knox County in general (see Figure 2 and Table 1; U.S Census Bureau 2010).

The Knoxville Food Policy Council—the first food policy council, established in America—was created in July 1982 to deal with food insecurity issues the county has faced for the last 40 years. (Just Food, 2015) Although Knoxville currently faces many challenges, it has had a long history of successful business and community organizing.

Study Area: Five Points Neighborhood

The Five Points Neighborhood is located within Knox County and covers over 500-acres of land. Its name originated from its unique location that faces five different areas of

[7] http://map.feedingamerica.org/county/2014/overall/tennessee/county/knox

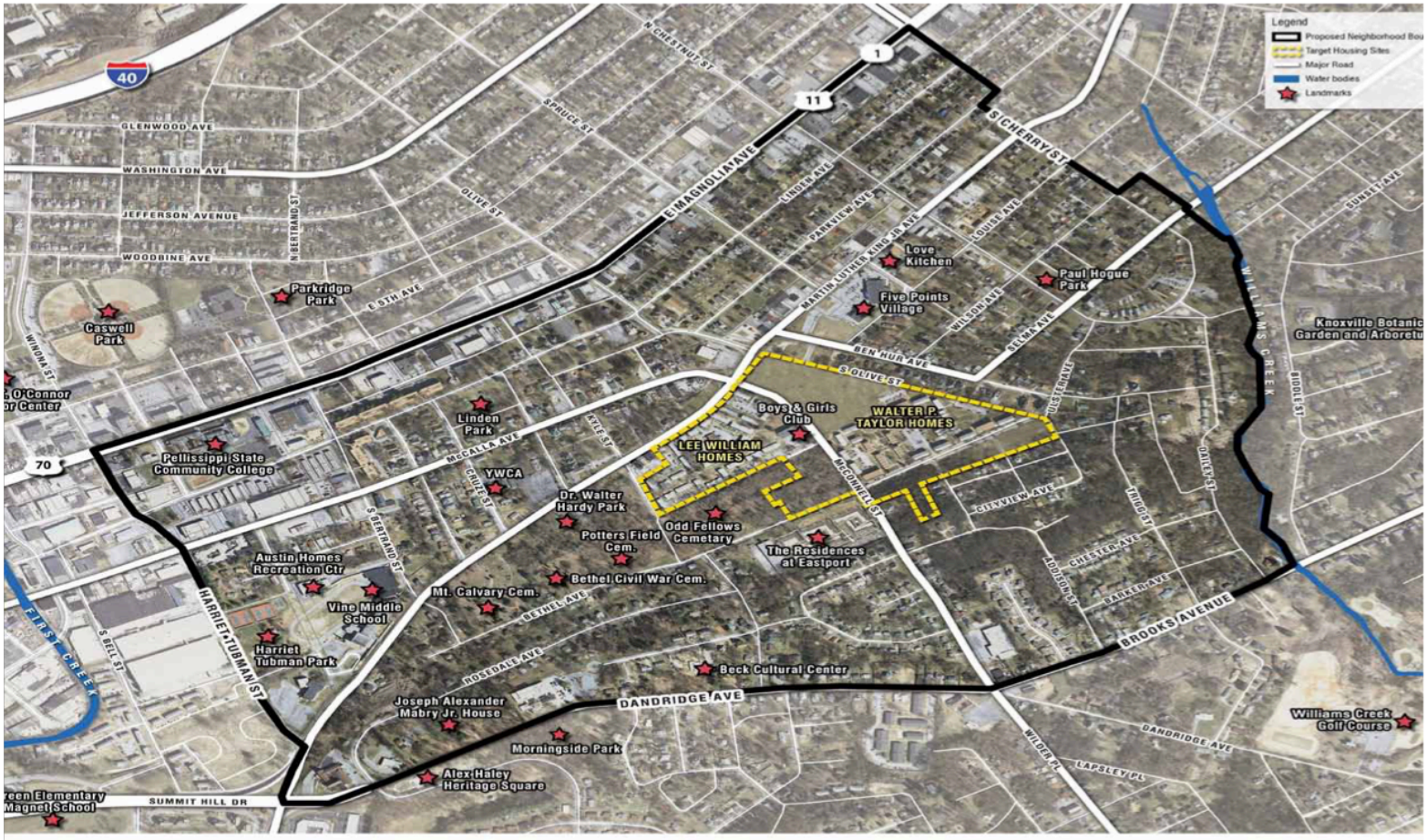

FIGURE 2. HISTORIC MAP OF STUDY AREA AND MAGNOLIA AVENUE[8]

[8] Knoxville's Community Development Corporation. *Five Points Master Plan Executive Summary- February 2014*. Knoxville, Tennessee

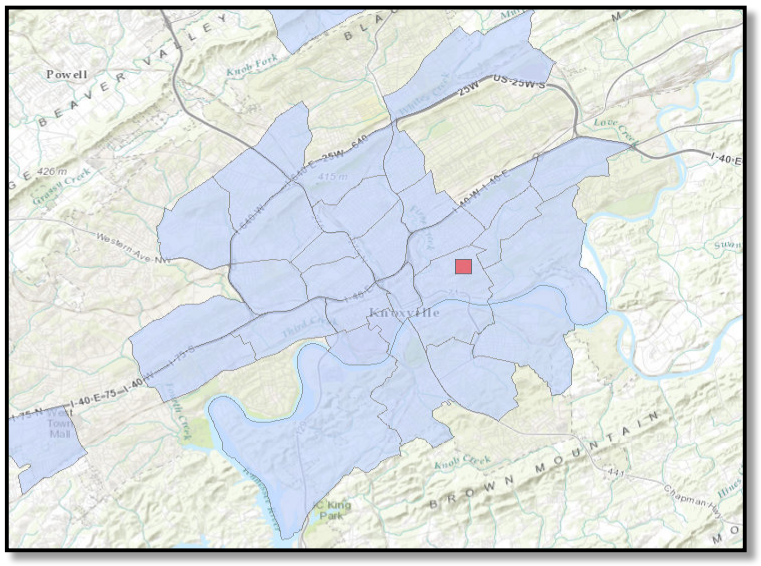

FIGURE 3. LOW-INCOME AREAS IN KNOXVILLE, TENNESSEE[9]

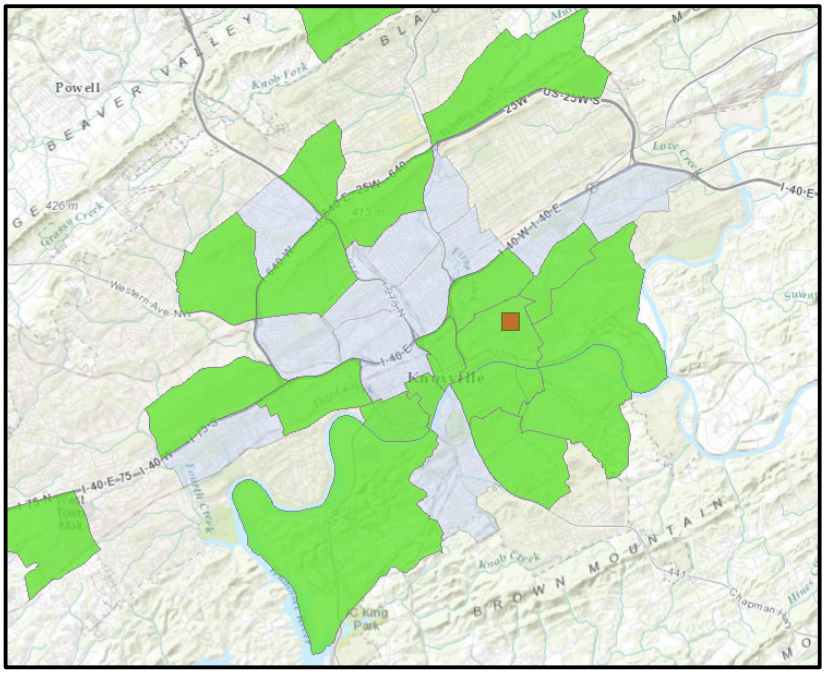

FIGURE 4. USDA ORIGINAL FOOD DESERTS MEASURE IN KNOXVILLE, TENNESSEE[10]

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[9] Tracts with a poverty rate of 20% or higher, or tracts with the median family income less than 80% of median family income for the state or metropolitan area; Source: USDA Economic Research Service, ESRI. For more information: http://www.ers.usda.gov/data-products/food-access-research-atlas/documentation.aspx

[10] Low-income census tracts where a significant number or share of residents is more than one mile (urban) or 10 miles (rural) from the nearest supermarket; Source: USDA Economic Research Service, ESRI. For more

Table 1. Sociodemographic Characteristic Tennessee, Knox County and study area[11]

	State	County	Study Area
Total population	6,346,105	432,226	2,666
Female	48.7%	48.6%	49.6%
Male	51.3%	51.4%	50.4%
Age - Median age (years)	38.2	37.2	39.2
<5 years	6.4%	6.1%	-
18 years and over	76.4%	78.1%	-
65 years and over	13.4%	13.1%	-
Race and Ethnicity			
Black	16.7%	8.8%	80%*
White	77.6%	85.6%	17%*
Other	1.1%	2.1%	0.7%*
Hispanic/Latino	4.6%	3.5%	2.3%*[12]
Education			
Less than High school diploma or GED	14.6%	10.9%	39.8%
High school diploma or GED	35.2%	25.7%	12.7%
Some college or associate's degree	42.1%	51.1%	29.6%
Bachelor's degree or higher	8.2%	12.2%	18.1%
Economic			
Median household income ($)	$44,298	$47,695	$21,992
Percentage of families below poverty (%)	17.6%	14.6%	38.1%

information: http://www.ers.usda.gov/data-products/food-access-research-atlas/documentation.aspx

[11] Source: U.S Census Bureau (2013). Retrieved from www.census.gov

[12] Data were taken from Five Points Neighborhood, Knoxville, TN A Community Health Assessment

the county. The area was previously known as Park City and officially became part of Knoxville in 1917. Figure 2 illustrates the north point is bounded by East Magnolia Avenue, the east point by South Cherry Street and Williams Creek, the south point by Dandridge and Brooks Avenue, and the west point by Harriet Tubman Street. The fifth point no longer offers access to the area but historically Martin Luther King Jr. Avenue and Olive Street connected at McCalla Avenue creating the 'Five Points' junction. (Five Points Master Plan, 2015)

History of study area

The history of this area can be traced back to the 1800s when Magnolia Avenue was the spine of the city. In the 1850s railroads were built which made Knoxville the connecting point between Virginia and Georgia. This brought many people into the area for work including many craftsmen, mill workers, and laborers. During the Civil War, Heiskell School was founded which was the first school for black children. This created tension and segregation in the area causing black and white people to stay on separate sides of First Creek.

In the 1890s an electric streetcar was constructed from the park to the Park City Suburbs, when East Magnolia was mostly filled with family homes. The streetcar connected the entire area, and Knoxville became the host for many events. "Chilhowee Park became a venue for concerts, fairs, exhibitions and seasonal amusements such as roller coaster rides and bowling" (p. 14). Additionally, many sports games were hosted in the area. In the early 1900s, Knoxville continued to flourish with businesses, schools, churches and public accommodations. In the 1920s, the streetcar reached its peak with the line running every 10 minutes along the Magnolia line.

Downfall of the area

The Second World War and the introduction of cars changed the identity of the area dramatically; the streetcar system was lost in the late 1940s and bus transportation evolved. In the post-World War II era, when Magnolia Avenue was designated a federal highway route, the Avenue became an attractive location for commercial development. The types of investments changed and the area grew with more with fast-food restaurants and strip shopping centers. Once I-40 was built, many businesses, and community members had to move to other areas. The construction of the highway coupled with the lack of transportation left the area with many disadvantages. (Knoxville-Knox County Metropolitan Planning Commission).

In the 2009 Planning Commission report they stated that "since the 1960s, commercial business has struggled along large portions of the automobile-scaled avenue. Today, many lots and buildings are vacant or dilapidated, awaiting revitalization and redevelopment of a once vibrant neighborhood corridor." (p. 15). Since the 1960s, many areas have been abandoned and are now empty lots and vacant buildings. Currently, vacant land and lots with empty buildings represent about 115 acres of the Corridor; this includes over 130 vacant lots and more than 180 vacant buildings. The beautiful park is now an empty area used for parking during events.

Revitalization of the area

In 2009 Knoxville's Community Development Corporation (KCDC) has been working in the Five Points Community and developed a 'Master Plan' consisting of four different phases: (1) Issues & opportunities, (2) community visioning & neighborhood framework, (3) preliminary conceptual alternatives and (4) final master plan and implementation. The

master plan was finalized in 2014 and KCDC has demolished 86 units and have constructed over 100 units of affordable housing in the neighborhood. KCDC will submit their final proposal in February 2017 and hopes to begin to implement the in 2018 by building 98 units, both duplex and triplex, playgrounds, green spaces and add historical markers to the community.

Sampling Frame and Procedures

The sampling frame was based on a list of households and addresses located in the Five Points neighborhood in East Knoxville and purchased from Survey Sampling International. The homes located within the current boundaries of the Five Points were included in the sample (see Figure 5).

A random sample of 800 households was initially drawn from this pool of households representing 62 percent of the total number of estimated homes located in this community. However, 52 percent of these houses in the study area had missing data with regards to the type of residency (owner-occupied or rental). Households with this kind of residency are termed 'unknown.' This very high rate of 'unknown residency' is generally found in areas that have a very high rate of residential instability and transience and can significantly increase the number of undeliverable mail surveys and lower response rates. The sampling design was changed to address this potential problem by oversampling 150 owner occupied households. The final sample of 800 surveys was sent to 390 (49%) households thought to be owner-occupied, 72 (9%) to renters, 338 (42%) to households whose type of residence was unknown. (See Figure 4) This sample size helped to ensure the number of estimated completed surveys (N = 175) would have a sampling error of approximately + /- 7 percent (see Table 2).

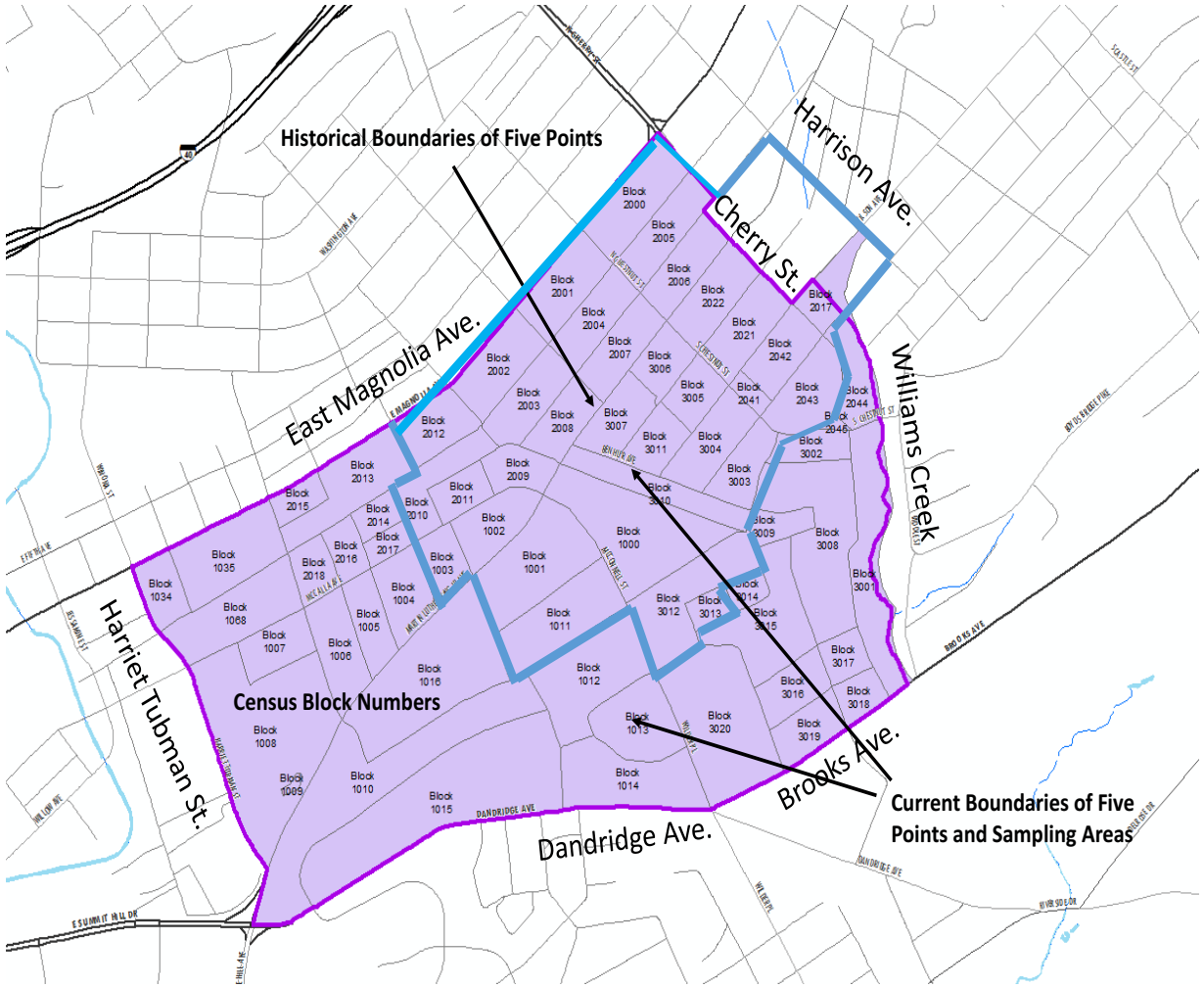


FIGURE 5. SAMPLE OF FIVE POINTS NEIGHBORHOOD

Table 2. Survey Sampling: Calculations, Assumptions and Targets

Estimated Population Size = 1,293 –households	
CALCULATIONS	ASSUMPTIONS
171	Number of completes needed to achieve a 95% confidence level with a confidence interval at +/- 7% (with a 50/50 split)
Divided by .95 = 184	95% of respondents will be eligible for the study
Divided by .25 = 736	25% of those eligible for the study will respond to the survey
Divided by .95 = 774	95% of those who are eligible for the study and respond will send back a usable and complete survey
757	Surveys sent out (800)

The "median year" current homeowner moved into the community is 1991; for renters, it is 2005 (City-Data.com 2015). Those eligible to participate in the mail survey are adults 18 years of age or older that have been living in this community for at least one year. The one-year eligibility restriction was based on the fact that most of the residents have lived in this neighborhood for at least ten years. The criteria for eligibility was also based on the assumption that those who lived in this neighborhood less than one year would be less knowledgeable about it and local food security issues than those who lived there longer. A number was assigned to each household assuring no duplicate houses, and the mailing addresses were checked for accuracy by UT mailing services.

This survey was conducted in four waves. In the first wave each of the households in the sample received a pre-survey letter. (See Appendix) It explained the purpose of the study; the topics covered in the survey and encouraged the person responsible for obtaining groceries for the household to fill out the survey once they received it. The second wave included the survey packet that was delivered about one week later to these

homes via the U.S. Postal Service (USPS). It included a cover letter, the survey, a self-addressed pre-paid envelope and a gift certificate form. Potential respondents were asked to return the survey via a self-addressed stamped envelope to the University of Tennessee Department of Sociology. The packets were sent through USPS bulk mail system, and we received 79 surveys out of the 800 were completed and returned. This type of mail was less expensive but a drawback because it did not notify us of unknown addresses.

During the third wave, about one week after the second wave, a postcard reminder was sent out to all of the households encouraging participation and thanking all those that already completed and returned the survey. The fourth wave consisted of a final survey packet that was sent through USPS priority mail. By sending the surveys through priority mail, we were able to receive back the surveys that did not reach the participants. Through this process, we received 134 surveys that were sent to either vacant homes, unknown addresses or otherwise noted as undeliverable. The unknown returned surveys were collected, counted and marked off the sample population list to obtain a more accurate response rate.

The completion and return of the survey indicated the respondent's informed consent to in it as indicated on the first page of the survey. An incentive was offered to all eligible participants which was a raffle of nine $25.00 gift certificates. To abide with Tennessee law, all participants in the sample were eligible to be in the raffle even if they did not fill out a survey. Additionally, to protect the participant's anonymity, separate raffle forms asking for participant's name and address was included in the survey packet and was not linked to survey responses.

Table 2 indicates that 171 completed surveys would be needed to achieve a 95

percent confidence level with a sampling error (and a confidence interval) of no more than +/- 7%. A minimum of 800 surveys were sent out to try achieve these targets. This total was based on the assumptions that 95 percent of the possible respondents will meet eligibility requirements (18 years or older and living in the area for at least 1 year), that 25 percent of them would respond to the survey and that 95 percent of those eligible respondents would send back a completed survey. There were 118 completed surveys returned. 134 were returned to sender due to no household occupancy or the person or relative was no longer living at the address. The 134 undeliverable surveys were subtracted from the initial sample size (n= 800-134=665), and the number of completes (118) were divided by the final sample size (665) to obtain a response rate of 18 percent for a sampling error of + /- 8.6%

Survey Design

The framework used to develop the survey was originally based on a mail survey. It was constructed in the Fall of 2013 as part of the Advanced Survey Design and Analysis class (SOC 633) taught by Dr. Robert E. Jones at the University of Tennessee-Knoxville. The survey was prepared through a preliminary review of sense of place and food justice literature. Graduate students in this class and several members of Coalition on America's Poor Health and Poverty (CAPP) reviewed initial drafts of the mail questionnaire. A final version of it was evaluated by Dr. Jones in December of 2014. Subsequent revisions to it were based on a more extensive review of the literature, theoretical and conceptual changes in the proposed model and on further consultations with committee members Dr. Jones and Dr. Fly.

The survey questionnaire was designed to fit into a 12-page booklet. The cover of

the survey booklet provides a visual cue as to the purpose of the study and includes the title of the study and the names of its institutional sponsor. The back cover provides a comment section for detailed comments from the respondents about the study and the survey. It also includes a statement thanking them for their help, the name and contact information of its principal investigator (Sylvia Duluc-Silva) and survey mailing information. Additionally, it includes instructions for the drawing of the nine $25 gift certificates.[13] The body of the survey booklet contains mostly closed-ended questions with response categories. Many of these Likert-type scale items were used to gauge various beliefs, attitudes, and behaviors associated with food systems and practices. The last set of items asks respondents about standard socio-demographic characteristics about themselves and their community.

The final survey is a twelve-page booklet with five sections totaling 40 questions. The first section examines issues related to diet, food security, and food sources and includes questions 1 through 7 (see survey in Appendix). The second section discusses issues related *knowledge, experiences and attitudes toward food places* include questions 8 through 17(see survey in Appendix). The third section, *the level of interest and involvement in local community gardens* include questions 18 through 21 (see survey in Appendix). The fourth section about their neighborhood includes only question 22 and the fifth section, *background information* includes questions 23 through 40.

[13] The incentive for participants is $25.00 to a major credit card company (Visa or MasterCard) that can be used at any location where credit cards are accepted.

Data Entry, Analyses and Security

The data obtained from the study were entered into SPSS Version 23, a statistical software package used for the social sciences. Correlational and regression analysis, tests of significance and reliability, and basic statistical procedures were conducted on variables used to test the proposed model and to assess its major hypotheses and theoretical relationships (see Theory).

Access to the digital and paper records of all survey participants was limited to the project's principal investigator (Sylvia Duluc-Silva) and faculty advisor (Dr. Jones). There is no link that ties the questionnaire to the participating household. All surveys were stored in a locked file cabinet in the faculty advisor's office and will be destroyed five years after completion of the study. Data related to this project were stored securely and will be made available only to persons conducting the study unless participants specifically give permission in writing to do otherwise. No references were made in oral or written reports that could link participants to the study.

Scale Construction and Measures

This section describes the way the scales were constructed to measure each of the substantive variables in the proposed model. All of the potential scale items were evaluated for their internal consistency and reliability via item analysis and Cronbach's alpha reliability. Potential scale items with stronger inter-correlations and greater reliability among them were included in the final set of scales. The information provided in Table 3 indicates that all of the scales used in the analyses meet an acceptable level of reliability and internal consistency with Cronbach's alpha coefficients ranging from a low of (α =.750) for Attitudes towards Traditional Food Systems ("TRADITIONAL"), to a high of (α = .91) for

Table 3. Descriptive Statistics for Scales Used in the Analyses

Construct Scale	N	Mean	Standard Deviation	Range	Items	Alpha
Sense of Place ('SOP')	87	31.2	9.3	15-51	11	.936
Food Access-Security (SECURITY')	96	22.3	6.3	8-34	9	.809
Attitude-Traditional Food Systems ('TRADITIONAL')	77	11.9	3.3	4-18	4	.750
Attitude-Alternative Food System ('ALTERNATIVE')	46	11.1	4.7	5-20	5	.879
Knowledge-Alternative Food Systems ('BRIDGES I")	96	6.4	3.0	4-17	4	.818
Beliefs-Alternative Food Systems ('BRIDGES II")	93	27.6	8.1	8-40	8	.915
Beliefs-Alternative Food Systems ('BARRIERS')	91	29.2	8.7	9-45	9	.838
Support for Alternative Food Systems ('SUPPORT')	92	7.5	3.5	5-26	9	.808

Sense of Place ("SOP''). Table 3 also provides the number of people responding to the items in each scale, and the mean, standard deviation range of scores and the number of items for each scale.

Sociodemographic Variables

The most distal set of variables in the model are basic measures of the social demographics characteristics of the primary household food shoppers. These variables were necessary for the analysis of the structural and contextual factors associated with food deserts, and with environmental and food justice issues identified in the literature. They include age, gender, race/ethnicity, education, household income, length of residence, and accessibility to a motor vehicle. Here the model assumes these variables play mostly an indirect impact on support through sense of place. The survey questions used to construct these variables are presented below in Table 4. Age was recoded into the number of years from birth. Race/Ethnicity was recoded into a dummy variable representing African-American (N = 78%) (1), and "others" (N= 22%) (0). There were no respondents who described themselves as "Other" for gender. There were three indicators for length of residence in the survey related to living in Knoxville, the neighborhood and at their current residence. The motor vehicle variable was recoded so that having access to one (N= 61%) was scored with a one (1); not having access to one (N= 29%) was scored with a zero (O).

Sense of Place (SOP)

Based on the literature and theory, Place Attachment, Place Dependence and Place Identity are components that represent *Sense of Place* of food related variables. This variable was measured with an 11-item scale that gauges sense of place among the primary shoppers living in households located in or around the Five Points neighborhood (see

Table 5). Each question employed a Likert response option ranging from "strongly agree" to "strongly disagree." Some items were recoded so that higher scores on the scale reflect a greater sense of place. Scores from each of the scale items were summed, and the Alpha reliability for the scale yielded an alpha of 0.936. Survey responses on the *SOP* scale ranged from 15 to 51 with a mean of 31.2 and a standard deviation of 9.3. The findings suggest that the average respondent has neither a moderate sense of place for their neighborhood.

Security

Food access and food security is a second predictor of support for alternative food systems and practices identified in the model. This variable was measured with a 9-item scale (see Table 6) that examines conditions that may impact food access and security in the household. Each question employed a Likert response option, and some of the items were recoded so that higher scores on the scale reflect greater food access and security. Scores from each of the scale items were summed, and the Alpha reliability for the scale yielded an alpha of 0.809. Survey responses on the *Security* scale ranged from 8 to 34 with a mean of 22.3 and a standard deviation of 6.3. These findings suggest the average respondent's household has a low level of food access and security.

Traditional

Attitude towards traditional food systems food security is a third predictor of support for alternative food systems and practices identified in the model. This variable was measured with a 4-item scale (see Table 7) that rates each respondent's overall experience of obtaining food from such places as supermarkets, convenience stores, gas

Table 4. Sociodemographic Characteristics

QUESTION	RESPONSE OPTIONS
31. In what year were you born? (*Age*)	*Open-ended*
32. How would you describe yourself? (*Gender*)	1- Female 2- Male 3- Other, please specify:
39. How would you describe yourself? (*Race/Ethnicity*)	1- Black or African American 2- Asian or Asian American 3- Hispanic or Latina/o 4- White or Caucasian 5- American Indian or Alaska Native 6- Native Hawaiian or other Pacific Islander 7- Other, please specify.
40. Which of the following best represents your highest level of education? (*Education*)	1- Less than high school 2- Some high school 3- High school diploma or GED 4- Some college or technical school 5- Undergraduate degree 6- Some graduate school 7- Graduate degree
37. What is your best estimate for your household income before taxes in 2015? (*Household Income*)	1- Less than $10,000 2- $10,000 - $14,999 3- $15,000 - $24,999 4- $25,000 - $34,999 5- $35,000 - $49,999 6- $50,000 - $74,999 7- $75,000 or more
26. How many years have you lived in this neighborhood? *(Length of Residence)*	*Open-ended*
29. Do you have a motor vehicle that you can use? *(Motor vehicle)*	1-Yes 2- No

Table 5. Sense of Place Scale: SOP

QUESTION	RESPONSE OPTIONS
22. Please tell me the extent you AGREE or DISAGREE with each of the following statements.	
g. I feel relaxed when I'm at my neighborhood. h. I feel happy when I'm at my neighborhood. i. My neighborhood is my favorite place to be. j. I really miss my neighborhood when I'm away from it for too long. k. Everything about my neighborhood is a reflection of me. l. My neighborhood is the best place for doing the things that I enjoy most. m. My neighborhood is not a place to do the things I most like to do the most. o. My neighborhood has a great deal of personal meaning for me. p. For doing the things that I enjoy most, no other place can compare to my mine. q. My neighborhood reflects the type of person I am. s. My neighborhood creates a sense of belonging in me.	1–Strongly Agree 2–Agree 3–Neither Agree nor Disagree 4–Disagree 5–Strongly Disagree

Table 6. Food Access and Security Scale: SECURITY

QUESTION	RESPONSE OPTIONS
3. Please tell me how often you do the following things based in the following scale: d. I can buy fresh fruits and vegetables at an affordable price. e. I can buy fresh fruit and vegetables that we like. f. I have enough money to buy healthy food. g. I worry that my household will run out of food.	1–Never 2–Rarely 3–Sometimes 4–Often 5–Most of the time
4. Please tell me the extent to which you AGREE or DISAGREE with each of the following statements by circling your answer based on the following scale: a. I have enough money or resources each week to meet the food needs of my household. b. It is easy to get fresh fruits and vegetables in my neighborhood. c. There is a good quality grocery store within a 15-minute walk (or a 1 mile drive) from my home. e. It is easy to find transportation to a good quality grocery store.	1–Strongly Agree 2–Agree 3–Neither Agree nor Disagree 4–Disagree 5–Strongly Disagree
The USDA lists the following conditions in its definition of household food insecurity. *"… Being uncertain of having, or unable to acquire, enough food to meet the needs of all their members in a household because of insufficient money or other resources for food.* 5. Do ANY of these conditions exist within your household?	1- Yes 2- No 3- Not Sure

Table 7. Attitude Towards Food Systems Scales: TRADITIONAL & ALTERNATIVE

QUESTION	RESPONSE OPTIONS
9. How would you RATE your overall experience of obtaining food from the following places?	
a. Supermarkets such as Kroger, Wal-Mart or Food Lion. b. Local convenience stores, quick marts or gas stations. c. Fast-food outlets. d. Restaurants. g. Food outlets run by their members (Food co-ops). h. Local community gardens that grow food. i. From my own garden j. Farmers' markets. k. Going out to a local farm.	1–Very Negative 2–Negative 3–Neither Negative nor Positive 4–Positive 5–Very Positive

stations, fast food outlets and restaurants. Each question employed a Likert response option that ranged from "very negative" to "very positive, " and some of the items were recoded so that higher scores on the scale reflect positive attitudes. Scores from each of the scale items were summed, and Alpha reliability for the scale yielded an alpha of 0.750. Survey responses on the *Traditional* scale ranged from 4 to 18 with a mean of 11.9 and a standard deviation of 3.3. The findings suggest that the average respondent holds a slightly positive attitude towards these traditional food sources.

Alternative Food systems

Attitude towards Alternative Food Systems was the fourth predictor of food support. This variable was measured with a 5-item scale (see Table 7) that rates each respondent's overall experience of obtaining food from such places as supermarkets, convenience stores, gas stations, fast food outlets and restaurants. Each question employed

a Likert response option that ranged from "very negative" to "very positive, " and some of the items were recoded so that higher scores on the scale reflect a positive attitude. Scores from each of the scale items were summed, and the Alpha reliability for the scale yielded an alpha of 0.879. Survey responses on the *Alternative* scale range from 5 to 20 with a mean of 11.1 and a standard deviation of 4.7. These findings suggest that the average respondent has neither a positive nor a negative attitude towards alternative food sources.

Bridges

There were two scales used to predict alternative food practice support and both represented a set of conditions or things that would help facilitate or encourage support for alternative food systems and practices. In this sense, they would serve as "bridges" to support. The first one ("Bridges I") estimated respondent's basic knowledge about food coops, local community gardens, farmers' markets and local farms. This variable was measured with a 4-item scale (see Table 8) and each question employed a Likert response option that ranged from "None at All" to "A Great Deal." Higher scores on the scale reflect more knowledge. Scores from each of the scale items were summed, and the Alpha reliability for the scale yielded an alpha of 0.818. Survey responses on the Bridge I scale range from 4 to 17 with a mean of 6.4 and a standard deviation of 3.0. The above findings suggest the average respondent does not have enough information about these alternative food sources.

The second scale ("Bridges II") was used to examine perceptions about conditions and things that could help to motivate or encourage people to get fresh fruits and vegetables from these alternative food sources. This variable was measured with an 8-item scale (see Table 8) and each question employed a Likert response option that ranged from

Table 8. Scales - Knowledge and Beliefs about Alternative Food Systems: BRIDGES I, BRIDGES II & BARRIERS

QUESTION	RESPONSE OPTIONS
8. How much information do you have about getting food from the following places? (*BRIDGES I*) a. Food outlets run by their members (Food co-ops). b. Local community gardens that grow food. c. Farmers' market. d. Local farms.	1–None At All 2–Very Little 3–Enough 4–Quite A Bit 5–A Great Deal
14. How much do the following things MOTIVATE you to get fresh fruits and vegetables at local farms, farmers' market, food co-ops and community gardens? (*BRIDGES II*) a. The quality, cost and choices that are available. b. Keeping my family healthy. c. Support from my family, friends and others. d. Supporting the local economy and community. e. A desire to learn more about these things. f. Building relationships or meeting new people. g. Feeling comfortable or welcomed at these places. h. Protecting the environment.	1–Not at All 2–Very Little 3–Somewhat 4–Quite a Bit 5–A Great Deal
15. How much do the following things PREVENT you from getting fresh fruits and vegetables at local farms, farmers' market, food co-ops and community gardens? (*BARRIERS*) a. Lack of time (family, work and other obligations). b. Lack of knowledge or familiarity with them. c. Lack of transportation to them. (cost/availability) d. The location or distance to these places. e. The quality and kinds of fruits and vegetables available. f. The cost of fruits and vegetables available. g. These places do not accept SNAP cards. (food stamps) h. Lack of support from family, friends and others. i. Feeling uncomfortable or unwelcomed at these places.	1–Not at All 2–Very Little 3–Somewhat 4–Quite a Bit 5–A Great Deal

"None at All" to "A Great Deal." Higher scores on the scale reflect greater motivation. Scores from each of the scale items were summed, and the Alpha reliability for the scale yielded an alpha of 0.915. Survey responses on the Bridge II scale range from 8 to 40 with a mean of 27.6 and a standard deviation of 8.1. These findings suggest the average respondent is somewhat motivated to get their fresh produce from these alternative food sources.

Barriers

This scale was used to examine perceptions about conditions and things that could prevent or discourage people from getting fresh fruits and vegetables from these alternative food sources. In this sense, they would serve as "barriers" to using alternative food sources. This variable was measured with a 9-item scale (see Table 8) and each question employed a Likert response option that ranged from "None at All" to "A Great Deal." Higher scores on the scale reflect greater motivation. Scores from each of the scale items were added together, and the Alpha reliability for the scale yielded an alpha of 0.915. Survey responses on the Bridge II scale range from 8 to 40 with a mean of 27.6 and a standard deviation of 8.1. These findings suggest the average respondent is somewhat motivated to get their fresh produce from these alternative food sources.

Support

The dependent variable in the model, "Support" for Alternative Food Systems was measured with a 9-item scale (see Table 9). Five of the questions in the scale employed a Likert response option that ranged from "Never" to "Most of the Time." These questions asked residents how often they got their household food from alternative food sources including food coops, community gardens that grow food, from their own garden, from a local farmers' market and a local farm. Four of the questions had a "Yes/No" response

option. These questions ask the respondents if they contributed time, money or resources to groups and organizations that represent alternative food systems and practices and provide food to local communities. Higher scores on the scale reflect greater support for these alternative food systems and practices. Scores from each of the scale items were summed, and the Alpha reliability for the scale yielded an alpha of 0.808. Survey responses on the *Support* scale range from 5 to 26 with a mean of 7.5 and a standard deviation of 3.5 These findings suggest that the average respondent has very little support for these things.

Table 9. Support for Alternative Food Systems Scale: SUPPORT

QUESTION	RESPONSE OPTIONS
11. Tell me if you have contributed time, money or resources to the following groups or organizations that provide food to local communities.	
b. Local community gardens, such as SEEED's Edible Garden, Every Child Outdoors Youth Garden or Beardsley's Community Farm. c. Farmers' markets (other than buying products). d. Local farms. e. Food and nutrition programs, such as Head Start or Meals on Wheels. f. Organizations, such as Food Policy Council, Just Ripe or CAPP.	1-Yes 2-No
7. During an average month, how OFTEN do you get food from the places listed below.	1–Never 2–Rarely 3–Sometimes 4–Often 5–Most of the time
g. Food outlets run by their members (Food co-ops). h. Local community gardens that grow food. i. From my own garden. j. From a famers' market. k. Going out to a local farm.	

CHAPTER V

RESULTS

This chapter presents the descriptive and inferential statistical results from the data collected from the mail survey. The results are divided into two sections. The first part ("Descriptive Results") gives details of the socio-demographics and views of the respondents on issues related to the community and food security. The second part ("Inferential Results") provides the results of the measures used to test the hypotheses included in the model. A summary of the overall research strategy and significant findings is presented in the final section of the chapter.

Descriptive Results

This first section of the results generally follows the order between sets of variables within the proposed model (see. Figure 1). First, it provides details about basic socio-demographic characteristics of the respondents such as their age, gender, race and ethnicity, education and residency. It then presents the descriptive results on their views about the community-based measures of sense of place and neighborhood relations. The findings of attitudes and support for traditional and alternative food system and practices are presented last.

Sociodemographic Characteristics and Views of the Survey Respondents

The age of the respondents ranged from 29 to 90 years old, and their median age is 59. Most (76%) identified themselves as being female; fewer as male (24%). Most (80%) described themselves as Black or African American, few described themselves as White or Caucasian (17%), and very few (3%) as American Indian or Alaska Native, Hispanic, Latino

or "other." Nearly one-half of them (45%) have a high school diploma, GED or less. About one-third (36%) of them have some college or technical school training and few have either an undergraduate degree (12%) or some (7%) graduate training or degree (see survey questions Q31, Q32, Q39, Q40).

Nine out of 10 of the respondents reported their household income being under $35,000, and 6 out of 10 of them have an income less than a $15,000. One-third (32%) of the survey respondents reported they, or someone in their household, received food from SNAP (Supplemental Nutrition Assistance Program) in the last twelve months. A few respondents (12%) reported that they received food assistance from the National School Lunch Program. Very few received food assistance from the Senior Farmers' Market Nutrition Program (1%) or the Head Start Program (1%) and none of them received it from WIC (Woman, Infants and Children Program) over the last 12 months. Many (70%) of them have obtained meals from community-based food programs or from food banks. (see survey questions Q37, Q36, Q33, Q38, Q9e, Q9f).

Three-fourths (76%) of the subjects are not working either because they are disabled (35%), retired (21%), taking care of family or others (6%) unemployed (5%), or for "other" reasons (9%). Nearly eight out of 10 of the respondents are either single (30%), divorced or separated (30%) or widowed (18%). (see, survey questions: Q36, Q33,).

The next set of the descriptive results is based on the residential characteristics of the respondents and the make-up of their households. Here we find that 51 percent of these people own their homes while the rest (49%) of them are renting. Nearly one-half of respondents (47%) reported they lived alone, and over a quarter (26%) of them lived with one other person. One-fifth, (21%) of the households had three or four members, and the

average size of the household was two. Most (78%) of the people did not have children under the age of 18 living in their household, and most of the remaining households had less than three children (19%) living in them. Almost all (90%) of the respondents do most of the household grocery shopping for the home. (see, survey questions: Q24, Q34, Q35, Q23).

The average number of years respondents have lived in Knoxville is 43, and many of them have been living there most of their lives. Most (72%) of them have lived in their neighborhood for at least ten years and the average number of years living there is 20. On average, they have been living in their current home for 16 years and over one-half (53.5%) reported living in their current home for over ten years. Almost all of them (98%) reported mailing zip codes that are either wholly or partially within the boundaries of Five Points study area. However, slightly more than half (53%) reported living in this neighborhood, and another one-fourth of them reported that they live in the adjacent neighborhood of Morningside. The rest (22%) reported they were "not sure" or that they lived in an "other" area of Knoxville (see, survey questions: Q26, Q27, Q28, Q25)

Descriptive Results-Sense of Place and Neighborhood Relations

This section presents the descriptive results of the next set of variables in the model related to views of the community. They include three measures for *sense of place:* place dependence, place identity and place attachment. Each of these measures included a series of questions about the residents' feelings towards their neighborhood, such as how they identify with the neighborhood, how they feel about their neighborhood and how their neighborhood compares to others. A fourth measure, *Neighborhood Relations is* based

upon a series of questions about feelings and relationships the respondent have with others living in the neighborhood.

The first measure of sense of place*, place dependence* had a series of questions that gauged the feelings and views the respondents have about their neighborhood. Several of these survey items revealed that the largest proportion of responders believe that their neighborhood was not a place to do the things they like to do the most (40%) or the best place for doing them (53%) and that other neighborhoods are better places for doing these things (43.5%). Fewer (23%) thought it was the best place to do these things or that there was no better neighborhood than their own to do the things they like to do the most. Moreover, a majority (56%) of them thought that there were better places to live in (see survey questions: Q22l, Q22n, Q22p, Q22r).

The results of the second measure of sense of place, *place identity*, also reveal that many of the respondents do not have a strong place-based identity associated with their neighborhood. For example, very few of them thought that everything about their neighborhood is a reflection of who they are (13%) or that it reflects the type of person they are (18%). Moreover, about one-half (49%) of these people thought that their neighborhood said very little about who they are and significantly less (30%) thought it provides a great deal of personal meaning. Still, over half (53%) of the responders thought they "could really be themselves" in their neighborhood (see survey questions: Q22k, Q22q, Q22t, Q220, Q22m).

The results of the third measure of sense of place, *place attachment,* reveal the following. Over half, (53%) of survey responders feel relaxed when they are in their neighborhood and almost as many (47%) feel happy in their neighborhood. Less (37%)

reported their neighborhood is their favorite place to be and almost as many (31%) really miss their neighborhood when they are away from it too long. Nearly one-third (29%) of residents thought their neighborhood creates a sense of belonging in them and about one-third (32%) of them feel emotionally attached to it (see survey questions: Q22g, Q22g, Q22h, Q22i, Q22j, Q22s, Q22u).

The last set of place-based measures, *neighborhood relations* gauged the feelings and views the respondents have about their neighbors. The findings revealed that many of the respondents have good relationships with people living in their neighborhood. Most of them (70%) recognized many of their neighbors and reported (79%) that they said hello to their neighbors almost every time they saw them. Over half, (56%) of the respondents knew many of the names of their neighbors. Four out of 10 of them feel they can ask a neighbor for help. Almost as many (37%) felt they could leave their house key with a neighbor and felt (38%) close to others living in their neighborhood (see survey questions Q22a-Q22f).

Descriptive Results-Food Practices and Systems

This section presents the views of the respondents about different kinds of food practices and systems. They include attitudes about their food access and security and traditional and alternative food systems, perceptions of the barriers and bridges for adopting alternative food practices and their support for these practices and alternative food systems in general.

Most of the participants' think that a healthy lifestyle of fresh fruits and vegetables is important, but it appears that many households face significant food insecurities associated with food access and availability. For example, most residents, (83%) reported

that eating fresh fruits and fresh vegetables on a regular basis was either “very important” or “extremely important” to them. Unfortunately, about six out of 10 (58%) of them do not have any place in their neighborhood to get fresh fruits and vegetables for their household at an affordable price; significantly fewer of them (23%) thought it is “easy” to get them in their neighborhood. Moreover, half of the residents (50.5%) reported they could not get these foods at a place in their neighborhood that accepted “food stamps” (Supplemental Nutrition Program-SNAP benefits). In fact, many of the respondents (62%) reported that there isn’t a good quality grocery store within a 15-minute walk (or 1-mile drive) from their home and less than a majority of them (42%) thought it was “easy” to find transportation to a good quality grocery store (see survey questions: Q1, Q4c, Q4b Q4e, Q4d).

Food access, availability and other reasons related to economics may explain why they lack fresh fruits and vegetables in their diet. Many (66%) either "never," "rarely" or only "sometimes" eat two or more servings of fruits or eat three or more servings of fresh vegetables each day (62%). Additionally, about one-third (34%) of respondents could buy fresh fruits and fresh vegetables for their household on a regular basis and less than a majority (47%) of them could buy fresh fruits and vegetables that they liked. Furthermore, most (73%) of the respondents reported that they either "sometimes," "rarely" or "never" had enough money to buy healthy food. Moreover, only four in 10 (37%) of them had enough money or resources each week to meet the food needs of their household and about 3 out of 10 (28%) of them regularly worry that their household will run out of food. Indeed, the majority of the respondents (57%) thought that the conditions that define

household food insecurity by the United States Department of Agriculture exist in their homes and others homes in their neighborhood (see, survey questions: Q3a-Q3g, Q5, Q6).

The next set of food-related findings is based on survey items gauging attitudes towards traditional and alternative food systems. The first part presents the descriptive results related to more traditional or conventional ways of obtaining food; the second part does the same for alternative ways of obtaining food.

Very few of the respondents *never* got their food from either supermarket (2%), restaurants (8%), fast food outlets (8%), local convenient stores, quick marts or gas stations (14%). Six out of ten (61%) of the survey respondents have a positive attitude of supermarkets but significantly fewer of them have positive attitudes of restaurants (32%) or fast food outlets (31%). Very few have positive attitudes of local convenient stores, quick marts or gas stations (18%) that sell food items (see survey questions: Q7a-d & Q9a-d).

In contrast, more of them never got their food from alternative sources such as a food cooperative (37%), a farmers' market (27%) a local farm (40%), a community garden (38%), or from their own garden (32%). Many of these respondents had either a negative or an ambivalent attitude (i.e., "neither negative nor positive experience") of them. For example, few (15%) had a positive experience obtaining food from a local farm, but significantly more had a negative experience (56%) or are ambivalent about them (30%). Somewhat similar patterns are evident in regards to their experiences with community gardens (11%, 47%, and 42% respectively); but less so and more positive for food coops (20%, 36% and 44%), their own garden (31%, 41% and 28%) and for farmers markets (34%, 36% and 30%) (see survey questions: Q7-g-k & Q9f-k).

In addition to reporting low participation rates and bad, or at best, ambivalent experiences with these alternative ways of obtaining their food, most respondents have little or no information about them. Nearly all (96%) respondents have “very little” or no information about obtaining food from community gardens. Most reported a similar lack of information about local farms (90%) COOPS (88%) and farmers’ markets (70%) (see survey questions: Q8a-Q8d).

Most (66%) of the survey participants also thought their lack of knowledge and familiarity prevented them from getting fresh fruit and vegetables from these alternative food systems. They also thought other things created barriers for them. Over half, (54%) of respondents thought the cost of fresh fruit and vegetables at these places prevented them "quite a bit" (24%) or a "great deal" (31%). Nearly half (47%) of them thought the location or distance to these places are strong barriers (19% & 28% respectively); lack of transportation to get to these places (37%) also significantly hindered some of them (15% & 22%). Many (40%) felt similar about the quality and kinds (22% & 18%) of fruits and vegetables available at these places. Lack of time (30%), or support from family and friends (21%) as well as not being able to use food stamps (22%), and feeling uncomfortable or unwelcomed (21%) at these places are less likely to be seen as major barriers (see survey questions: Q15a-Q15i).

Keeping their family healthy (76%), protecting the environment (58%), the cost, quality and choices of fruits and vegetables (52%), supporting the local economy, support from their family and friends (48%) and feeling comfortable and welcomed all appear to be strong motivators for obtaining fresh fruits and vegetables from farmers’ markets, food co-ops, community gardens and local farms. Less motivating is a desire to learn more about

these alternative ways of obtaining food (45%) and building relationships and meeting new people (39%). Many of the respondents are also interested in learning how they could participate in alternative food systems and practices. For example, about 4 out of 10 of them are interested in learning more about farmers' markets (44%) food coops (42%) community gardens (39%) and local farms and farming practices (39%) (see survey questions: Q14a-Q15h & Q13b, Q13c, Q13d, and Q13e).

The last set of measures used in the survey gauged support for alternative food practices and systems among the respondents. They include support for efforts by local community gardens, farmers' markets, food coops and local farms to improve the availability of fresh fruits and vegetables in the community. Contributing time, money and resources to these groups and organizations as well as to others such as 'Just Ripe' and the 'Food Policy Council' which promote alternative food systems and food justice also estimated their support.

Almost one-half (48%) of the respondents had at least some support for the efforts by these groups to improve the availability of fresh fruit and vegetables in the community. However, only about one-fourth (23%) of them had strong support ("A great deal,"- 12%; "Quite a bit," - 11%). Moreover, the majority (51%) of them had very little (19) or no support (32%) for these efforts. Also, very few (between 3-7%) of them contributed their time, money or resources to these groups. Still, almost one-half (49%) of the respondents are either currently gardening (13%), want to garden again (17%) or learn how to garden (19%). Some (18%) would like to get involved in a community garden and 4 out of 10 of them would "really" like to get most of their fresh fruits and vegetables from community

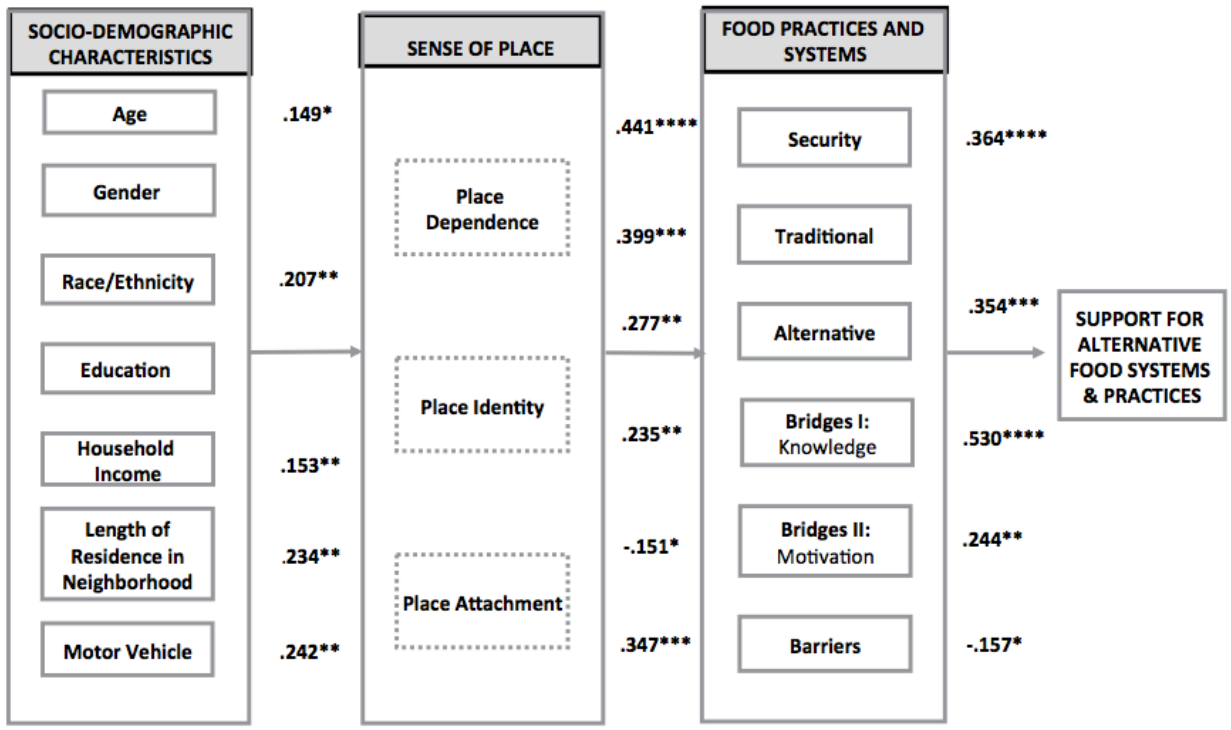
gardens, farmers markets and other alternative food sources (see survey questions: Q11b, Q11c, Q11C, Q11d, Q11f, Q17, Q18, Q20).

Model Assessment and Inferential Results

This second section of the results follows the order of variables included in the proposed model. Figure 6 presents the bivariate correlation results of variables in the proposed model. The first section provides details about bivariate relationships between basic socio-demographic characteristics of the primary household shopper such as their age, gender, race and ethnicity, education and residency and the Sense of Place scale (SOP). The next section provides details about relationships between the Sense of Place scale and the six food-related scales (SECURITY, TRADITIONAL, ALTERNATIVE, BRIDGES I, BRIDGES II, BARRIERS). The findings for tests of relationships between these six food-related scales and support for alternative food systems and practices scale (SUPPORT) are presented in the third section. The last section gives basic regression results of the primary predictors of support.

Relationships between Sociodemographic Characteristics and Sense of Place

Age - A Pearson's *r* data analysis revealed a weak positive correlation (r = .149, $p < 0.10$) between age and sense of place with older shoppers having a stronger sense of place for their neighborhood. **Gender** – There were no significant differences found between sense of place and gender. This suggests that levels of sense of place are similar between female and male shoppers. **Race/Ethnicity** - The bivariate analysis revealed a weak positive correlation (r = .207, $p < 0.05$.) between this dummy variable and sense of



Notes: Figures adjacent to the variables represent significant bivariate correlation coefficients. Statistical significance was determined by 1-tailed tests and designated at the following levels: *0.10, **0.05, ***0.01, ****001.

FIGURE 6. BIVARIATE RESULTS: MODEL OF PUBLIC SUPPORT FOR ALTERNATIVE FOOD SYSTEMS AND PRACTICES IN AN URBAN FOOD DESERT AMONG PRIMARY HOUSEHOLD SHOPPERS

place. Hence, shoppers who identified themselves as being African-Americans or Black appear to have a stronger sense of place than all other racial and ethnic groups combined**.** **Education** - There were no significant differences found between sense of place and level of education. **Household Income** – The analysis revealed a weak positive correlation. r = .153, $p<0.05$ indicating that primary shoppers living in households with higher income levels tend to have a stronger sense of place for their neighborhood.

Length of Residence – The analysis revealed a somewhat weak positive correlation (r = .234, $p < 0.050$) for residency and SOP; those who have lived in neighborhood longer tend to have a stronger sense of place. Additional analysis found similar results for measures of the length of time in Knoxville and home residency. **Motor Vehicle** - There were significant differences between those who 'don't have', and those who have access to a motor vehicle (r = .242, $p < 0.05$). The figures indicate that those having a vehicle tend to have a stronger sense of place.

Generally speaking, older shoppers, those with greater household incomes and access to a motor vehicle, those who have lived in their neighborhood longer and African Americans have a stronger sense of place for their community. These findings provide support for the proposed model based on the existing literature relating to the relationships between sense of place and socio-demographic characteristics of people living in urban food deserts.

Relationships between Sense of Place and Food Practices and Systems

Security - A Pearson's r data analysis revealed a strong positive correlation (r = .441, $p < 0.001$) between sense of place and food security. This indicates that shoppers with a stronger sense of place for their neighborhood are living in households that have greater

food access and security. **Traditional** - The bivariate analysis revealed a strong positive correlation (r = .399, $p < 0.01$) which suggests that shoppers who have a stronger sense of place hold more positive attitudes toward traditional food systems. Thus, they rate their overall experience of obtaining food from supermarkets, convenience stores, quick marts, gas stations, fast food outlets and restaurants better than shoppers who have a weaker sense of place for their neighborhood. **Alternative** - The analysis revealed a somewhat weak positive correlation (r = .277, $p < 0.05$) which signifies that those with a stronger sense of place hold more positive attitudes toward alternative food systems and practices. Thus, they rate their overall experience of obtaining food from food coops, local community gardens, farmers' markets, local farms and from their gardens better than shoppers who have a weaker sense of place for their neighborhood.

Bridges I: Knowledge – The analysis revealed a weak positive correlation (r = .235, $p < 0.05$) which indicates that those with stronger sense of place have more knowledge about alternative food systems and practices. They report having more knowledge about getting their household food from food coops, local community gardens, farmers' markets, and local farms than those who have a weaker sense of place for their neighborhood.

Bridges II: Motivation The data analysis revealed a weak negative correlation (r = -.151, $p < 0.10$) indicating that those who have a stronger sense of place are less motivated to get their fresh fruit and vegetables from alternative food systems and practices. These motivations include personal factors such as feeling comfortable and welcomed at these places, social factors such as support from families, friends, and others, and supporting the local economy, as well as concerns about family health and protecting the environment.

Barriers – The data analysis indicated a moderately strong positive correlation (r = .347, p

< 0.01) suggesting that those who have a stronger sense of place for their neighborhood believe that there are fewer things preventing them from getting their fresh fruit and vegetables from alternative food sources and places. These include such elements as the lack of time, knowledge, transportation and social support as well as the location and cost of produce at these places.

Overall, it appears that primary shoppers who have a stronger sense of place also have greater food access and food security in their households; more knowledge about alternative food systems; view both traditional and alternative food systems more positively; and believe there are more bridges for obtaining their produce at alternative food sources and places. These findings provide support for **H_1, H_2, H_3,** and **H_4** but not **H_5** (see below).

Those who have a stronger Sense of Place (SOP) for their neighborhood:

H_1 – have greater food security
H_2 – have more knowledge about alternative food systems
H_3 – have negative attitudes toward traditional food systems
H_4 – have positive attitudes toward alternative food systems
H_5 – perceive more barriers than bridges for adopting alternative food systems and practices

Relationships between Food-Related Variables and Support for Alternative Food Practices and System

Security - A Pearson's *r* data analysis revealed a moderate positive correlation (*r* = .346, p < 0.01) with support. Primary shoppers who have greater food access and security reported greater support for alternative food systems and practices. Thus, they are more likely to get their food from coops, local community gardens, farmers' markets, and local farms and contribute time, money or resources to them compared to those who have less access and food security. **Traditional -** The bivariate analysis did not reveal a significant

correlation between these two variables suggesting that attitudes toward traditional food systems do not influence support for alternative food systems and practices. **Alternative –** The data presented in Figure 6 indicates that a positive moderate correlation (r = .354, p < 0.01) exists between these two variables. This means that primary shoppers who rate their overall experience of obtaining food from food coops, local community gardens, farmers' markets, local farms and from their gardens are more likely to have greater support for alternative food systems and practices.

Bridges I: Knowledge – A positive and significantly strong correlation (r = .530, p < .001) was found to exist between these two variables. Thus, primary shoppers who have more information about alternative food sources and places such as food coops, local community gardens, farmers' markets and local farms have greater support for alternative food systems and practices. **Bridges II: Motivation –** This analysis revealed a weak positive weak correlation (r = .244, p < 0.05) between the two scales. This indicates that primary shoppers who are more motivated by personal, social, contextual and environmental factors to get their fresh fruits and vegetables from alternative food sources and places are more likely to have greater support for these things. **Barriers –** a weak negative correlation (-.157, p < 0.10) was found to exist between these two scales with those who believe that fewer things are preventing them from getting their fresh fruit and vegetables from alternative food sources and places are more likely to have greater support for alternative food systems and practices.

Overall, these results suggest that primary shoppers who have greater food security in their households; more knowledge about alternative food systems; view alternative food systems more positively; and believe there are more bridges than barriers for obtaining

their produce at alternative food sources and places, are more likely to have greater support for alternative food systems and practices. These findings provide support for **H_8** and **H_9** related to attitudes and perceptions of the bridges and barriers to alternatives (see below). The findings does not lend support for **H_7** related to attitudes toward traditional food systems---which was found *unrelated* to support nor to **H_6** associated with food security---which is *positively,* not negatively related to support for alternative food systems. In this case, and contrary to expectations of the model, the results indicate that those who have *greater* food security have stronger support for these alternatives.

Primary shoppers who:

H_6 - have less food security
H_7 - have negative attitudes toward traditional food systems
H_8 - have positive attitudes toward alternative food systems
H_9 - perceive more bridges than barriers for adopting alternative food systems

---- *are more likely to express greater support for alternative food practices and systems*

Regression Analysis and Findings

A series of exploratory regression analyses was conducted between the major substantive variables in the proposed model and public support for alternative food system among primary household shoppers. These variables included the scales representing food access and security (SECURITY), attitudes toward traditional systems (TRADITIONAL), attitudes toward alternative food systems (ALTERNATIVE), knowledge about alternative food systems (BRIDGES I), things that may encourage (BRIDGES II) or discourage (BARRIERS) them from getting their produce from alternative food sources and places, sense of place (SOP) and public support for alternative food systems and practices (SUPPORT).

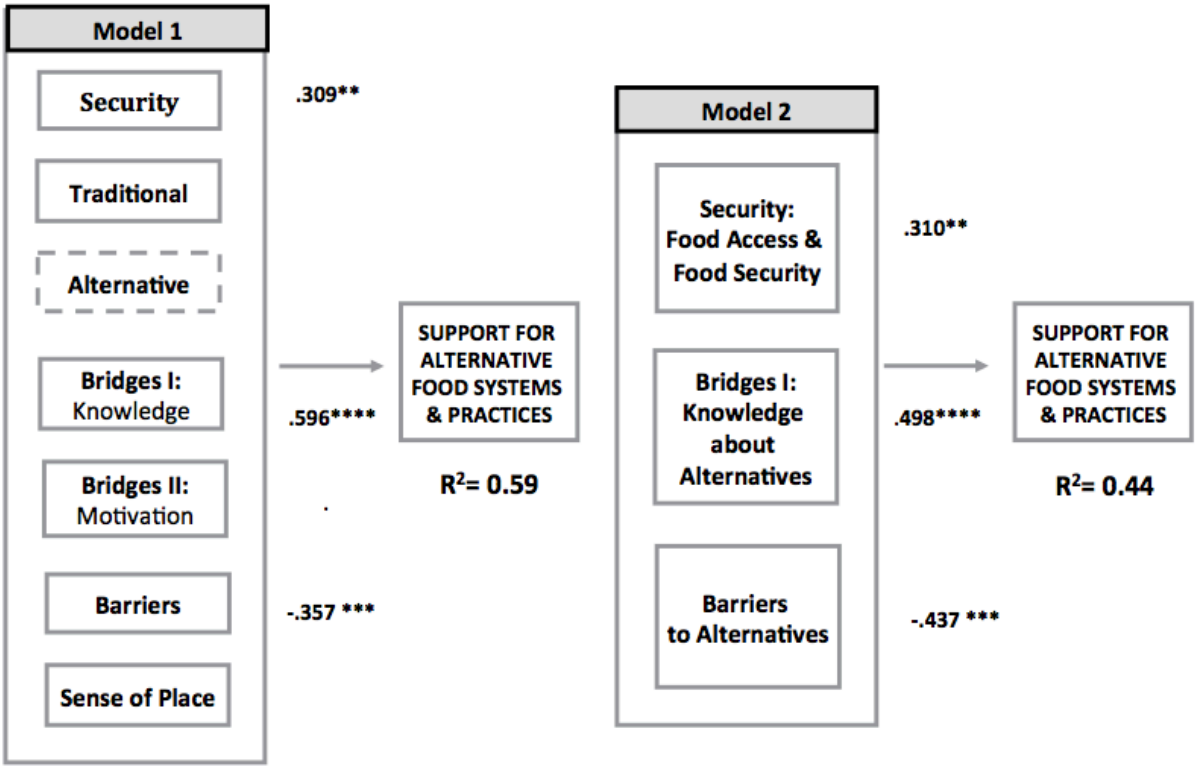
The regression analysis was based on *listwise deletion* of cases that identifies the total number of 'valid' (or usable) cases that responded to all of the items representing the eight scales in the model. Inspection of these figures identified normal and expected decreases in the number of valid cases from the bivariate (average N = 75) to the multivariate analysis except when the ALTERATIVE scale was included. This lead to a significant decrease in the number of valid cases that could be used in multivariate analysis (N = 29). This was mostly because 46 (or about 50%) of the primary shoppers responding to each of the ALTERNATIVE scale items did not rate their overall experience of obtaining food at alternative food places because they had *never* shopped at any of them. Instead, they responded to these survey items by selecting "NA" (*Not Applicable*), and their responses were subsequently placed into the category of "*missing values*" and excluded from the 'valid' (or usable) number of cases representing the ALTERNATIVE scale. Due to these reasons, this measure was not included in the regression analysis conducted on Model I and II (see Figure 5).

The results of the regression analysis conducted on the variables included in Model I indicate that three of the independent variables in the model (SECURITY, BRIDGES I, BARRIERS) explained a significant proportion of variation ($R_2 = 0.59$, $F = 21.9$, $p < .001$, SE = 2.84, N = 49) in the dependent variable (SUPPORT). These variables also had significant and relatively strong standardized regression coefficients (or *Beta Weights)* that indicate the relative effect each one had on the dependent variable after all of the effects of the other variables were controlled. BRIDGES I was the strongest predictor and explained most of the variation in SUPPORT (47%) followed by BARRIERS (6%) and SECURITY

(5.9%). The other independent variables (TRADITION, BRIDGES II and Sense of Place-SOP failed to explain any additional variation in the dependent variable.

Model II includes only these three 'significant predictors' of SUPPORT and excludes the other non-significant independent variables that may be inflating the amount of variation explained by Model I due to interrelationships with other variables. The results indicate that three of the independent variables in the model (SECURITY, BRIDGES I, BARRIERS) again explained significant proportion the variation ($R_2 = 0.44$, $F = 16.8$, $p < .001$, SE = 2.97, N = 68) in the dependent variable (SUPPORT). However, the amount of variance they explained (44%) was less (15%) than then the amount explained by Model I (59%) that included all of the major substantive variables. These variables also had somewhat weaker standardized regression coefficients (or *Beta Weights)* compared to the results for them presented in Model I. BRIDGES I again was the strongest predictor and explained most (27%) of the variation in SUPPORT followed by BARRIERS (10%) and SECURITY (7%).

Overall, these findings suggest that knowing how much information about alternative food systems primary household shoppers have, knowing the things that may discourage them from getting their food from alternative sources and knowledge of the level of food security within their homes can provide a basic understanding of public support for alternative food systems in food deserts such as the Five Points neighborhood in Knoxville, Tennessee.



Notes: Figures adjacent to the variables represent significant standardized regression coefficients (Beta weights). Statistical significance was designated at the following levels: *0.10, **0.05, ***0.01, ****001.

FIGURE 7. REGRESSION RESULTS: MODEL OF PUBLIC SUPPORT FOR ALTERNATIVE FOOD SYSTEMS AND PRACTICES IN AN URBAN FOOD DESERT AMONG PRIMARY HOUSEHOLD SHOPPERS

CHAPTER VI

SUMMARY AND CONCLUSIONS

This thesis identifies the views related to traditional and alternative food systems and practices among residents living in East Knoxville, Tennessee. The study was carried out by a mail survey of food desert residents in the Five Points Community of Knoxville. The first chapter, introduction, provides the framework for this study. The background section provides an overview of environmental justice, the environmental justice movement, food justice, and the food justice movement. Then I argue that food justice is an environmental justice issue by showing the connections between the two. The last section of this chapter describes alternative food systems and practices such as community gardens, farmers' markets, food co-ops, and community supported agriculture (CSA's).

The second chapter, literature review, is divided into two sections. The first section covers the barriers and bridges identified in food desert literature. The second section examines the definitions and measures associated with place-based constructs including community place attachment, community attachment, place attachment and sense of place. It also explores the most relevant sense of place literature used in the proposed theoretical model for understanding community support of alternative food systems and practices. The third chapter, theoretical model and hypotheses, presents the conceptual framework utilized in the analysis of the variables assumed to influence resident support. A description of the model, constructs and variables are provided followed by nine hypotheses used to test the model.

The fourth chapter, research design, gives an overview of the study area and the sociodemographic characteristics of Tennessee, Knoxville, and Knox County and the study

area. Next, it provides a description of the project sampling frame and procedures, the survey design, delivery and collection, data entry, analyses and security measures used in the study. The last section of this chapter describes the way the scales were constructed to measure each of the substantive variables in the proposed model.

The fifth chapter, results, gives the descriptive and inferential statistical results from the data collected from the mail survey. A summary of the overall research study and significant findings is presented here. This final chapter, summary and conclusions, provides an overall summary of the survey findings. It does so by summarizing the descriptive results, the descriptive statistics and general conclusions relating the hypotheses. Lastly, it provides an overall summary of the results, project limitations and recommendations.

Overview of Results

Descriptive results

Nearly all of the residents surveyed do most of the household grocery shopping. They were mainly African American or Black and most of them had a high school education or GED while several of them had some college or technical school. Most of them live below the poverty line and six out of ten reported household income of less than $15,000. Not many residents received supplemental nutrition assistance, but most of them indicated they obtained meals from community-based food programs or food banks.

The Five Points residents have spent most of their lives in the area. Most of them have been living in Knoxville for over four decades, nearly all of them have been residing in the Five Points neighborhood for about 20 years, and many have been living in their

current home for at least ten years. The majority reported they live alone and do not have children under the age of 18. Even though these residents have spent a significant time in the area, only half identified residing in Five Points. The other residents said they lived in Morningside Neighborhood and one in four were not sure what area they lived in.

Half of the residents stated they feel happy and relaxed in their neighborhood. However, the consensus among the residents is that they do not think their neighborhood is the best place to do the things they like and they believe there are better neighborhoods than theirs. Many of them also do not have a strong place-based identity associated with their community and expressed their neighborhood is not their favorite place to be. Even though their sense of place was not very strong, most residents have a strong connection with their neighbors. Most recognize their neighbors, say hello to them, know their neighbor's name, are willing to ask them for help, would leave a house key with a neighbor and feel close to their neighbors.

Most residents think that a healthy lifestyle with fresh fruits and vegetables is important, but it appears that many households face significant food insecurities associated food access and availability. Many of the residents expressed there were no places near them where they could get fresh fruits and vegetables. Few stated it was easy to obtain produce in the neighborhood and most reported no grocery store was nearby. These findings reveal that the residents living in this community are low-income households and have limited access to healthy foods which is consistent with data provided by the USDA about food desert areas. Moreover, nearly half of the residents identified the same kinds of barriers in the literature review; these include cost, lack of transportation and inability to use SNAP benefits to get affordable fresh, healthy foods.

Three-fourths of the residents did not have enough money to buy food and said conditions of food security exist in their homes and other homes in their neighborhood. Even though most of them do not live near grocery stores, very few reported getting their food from other places. More than half obtained their food from supermarkets and had positive attitudes towards them but did not feel the same about other food places such as convenience stores and quick marts. Only a few got their food from alternative food practices, and they did not report either positive or negative feelings about the places.

Although there may be many reasons for low participation in alternative food practices, lack of information about these places was reported by nearly all the residents. The other main factors include lack of knowledge and familiarity with these places, followed by the cost of fresh fruits and vegetables, location of sites and lack of transportation. The primary motivators identified were keeping their family healthy, protecting the environment, the price, quality and choices of fruits and vegetables. Moreover, supporting the local economy, support from their family and friends and feeling comfortable and welcomed all appear to be strong motivators for obtaining fresh fruits and vegetables from farmers' markets, food co-ops, community gardens and local farms. Nearly half of the residents reported they were interested in learning more about these places.

The findings indicate few residents contributed time, money of resources to groups that provide food to local communities. Although, this is one way to gauge support it is not surprising that sine it is unreasonable to expect the residents to show support by donating money or resources when they identify these factors as their biggest obstacles to participating in alternative food practices. However, nearly all the residents reported they

want to learn to garden, want to garden again as gardeners or identified as current gardeners, but only a few wanted to get involved in community gardens.

Descriptive statistics and hypotheses

The findings provide support for hypotheses H1, H2, H3, and H4 but not H5 (Table 10). Overall, it appears that primary shoppers who have a stronger sense of place also have greater food access and food security in their households, more knowledge about alternative food systems, view both traditional and alternative food systems more positively, and believe there are fewer things preventing them from getting their fresh fruit and vegetables from alternative food sources and places.

Furthermore, the findings do not support H6 or H7 but provide support for H8 and H9. The results suggest primary shoppers who have greater food security in their households, more knowledge about alternative food systems, view alternative food systems more positively, and believe there are more bridges than barriers for obtaining their produce at alternative places are more likely to have greater support for alternative food systems and practices. (Table 10).

Moreover, shoppers who identified as African-American or Black appear to have a stronger sense of place in the neighborhood than all other racial and ethnic groups combined. There were no significant differences found between sense of place and level of education. However, households with higher income levels tend to have a stronger sense of place for their neighborhood. Moreover, those who have lived in the area longer (Knoxville, neighborhood, and home) tend to have a stronger sense of place.

Table 10. List of Hypotheses

HYPOTHESES
Those who have a stronger Sense of Place (SOP) for their neighborhood:
H_1 – have greater food security**.**
H_2 – have more knowledge about alternative food systems**.**
H_3 – have negative attitudes toward traditional food systems**.**
H_4 – have positive attitudes toward alternative food systems**.**
H_5 – perceive more barriers than bridges for adopting alternative food systems and practices. (Not supported)
Primary shoppers who:
H_6 - have less food security
H_7 - have negative attitudes toward traditional food systems (Not supported)
H_8 - have positive attitudes toward alternative food systems (Not supported)
H_9 - perceive more bridges than barriers for adopting alternative food systems
---- are more likely to express greater support for alternative food practices and systems.

Thus, older shoppers, those with greater household incomes and access to a motor vehicle, those who have lived in their neighborhood longer and are African Americans have a stronger sense of place for their community. These findings provide support for the proposed model based on the existing, but rather limited literature between sense of place and sociodemographic characteristics of people living in urban food deserts.

Limitations

Surveying Five Points neighborhood posed limitations because reaching the population was difficult. Many surveys were returned because they were unknown addresses. However, given the fact that buildings are being demolished and rebuilt, the response rate of 18% was better than expected. There are also some methodological challenges to this project. Most of the research conducted about sense of place is done through interviews and participant observation. The proposed model in this thesis is not all-inclusive, and a survey does not tell us about the rich history of the area. However, with this survey, we were able to reach a broader pool of people and understand more about the needs of the community relating to food access. The exploratory model used can serve as a starting point for future research of residents in food desert areas.

Recommendations

The literature about food justice confirmed there were many communities that also lacked participation from community members. Food justice scholar, Guthman, stated: “I remain struck by the disjunction between what alternative food activists do and what food desert residents seem to want." (Guthman, 2008). Thus the study purpose for this thesis was to identify the views related to current and alternative food systems and practices

among residents living in the Five Points community in East Knoxville, Tennessee an officially designated food desert.

The underlying goals of this project included adding to the current food justice, health, and place-based literature and to understand the needs of Five Points Neighborhood resident's and use the findings to aid community members with no access to fresh, healthy food. The data gathered during this research has several implications for different participants involved in the community. These agents include the residents, volunteers, organizers, policy groups, and advocates.

The proposed model is based on sense of place indicators which do not account for the personal relationships that may affect one's attachment to the community. Although the surveys were distributed in Five Points half of the residents did not recognize they lived in this neighborhood. This may account for lack of strong sense of place among residents. However, the expressed strong connections with their neighbors. Scholars and researchers should consider the effect personal relationships have on sense of place studies.

Food deserts are classified as areas that are low-income and have low access to fresh and healthy food. Like Five Points many of these neighborhoods are also populated by minorities. The same marginalized groups that fought for a voice and fought against landfills and incinerators in their communities now struggles to feed themselves and their families. In the book Just Food, the authors state that "Food access mirrors the pollution concern in EJ and refers to 'the ability to produce and consume healthy food,' while food sovereignty reflects the concern for procedural justice, and refers to a community's 'right to define their own food and agriculture systems." (p. 73 2015) Drawing from these parallels of the literature; this study provides stronger arguments of legitimacy that Food

Justice is Environmental Justice; it mainly raises question about the participatory aspect of community members. Do the community members have a voice? Are the right issues being addressed for the community? Whose interests are being served and protected?

One of the most significant findings is the large population of elderly in the community. Although efforts have been made to start community gardens to help combat food insecurity in the community; it is important to recognize the community needs to implement the suitable practices that will assist the community. Community activist should work in close collaboration with residents and volunteers to build community ties. These three groups can provide the necessary support to tell the community about the information available and teach them about food access in their neighborhood.

Implementing alternative food practices such as home deliveries or adding centralized locations for farmers' markets would be more beneficial for the residents living in the community. The new housing project has allocated certain buildings only for seniors that make it easier to identify the areas where specific delivery are needed the most.

These housing projects seem like a step forward to revitalize the neighborhood but is counterintuitive if it does not address issues relating to food security. This area is a food desert lacking both supermarkets and open community gardens. This research can be used to inform local officials, policy makers and stakeholders about the challenges faced in this community. Rebuilding a community and not addressing specific issues such as food access does nothing for the revitalization efforts.

These findings can direct the Knoxville Food Policy Council to advocate for the community needs and address real issues that the residents in Five Points struggle with every day. A healthy diet is important to the residents in the area, but access seems to be an

issue for the residents in this community. The Council needs to work with community activists, policy makers and officials involved in the Five Points Master Plan to address issues relating to cost, transportation and places to get fresh and healthy foods. Currently, developers are using federal funds to rebuild food desert areas without specifically addressing food security. Some of the funding used for parks or parking lots could be allocated to build educational community centers with community kitchens.

Conclusion

The results of this thesis contribute to environmental sociology, health science and the field of sociology as a whole. The proposed model offers a starting point to analyze the variables that might influence support for alternative food systems and practices in food desert areas. The model was developed through a carefully designed set of stages that involved both qualitative and quantitative research methods. Incorporating sense of place, food desert variables and alternative food systems provides a framework that may be used by policy makers and organizers. Additionally, this study reaffirms the need to address food insecurity critically. Taking an environmental justice framework to food security allows policy makers and social justice advocates to identify inequalities, lack of representation and participation within the food system.

REFERENCES

Altman, I. & S. Reilly. 1992. *Human Behavior and Environments: Advances in Theory and Research. Vol. 12: Place Attachment*. New York: Plenum Press.

Alkon. "Cultivating Food Justice Race Class and Sustainability."41-80.

Alkon, Alison Hope and Julian Agyman. 2011. "Introduction: The Food Movements as Polyculture." Pp. 16-80 in *Cultivating Food Justice Race Class and Sustainability*, edited by A. H. Alkon and J. Agyeman: MIT Press.

Alviola Iv, P. A., Nayga Jr, R. M., Thomsen, M. R., & Wang, Z. (2013). Determinants Of Food Deserts. *American Journal Of Agricultural*, 1-7.

Brehm, J. M., B. W. Eisenhauer and R. S. Krannich. 2006. "Community Attachments as Predictors of Local Environmental Concern - the Case for Multiple Dimensions of Attachment." *American Behavioral Scientist* 50(2):142-65.

Brehm, Joan M., Brian W. Eisenhauer and Richard S. Krannich. 2004. "Dimensions of Community Attachment and Their Relationship to Well-Being in the Amenity-Rich Rural West*." *Rural Sociology* 69(3):405-29. doi: 10.1526/0036011041730545.

Brehm, Josh M. 2007. "Community Attachment: The Complexity and Consequence of the Natural Environment Facet." *Human Ecology* 35(4):477-88. doi: 10.1007/s.

Brown, K.H. & Jameton, A.L. (2000). Public health implications of urban agriculture, *Journal of Public Health Policy*, vol. 21, no. 1, pp. 20-39

Brulle, R. J., & Pellow, D. N. (2006, August 9). Environmental justice: Human Health and Environmental Inequalities. *Annual Review Public Health*, *27*, 103-124.

Chawla, L. (1992). "Childhood Place Attachments." In I. Altman & S. Low (Eds.) *Human Behavior and Environments: Advances in Theory and Research.* Volume 12: Place Attachments. New York: Plenum Press. pp. 63-84.

Davenport, M. A. and D. H. Anderson. 2005. "Getting from Sense of Place to Place-Based Management: An Interpretive Investigation of Place Meanings and Perceptions of Landscape Change." *Society & Natural Resources* 18(7):625-41. doi: 10.1080/08941920590959613.

Davidson, R., & Gauthier, A. H. (2010). A Cross-National Multi-Level Study Of Family Meals. *International Journal Of Comparative Sociology*, *51*(3), 349-365.

Dieterle, M. (2015). just food: Philosophy, Justice and Food. Chapter 5 Food sovereignty *Two Conceptions of Food Justice,* 71,73.

Englander, M. (2001). *New York's Community Gardens—A Resource at Risk*. Trust For Public Land.www.tpl.org New York, NY

Evans, A., Ranjit, N., Rutledge, R., Medina, J., Jennings, R., Smiley, A., & Stigler, M. (2012, September). Exposure To Multiple Components Of A Garden-Based Intervention For Middle School Students Increases Fruit And Vegetable Consumption. *Health Promotion Practice*, *13*(5), 608-616.

Freeman, C., Dickinson, K. J., Porter, S., & Heezik, Y. (2012, January 12). "My Garden is an Expression of me": Exploring householders' relationships with their gardens. *Journal of Environmental Psychology*, *32*, 135-143.

Freudenburg, William R. 1995. "Beyond the Nature/Society Divide: Learning to Think About a Mountain." *Sociological Forum* 10 (3): 361-392.

Gans, Herbert J. 2002. "The Sociology of Space: A Use-Centered View." *City & Community* 1:4.

Gieryn, Thomas F. 2002. "A Space for Place in Sociology." *Annual Review of Sociology* 26: 463-96.

Gottlieb, R., & Joshi, A. (2012). *Food Justice*. Cambridge, Ma: The Mit Press.

Gross, H., & Lane, N. (2007, May 18). Landscapes of the lifespan: Exploring accounts of own gardens and gardening. *Journal of Environmental Psychology*, *27*, 225-241.

Guthman, Julie. 2008. "Bringing Good Food to Others: Investigating the Subjects of Alternative Food Practice." doi: 10.1177/1474474008094315.

Guthman, J. (2008). "If They Only Knew": Color Blindness And Universalism In California Alternative Food Institutions. *The Professional Geographer*, *60*(3), 387-397.

Guthman,J, (2011) "*If they only Knew" P.p.* 263, 264 *in* in *Cultivating Food Justice Race Class and Sustainability*, edited by A. H. Alkon and J. Agyeman: MIT Press.

Hidalgo, M. C. and B. Hernandez. 2001. "Place Attachment: Conceptual and Empirical Questions." *Journal of Environmental Psychology* 21(3):273-81. doi: 10.1006/jevp.2001.0221.

Hope, A., & Norgaard, K. (2009, August). Breaking The Food Chains: An Investigation Of Food Justice Activism. *Social Inquiry*, *79*(3), 289-305.

Hu, A., Acosta, A., Mcdaniel, A., & Gittelsohn, J. (2013, January). Community Perspectives On Barriers And Strategies For Promoting Locally Grown Produce From An Urban Agriculture Farm. *Health Promotion Practice*, *14*(1), 69-74.

Hummon, David M. 1992. "Community Attachment Local Sentiment and Sense of Place." Pp. 253-78 in *Place Attachment*, Vol. 12, edited by I. Altman and S. M. Low. New York: Plenum Press.

Johnston, Josée, Alexandra Rodney and Michelle Szabo. 2012. "Place, Ethics, and Everyday Eating: A Tale of Two Neighbourhoods." *Sociology*. doi: 10.1177/0038038511435060.

Jones, R. E., & Rainey, S. A. (2006, March). Examining Linkages Between Race, Environmental Concern, Health, And Justice In A Highly Polluted Community Of Color. *Journal Of Black Studies*, *36*(4), 473-496.

Jorgensen, B. S. and R. C. Stedman. 2006. "A Comparative Analysis of Predictors of Sense of Place Dimensions: Attachment to, Dependence on, and Identification with Lakeshore Properties." *Journal of Environmental Management* 79(3):316-27. doi: 10.1016/j.jenvman.2005.08.003.

Kaplan, R. (1973, June). Some Psychological Benefits of Gardening. *Environment and Behavior*, *5*(2), 145-162.

Kyle, G., & Chick, G. (2007, April 17). The Social Construction of a Sense of Place. *Leisure Sciences: An Interdisciplinary Journal*, *29*(3), 209-225

Knoxville-Knox County Metropolitan Planning Commission & Knoxville City Council. (2009,May). Magnolia Avenue Corridor Plan. http://archive.knoxmpc.org/plans/corridor/magnolia2009.pdf.

Lawson, L. (2004). "The Planter In The Garden: The Historical View Into The Relationship Between Planning And Community Gardens." *Journal of Planning History* 3:151-176

Lewicka, M. (2005, December). Ways to make people active: The role of place attachment, cultural capital and neighborhood ties. *Journal of Environmental Psychology*, *25*, 381-395.

Lewis, C. A. (1996). *Green Nature Human Nature: The Meaning of Plant in Our Lives* (pp. 49-73). Urbana, IL: University of Illinois Press.

Loo, Clement 2014. "Towards a More Participative Definition of Food Justice." *J Agric Environ Ethics*:787-809. doi: 10.1007/s10806-014-9490-2.

Manzo, Lynne C. (2003). "Beyond House and Haven: Toward a Revisioning of Emotional Relationships with Places." *Journal of Environmental Psychology* 23: 47-61.

Manzo, Lynne C. & Douglas D. Perkins. (2006). "Finding Common Ground: The Importance of Place Attachment to Community Participation and Planning." *Journal of Planning Literature* 20: 335.

McCunn, Lindsay J. and Robert Gifford. 2014. "Interrelations between Sense of Place, Organizational Commitment, and Green Neighborhoods." *Cities* 41:20-29. doi: 10.1016/j.cities.2014.04.008.

Mihaylov, Nikolay and Douglas D. Perkins. 2013. "Community Place Attachment and Its Role on Social Capital Development." Pp. 61-74 in *Place Attachment : Advances in Theory, Methods and Applications*, edited by L. C. Manzo and P. Devine-Wright. Florence, KY, USA: Routledge.

Nielsen-Pincus, Max, Troy Hall, Jo Ellen Force and J.D. Wulfhorst. 2010. "Sociodemographic Effects on Place Bonding." *Journal of Environmental Psychology* 30(4):443-54. doi: 10.1016/j.jenvp.2010.01.007.

Ozer, Emily J. 2007. "The Effects of School Gardens on Students and Schools: Conceptualization and Considerations for Maximizing Healthy Development." *Health Educ Behav* 34(6):846-63. doi: 10.1177/1090198106289002.

Relf, D. (1992, April). Human Issues in Horiculture: People plant relationships. *HortTechonology*, *2*(2), 159-171.

Rowe, J. (2010, December). Voices From The Inside: African American Women's Perspective On Healthy Lifestyles. *Health Education & Behavior*, *37*(6), 789-800.

Schmelzkopf, K. (1995, July). Urban Community Gardens as Contested Space.*Geographical Review*, *85*(3), 364-381.

Shannon, J. (2013). Food Deserts: Governing Obesity In The Neoliberal City. *Progress In Human Geography*, 1-19.

Stanley, T. A. (2012). *The Poco Field: An American Story of Place* (p. 42). Urbana, IL: University of Illinois Press.

Stedman, R. C. 2002. "Toward a Social Psychology of Place - Predicting Behavior from Place-Based Cognitions, Attitude, and Identity." *Environment and Behavior* 34(5):561-81.

Stedman, R. C. (2003). Is it Really Just a Social Construction?: The Contribution of the Physical Environment to Sense of Place. *Society & Natural Resources*, *16*, 671-685.

Tuan, Y.F. (1974). *Topophilia: A Study of Environmental Perception, Attitudes, and Values.* Englewood Cliffs, NJ: Prentice-Hall.

Tester, G., E. Ruel, A. Anderson, D. C. Reitzes and D. Oakley. 2011. "Sense of Place among Atlanta Public Housing Residents." *J Urban Health* 88(3):436-53. doi: 10.1007/s11524-011-9579-0.

Trentelman, C. K. 2009. "Place Attachment and Community Attachment: A Primer Grounded in the Lived Experience of a Community Sociologist." *Society & Natural Resources* 22(3):191-210. doi: 10.1080/08941920802191712.

United States Department of Agriculture. (2014). Food Deserts. Retrieved from http://apps.ams.usda.gov/fooddeserts/foodDeserts.aspx

Vasquez, V. B., Lanza, D., Hennessey-Lavery, S., Facente, S., Halpin, H., & Minkler, M. (2007, October). Addressing Food Security Through Public Policy Action In A Community-Based Participatory Research Partnership. *Health Promotion Practice*, *8*(4), 342-349.

Walker, R. E., Fryer, G. S., Butler, J., Keane, C. R., Kriska, A., & Burke, J. G. (2011). Factors Influencing Food Buying Practices In Residents Of A Low-Income Food Desert And A Low-Income Food Oasis. *Journal Of Mixed Methods Research*, *5*(3), 247-267.

Zachary, D. A., Palmer, A. M., Beckham, S. W., & Surkan, P. J. (2013). A Framework For Understanding Grocery Purchasing In Low-Income Urban Environment. *Qualitative Health Research*, *23*(5), 665-678.

APPENDIX

Pre-Survey Letter

THE UNIVERSITY OF TENNESSEE KNOXVILLE

COLLEGE of ARTS and SCIENCES

Department of Sociology
901 McClung Tower
Knoxville, TN 37996
(865) 974-6021
FAX #: (865) 974-7013
http://sociology.utk.edu

Dear Community Member,

I am conducting research for my master's degree and need your help. My project examines views about food and the availability of healthy food in your neighborhood. I will use the research findings to better understand how to develop ways to improve the availability of healthy and affordable food in your community.

In the next few days you will receive a request in the mail to participate in this study by answering questions about these neighborhood issues.

I would like to do everything I can do to make it easy for you to participate in my study so I am writing to let you know ahead of time about the survey that you will receive in the mail. This research can only be successful with generous help of people like you.

I know that completing this survey takes some of your valuable time and I want to thank you in advance for your help. As a small token of my appreciation those who receive this letter will be included in the drawing for one of nine $25 gift certificates. But most of all, I hope that you enjoy the opportunity to express your views about the food choices in or around Five Points Community.

Respectfully,

Sylvia Duluc-Silva
Graduate Student
University of Tennessee

Cover Letter

THE UNIVERSITY OF TENNESSEE KNOXVILLE

COLLEGE of ARTS and SCIENCES

Department of Sociology
901 McClung Tower
Knoxville, TN 37996
(865) 974-6021
FAX #: (865) 974-7013
http://sociology.utk.edu

Dear Community Member,

I am writing to ask for your help on my study that examines views about food and the food available in your neighborhood. The best way of learning this is by asking you about your experiences and views on food and the availability of healthy food. As I mentioned in the previous letter, this project will help me to fulfill the requirement for my master's degree at the University of Tennessee. But most importantly, the findings will be used to better understand how to develop ways to improve the availability of healthy and affordable food in your community.

Your household is one of only a small number that have been randomly selected to help in this study. I am asking only an adult 18 years of age or older who does **most** of the grocery shopping to complete the enclosed survey.

The questions should only take 10-15 minutes to complete. Your responses are voluntary and will be kept confidential and *your answers will never be associated with your household or you personally.* The University of Tennessee's Institutional Review Board has reviewed and approved this study. You may contact them if you need more information about the protection of human subjects in research projects approved by the University of Tennessee (865) 974-1000.

I know that completing this survey takes some of your valuable time and I want to thank you in advance for your help. As a small token of my appreciation all those who receive this letter will be included in the drawing for one of nine $25 gift certificates. Please remember to fill out the form and mail it back so that I can be sure the winners receive their gift. If you have any questions about the survey, please feel free to contact me, Sylvia, sdulucsi@utk.edu or leave a telephone message for me at (786) 253-9554 and I will get back to you as soon as possible.

Thank you for ***volunteering*** your help!

Sincerely,

Sylvia Duluc-Silva
Graduate Student
Telephone: (786) 253-9554
Email: sdulucsi@utk.edu

Raffle Form

Gift Certificate Form
Please provide your contact information below to be included in the drawing for one of the **nine $25 gift certificates** that will be given away to participants.

Name: _____

Address & Zip Code:_____

_____

Phone/Email: _____

*Remember to mail it back in self-addressed stamped envelope provided and that this form *will not be matched up with your survey answers*. Thanks again!

Post Card Reminder

A friendly reminder…

FOOD & FOOD AVAILABILITY
IN & AROUND FIVE POINTS
A COMMUNITY SURVEY

Dear Community Member,

Last week, I sent a letter to you because your household is one of only a small number that have been randomly selected to fill out a survey on views about food and the availability of healthy food in and around your neighborhood.

If you have already completed and returned the survey, please accept my sincere thanks. If not, please do so today.

I am especially grateful for your help because it will help me fulfill the requirement for my master's degree at the University of Tennessee. But most importantly, because the findings will be used to better understand how to develop ways to improve the availability of healthy and affordable food in your community.

All those who receive this postcard will be included in the drawing for one of nine $25 gift certificates. Please remember to fill out the form and mail it back so that I can be sure the winners receive their gift. If you did not receive a survey, or it was misplaced, please call and leave a telephone message for me at (786) 253-9554 and I will get another one in the mail to you shortly.

Sincerely,

Sylvia Duluc-Silva
Graduate Student

THE UNIVERSITY OF TENNESSEE KNOXVILLE

Final Cover Letter

THE UNIVERSITY OF TENNESSEE KNOXVILLE

COLLEGE of ARTS and SCIENCES

Department of Sociology
901 McClung Tower
Knoxville, TN 37996
(865) 974-6021
FAX #: (865) 974-7013
http://sociology.utk.edu

Dear Community Member,

A few weeks ago, I sent a letter to your home that asked for you to participate in a study by filling out a survey. To the best of my knowledge, it has not yet been returned.

I am writing again because of the importance that your household's survey has for helping me to fulfill the requirement for my master's degree at the University of Tennessee. But most importantly, the findings will be used to better understand how to develop ways to improve the availability of healthy and affordable food in your community.

It is only by hearing from nearly everyone in my small group of households that I can be sure that the results will truly represent the views of residents living in or around the Five Points Community. Therefore, I hope the adult living in your household who does **most** of the grocery shopping will fill out the survey soon.

As mentioned before, the questions should only take 10-15 minutes to complete. Your responses are voluntary and will be kept confidential and *your answers will never be associated with your household or you personally.* If you have any questions about the survey, please feel free to contact me, Sylvia, at sdulucsi@utk.edu or leave a telephone message for me at (786) 253-9554 and I will get back to you as soon as possible. This study has been reviewed and approved by The University of Tennessee's Institutional Review Board, and if you have questions about your rights as a participant in this study, you may contact them by telephone at (865) 974-1000.

In the event that your survey has been misplaced, a replacement survey is enclosed. As a small token of my appreciation all those who receive this letter will be included in the drawing for one of nine $25 gift certificates. Please remember to fill out the form and mail it back so that I can be sure the winners receive their gift.

Thanks again for ***volunteering*** your help!

Sincerely,

Sylvia Dulce-Silva
Graduate Student
Telephone: (786) 253-9554
Email: sdulucsi@utk.edu

FOOD & FOOD AVAILABILITY IN & AROUND FIVE POINTS

A COMMUNITY SURVEY

THE UNIVERSITY OF TENNESSEE KNOXVILLE

Hello. My name is Sylvia Duluc-Silva and I am conducting research for my master's degree at the University of Tennessee. It examines the views of residents living in or around Five Points about food and the availability of healthy food. My findings will be used to better understand how to develop ways to improve the availability of healthy and affordable food in your community.

*It would very be helpful to me if the **adult** member (18 years or older) of your household **who does most of the grocery shopping** complete and return this survey so that I can obtain the most accurate information. Return of this survey will constitute your informed consent to participate.*

Thank you for VOLUNTEERING your help on this important study!

*First, I would like to ask you about your attitudes concerning food, diet, and other related issues. Please respond by circling the number that **best** represents your view.*

Q1 Overall, how important is it for you to eat fresh fruits and vegetables on a regular basis?

1. Not important
2. Somewhat important
3. Moderately important
4. Very important
5. Extremely important

Q2 How many places are there in your neighborhood where you can get fresh fruits and vegetables for your household at an affordable price?

0. There are NO places like this in my neighborhood
1. 1 place
2. 2 places
3. 3 places
4. 4 or more places

Q3 Please tell me how OFTEN you do the following things based on the following scale:

1−Never (N)
2−Rarely (R)
3−Sometimes (S)
4−Often (O)
5−Most of the time (M)

		N	R	S	O	M
a.	I eat 2 or more servings of fresh fruit each day.	1	2	3	4	5
b.	I eat 3 or more servings of fresh vegetables each day.	1	2	3	4	5
c.	I buy fresh fruits and vegetables for my household.	1	2	3	4	5
d.	I can buy fresh fruits and vegetables at an affordable price.	1	2	3	4	5
e.	I can buy fresh fruit and vegetables that we like.	1	2	3	4	5
f.	I have enough money to buy healthy food.	1	2	3	4	5
g.	I worry that my household will run out of food.	1	2	3	4	5

Q4 Please tell me the extent to which you AGREE or DISAGREE with each of the following statements by circling your answer based on the following scale:

1−Strongly Agree (SA)
2−Agree (A)
3−Neither Agree nor Disagree (N)
4−Disagree (D)
5−Strongly Disagree (SD)

	SA	A	N	D	SD
a. I have enough money or resources each week to meet the food needs of my household.	1	2	3	4	5
b. It is easy to get fresh fruits and vegetables in my neighborhood.	1	2	3	4	5
c. There is a good quality grocery store within a 15 minute walk (or a 1 mile drive) from my home.	1	2	3	4	5
d. I can get fresh fruits and vegetables at places in my neighborhood that accept food stamps/SNAP benefits.	1	2	3	4	5
e. It is easy to find transportation to a good quality grocery store.	1	2	3	4	5

Please read the statement below to answer Q5 & Q6

The United States Department of Agriculture (USDA) lists the following conditions in its definition of **household food insecurity**

"… Being uncertain of having, or unable to acquire, enough food to meet the needs of all their members in a household because of insufficient money or other resources for food."

Q5 Do **ANY** of these conditions exist within your household?

1. Yes
2. No
3. Not Sure

Q6 Do you know if **ANY** of these conditions exist in other households in your neighborhood?

1. Yes
2. No
3. Not Sure

Q7 During an average month, how OFTEN do you get food from the places listed below.

1−Never (N)
2−Rarely (R)
3−Sometimes (S)
4−Often (O)
5−Most of the time (M)

	N	R	S	O	M
a. Supermarkets such as Kroger, Wal-Mart or Food Lion.	1	2	3	4	5
b. Local convenience stores, quick marts or gas stations.	1	2	3	4	5
c. Fast-food outlets.	1	2	3	4	5
d. Restaurants.	1	2	3	4	5
e. Community programs or senior centers that provide prepared meals.	1	2	3	4	5
f. Food banks, churches or food distribution centers.	1	2	3	4	5
g. Food outlets run by their members (Food co-ops).	1	2	3	4	5
h. Local community gardens that grow food.	1	2	3	4	5
i. From my own garden.	1	2	3	4	5
j. From a famers' market.	1	2	3	4	5
k. Going out to a local farm.	1	2	3	4	5
l. Other(s), please specify: _____.	1	2	3	4	5

The next set of questions asks you about your knowledge, experiences and views of places where you could obtain fruits and vegetables for your household.

Q8 How much information do you have about getting food from the following places?

1−None At All (N)
2−Very Little (V)
3−Enough (E)
4−Quite A Bit (Q)
5−A Great Deal (G)

	N	V	E	Q	G
a. Food outlets run by their members (Food co-ops).	1	2	3	4	5
b. Local community gardens that grow food.	1	2	3	4	5
c. Farmers' market.	1	2	3	4	5
d. Local farms.	1	2	3	4	5

Q9 How would you RATE your overall experience of obtaining food from the following places?

1−Very Negative (VN)
2−Negative (N)
3−Neither Negative nor Positive (NP)
4−Positive (P)
5−Very Positive (VP)

NA−Not applicable-I never get food here

	VN	N	NP	P	VP	
a. Supermarkets such as Kroger, Wal-Mart or Food Lion.	1	2	3	4	5	*NA*
b. Local convenience stores, quick marts or gas stations.	1	2	3	4	5	*NA*
c. Fast-food outlets.	1	2	3	4	5	*NA*
d. Restaurants.	1	2	3	4	5	*NA*
e. Community programs or senior centers that provide prepared meals.	1	2	3	4	5	*NA*
f. Food banks, churches or food distribution centers.	1	2	3	4	5	*NA*
g. Food outlets run by their members (Food co-ops).	1	2	3	4	5	*NA*
h. Local community gardens that grow food.	1	2	3	4	5	*NA*
i. From my own garden	1	2	3	4	5	*NA*
j. Farmers' markets.	1	2	3	4	5	*NA*
k. Going out to a local farm.	1	2	3	4	5	*NA*

Q10 From the places listed above in Q9, where would you REALLY like to get MOST of the fresh fruits and vegetables for your household?

*Please circle **ONLY ONE**:*

a b c d e f g h i j k

Q11 Please tell me if you have contributed time, money or resources to the following groups or organizations that provide food to local communities.

	Yes	No
a. Food banks, such as Second Harvest Food Bank of East Tennessee or Slow Food Tennessee Valley.	1	2
b. Local community gardens, such as SEEED's Edible Garden, Every Child Outdoors Youth Garden or Beardsley's Community Farm.	1	2
c. Farmers' markets (other than buying products).	1	2
d. Local farms.	1	2
e. Food and nutrition programs, such as Head Start or Meals on Wheels.	1	2
f. Organizations, such as Food Policy Council, Just Ripe or CAPP.	1	2
g. Community centers, such as YWCA or YMCA.	1	2
h. Other(s), please specify: _____.		

If you responded **NO to ALL items** listed in **Q11, please skip to Q13**

Q12 Did you contribute to **ANY** of the groups or organizations **listed in Q11** because they support your views about how to provide fresh, healthy and affordable food to households in your neighborhood?

1. Yes
2. No

Q13 How interested are you in learning about how to participate in each of the following?

1−Very Uninterested (VU)
2−Uninterested (U)
3−Neither Uninterested nor Interested (N)
4−Interested (I)
5−Very Interested (VI)

	VU	U	N	I	VI
a. Food banks, churches or food distribution centers.	1	2	3	4	5
b. Food outlets run by its members (Food co-ops).	1	2	3	4	5
c. Local community gardens that grow food for the neighborhood.	1	2	3	4	5
d. Farmers' market.	1	2	3	4	5
e. Local farms and farming practices.	1	2	3	4	5

Q14 How much do the following things MOTIVATE you to get fresh fruits and vegetables at local farms, farmers' market, food co-ops and community gardens?

1−Not at All (N)
2−Very Little (V)
3−Somewhat (S)
4−Quite a Bit (Q)
5−A Great Deal (G)

	N	V	S	Q	G
a. The quality, cost and choices that are available.	1	2	3	4	5
b. Keeping my family healthy.	1	2	3	4	5
c. Support from my family, friends and others.	1	2	3	4	5
d. Supporting the local economy and community.	1	2	3	4	5
e. A desire to learn more about these things.	1	2	3	4	5
f. Building relationships or meeting new people.	1	2	3	4	5
g. Feeling comfortable or welcomed at these places.	1	2	3	4	5
h. Protecting the environment.	1	2	3	4	5
i. Other, please specify: _____.	1	2	3	4	5

Q15 How much do the following things PREVENT you from getting fresh fruits and vegetables at local farms, farmers' market, food co-ops and community gardens?

1−Not At All (N)
2−Very Little (V)
3−Somewhat (S)
4−Quite a Bit (Q)
5−A Great Deal (G)

	N	V	S	Q	G
a. Lack of time (family, work and other obligations).	1	2	3	4	5
b. Lack of knowledge or familiarity with them.	1	2	3	4	5
c. Lack of transportation to them. (cost/availability)	1	2	3	4	5
d. The location or distance to these places.	1	2	3	4	5
e. The quality and kinds of fruits and vegetables available.	1	2	3	4	5
f. The cost of fruits and vegetables available.	1	2	3	4	5
g. These places do not accept SNAP cards. (food stamps)	1	2	3	4	5
h. Lack of support from family, friends and others.	1	2	3	4	5
i. Feeling uncomfortable or unwelcomed at these places.	1	2	3	4	5
j. Other, please specify:_____.	1	2	3	4	5

Q16 What is the likelihood that you will get fresh fruits or vegetables from either a local community garden, a food coop, a farmers' market or a local farm over the next six months?

1. Very Unlikely
2. Unlikely
3. Neither Likely or Unlikely
4. Likely
5. Very Likely

Q17 How much do you support efforts by local community gardens, food coops, farmers' markets and farms to improve the availability of fresh fruits and vegetables in your household and community?

1. None at all
2. Very little
3. Some
4. Quite a bit
5. A great deal

The next set of questions asks you about your level of interest and involvement in local community gardens that grow food that is available to your household and neighborhood.

Q18 Which of the statements represents you the most? *Please circle **ONLY** one.*

1. I have NEVER gardened, and I am NOT interested in gardening.
2. I USED to garden, but I am NOT interested in it anymore.
3. I have NEVER gardened, but I would LIKE TO LEARN how to garden.
4. I USED to garden, and I AM interested in getting back to it.
5. I CURRENTLY garden.

Q19 Are you currently involved in a community garden?

1.Yes 2. Not Sure 3. No

Q20 Do you have any interest in getting involved in a local community garden?

1.Yes 2. Not Sure 3. No (Skip to **Q22**)

Q21 Please tell me if you are interested in doing the following community garden activities.

	Yes	**No**
a. Watering, planting, picking fruits and/or vegetables.	1	2
b. Attending gardening programs.	1	2
c. Learning specific gardening skills.	1	2
d. Growing food for a local Farmers' market.	1	2
e. Growing food for your family/household.	1	2
f. Other, please specify:_____.	1	2

The next set of questions asks you about your neighborhood.

Q22 Please tell me the extent you AGREE or DISAGREE with each of the following statements.

1−Strongly Agree (SA)
2−Agree (A)
3−Neither Agree nor Disagree (N)
4−Disagree (D)
5−Strongly Disagree (SD)

	SA	A	N	D	SD
a. I know the name of many of my neighbors.	1	2	3	4	5
b. I can recognize many of my neighbors.	1	2	3	4	5
c. I say hello to my neighbors almost every time I see them.	1	2	3	4	5
d. I feel I can ask my neighbors for help.	1	2	3	4	5
e. I feel I can leave my house key with a neighbor.	1	2	3	4	5
f. I feel close to other people in my neighborhood.	1	2	3	4	5
g. I feel relaxed when I'm in my neighborhood.	1	2	3	4	5
h. I feel happy when I'm in my neighborhood.	1	2	3	4	5
i. My neighborhood is my favorite place to be.	1	2	3	4	5
j. I really miss my neighborhood when I'm away from it too long.	1	2	3	4	5
k. Everything about my neighborhood is a reflection of me.	1	2	3	4	5
l. My neighborhood is the best place for doing the things I enjoy most.	1	2	3	4	5
m. I feel I can really be myself in my neighborhood.	1	2	3	4	5
n. My neighborhood is not a place to do the things I like to do the most.	1	2	3	4	5
o. My neighborhood has a great deal of personal meaning for me.	1	2	3	4	5
p. For doing the things I enjoy most, no other neighborhood compares to mine.	1	2	3	4	5
q. My neighborhood reflects the type of person I am.	1	2	3	4	5
r. As far as I am concerned, there are better neighborhoods to live in than mine.	1	2	3	4	5
s. My neighborhood creates a sense of belonging in me.	1	2	3	4	5
t. My neighborhood says very little about who I am.	1	2	3	4	5
u. I do not feel emotionally attached to my neighborhood.	1	2	3	4	5

Finally, we'd like to ask you a few questions for statistical purposes only. Please be assured that your answers will be KEPT CONFINDENTIAL and will NOT be associated with you or your household.

Q23 Who does MOST of the grocery shopping in your household?

1. Myself 2. Somebody else

Q24 Do you (or a household member) own your home or rent?

1. Own 2. Rent 3. Other, please specify: _____

Q25 In what area of Knoxville, do you live in?

1. Five Points Neighborhood
2. Morningside Neighborhood
3. Other, please specify: _____
4. Not Sure

Q26 How many years have you lived in this neighborhood? _____Years

Q27 How many years have you lived in your current home or residence? _____Years

Q28 What is your zip code? _____

Q29 How many years have you lived in Knoxville? _____Years

Q30 Do you have a motor vehicle that you can use? 1. Yes 2. No

Q31 In what year were you born? _____

Q32 How would you describes yourself?

1. Female
2. Male
3. Other, please specify: _____

Q33 Are you…

1. Single/Never married
2. Married/Never divorced
3. Remarried
4. Divorced/Not remarried
5. Separated
6. Widowed
7. Other, please specify: _____

Q34 How many people (including yourself) currently live in your household? _____Number

Q35 How many children (under the age of 18) currently live in your household? _____Number

Q36 Which of the following "BEST" reflects your current status?

1. Working for payment or profit
2. Looking for first regular job
3. Unemployed
4. Student
5. Looking after home/family
6. Retired from employment
7. Unable to work due to permanent sickness/disability
8. Other, please specify:_____

Q37 What is your best estimate for your household income before taxes in 2015?

1. Less than $10,000
2. $10,000 - $14,999
3. $15,000 - $24,999
4. $25,000 - $34,999
5. $35,000 - $49,999
6. $50,000 - $74,999
7. $75,000 or more

Q38 Did you or anyone in your household receive food assistance from the following programs in the last 12 months?

	Yes	No
a. Supplemental Nutrition Assistance Program (SNAP)	1	2
b. National School Lunch Program	1	2
c. Woman, Infants and Children Program (WIC)	1	2
d. Senior Farmers' Market Nutrition Program	1	2
e. Head Start Program	1	2
f. Other, please specify:_____		

Q39 How would you describe yourself?

1. Black or African American
2. Asian or Asian American
3. Hispanic or Latina/o
4. White or Caucasian
5. American Indian or Alaska Native
6. Native Hawaiian or other Pacific Islander
7. Other, please specify: _____

Q40 Which of the following best represents your highest level of education?

1. Less than high school
2. Some high school
3. High school diploma or GED
4. Some college or technical school
5. Undergraduate degree
6. Some graduate school
7. Graduate degree

Please turn to the back cover of this booklet to complete the survey

Thank you so much for your help on this important study. Your responses will be used to better understand how to develop ways to improve the availability of healthy and affordable food in your neighborhood. I realize that you may have other comments or opinions that you weren't able to express in this survey. I invite you to write in ANY comments you have in the space below.

If you would like to be included in a drawing for one of the nine $25 gift certificates. Please remember to fill out the enclosed gift certificate form and mail it back with this survey in self-addressed stamped envelope provided.

Please return your completed survey using the self-addressed stamped envelope to:

Sylvia Duluc-Silva
Department of Sociology
University of Tennessee- Knoxville
901 McClung Tower
1112 Volunteer Blvd
Knoxville, Tennessee 37996

THE UNIVERSITY OF TENNESSEE KNOXVILLE

Community garden signs

Picture 1: Food grown in community gardens is for community gardeners only.

Picture 2: Please do not pick vegetables from these community garden beds. They are available at no cost beginning in February. If you are interested in gardening in this community garden please call (546-8446) or email: beardsleyfarm@gmail.com

VITA

Sylvia Duluc-Silva was born in Santo Domingo, Dominican Republic spent her childhood in Caracas, Venezuela until she moved to Miami, Florida. She attended La Salle high school. She obtained a Bachelor of Science degree in Sociology with Minors in Psychology, Anthropology and Family Studies from Nova Southeastern University in May 2010. She is continuing her education at Vermont Law School focusing on Food and policy.