Faith-Based Food Choices: How Food Deserts, Agriculture Literacy, and Home Gardening Shape Food Orientation in a Seventh-Day Adventist Church Community

by

Angella Barrett-Brady

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Approved by

James Lindner: Co-Chair, Alumni Professor, Agriculture Education
Jason McKibben: Co-Chair, Assistant Professor, Agriculture Education
Christopher Clemmons: Member, Agriculture Education
Jilian Ford: Member, Assistant Professor, Agriculture Education
Adam Cletzer: Reader, Professor of Practice, Agriculture Education

Abstract

This study explores how agricultural literacy and home gardening can alleviate the effects of food deserts, concentrating on a Seventh-Day Adventist Church in DeKalb County, Georgia. It finds significant gaps in agricultural literacy among residents, which hampers their comprehension of agriculture's importance for daily life and food security. By introducing targeted educational programs, residents could cultivate home gardens, improving their access to fresh food and decreasing reliance on external sources. Utilizing a mixed-methods approach, the research assesses agricultural literacy, food insecurity, and attitudes toward gardening among church members. Results show that those with higher education levels experience better food outcomes and healthier eating habits, highlighting the necessity of educational interventions. Furthermore, younger participants tend to adopt healthier dietary practices, due to greater access to nutritional information. The study recommends incorporating agricultural literacy into curricula and promoting home gardening as an effective method to enhance food security and overall community well-being. It concludes that these strategies are critical for achieving food sustainability and fostering self-sufficient communities while improving public health.

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List of Abbreviations

COPD	Chronic Obstructive Pulmonary Disease
MARTA	Metro Atlanta Transportation System
SDA	Seventh Day Adventist
SEM	Socio-Ecological Model
STEM	Science Technology Engineering Mathematics
UA	Urban Agriculture
UGA	University of Georgia, Athens
USDA	United States Department of Agriculture

Chapter One: Introduction

Introduction

DeKalb County, Georgia, was once agrarian; much of its income came from agriculture. At the start of the twentieth century, the country was famous for its dairy products. In the 1960s, it became urbanized and lost much of its lush farmland to housing subdivisions and the interstate, which led to a rapid population increase in the latter part of the twentieth century (Owens, 2003). The following excerpt from DeKalb Historical Society provides information on farming in DeKalb County (2023).

> DeKalb County was radically transformed during the second half of the twentieth century as dairy farms were subdivided, and expressways were carved into dense forests. Long before Brighten Park shopping center existed, the Tuggle family ran a large dairy farm at 2534 Briarcliff Road. Founded in 1885, the dairy "sold 18,000 gallons (about 68137.38 L) of milk daily to some 3,000 customers" at its peak. (3) After being leased to Pet Dairy Company in 1960, the old farm gave way to development and was sold in 1983. Third-generation Ralph Tuggle believed "there were once a dozen dairies" on and around Briarcliff Road in North DeKalb. (4) It's hard to picture a dozen such farms, with pasture-raised cows and fleets of delivery trucks, situated on busy Briarcliff Road today, (DeKalb History Center, 2003).

Regrettably, a county, once sustained by a thriving agricultural industry, has now transformed into a food desert. A food desert is a low-income community with limited access to healthy food (Kelli et al., 2019). Another description of a food desert is a household found a mile or more from reliable sources of fresh fruits and vegetables (USDA, 2015).

Many areas of the county have transitioned into food deserts due to a combination of factors. One factor contributing to DeKalb County's becoming less agrarian and more suburban, more so than any other county in Georgia, is the construction of interstate highways (Briarlakeforestpark.com).

Food deserts have severe repercussions on the health and well-being of the community, underscoring the immediate need for targeted interventions and policy changes to address the issue (Brace et al., 2021). Residents of food deserts often face crucial challenges in accessing food retailers that offer fresh produce and healthy groceries at affordable prices. People in food deserts have difficulty accessing food outlets such as supermarkets, grocery stores, farmers' markets, and community gardens (Jin & Lu, 2021).

Low-income African American communities have most of the food deserts in DeKalb County (Davis, 2016). A USDA Economic Research Service map (2023) shows that many communities in the County have low access to food and low incomes. Statistics from the Georgia Department of Health show that in DeKalb County, 25.05% of the population, or 173,323, live in a food desert (GDH, 2017). Based on the statistical information, more than a quarter of the population of the County lives in food deserts. Please see the diagram below that shows Dekalb's ranking.

One characteristic of a food desert is limited access to public transportation (Dutko et al., 2012). Lapwood (2021) underscored that public transit in DeKalb County is seriously underdeveloped, particularly in the county's south end. MARTA, the Metro Atlanta Transportation System, which serves DeKalb County, has failed to progress and reach more communities due to resistance from affluent citizens living on the north side of the county.

These residents believe expanding MARTA could increase crime by allowing inner-city residents better access to suburban neighborhoods. Public transportation is integral to the quality of life, especially for low-income people. They depend on it to access their jobs and shop for food, services, and healthcare. People need access to affordable and nourishing foods to enjoy a healthy diet. Community members should have access to nutritious foods from sellers or producers. Evidence shows that healthy food access is critical in improving communities' physical and economic health and well-being (Ziso et. al., 2022). Many people in DeKalb County do not live within walking distance of healthy food supplies or own a means of transportation; others do not live close to the MARTA bus system. In DeKalb County, public transportation is available but limited in geographic range and service hours. Current systems do not extend to the outskirts of town (Bohon & Stiles, 2008).

DeKalb County has affluent communities like Druid Hills, Avondale, and Chamblee. Most residents are middle—and high-income earners. They can easily access food supplies because they drive or live in areas where they can walk or take public transportation. Furthermore, these areas usually have many places selling healthy food supplies. On the other hand, some communities, like Stone Mountain and Redan, have many low-income residents who do not drive or have ready access to public transportation. Surprisingly, these areas are home to some of the county's food deserts (Capelouto, 2019). As previously discussed, urbanization and the construction of interstate highways in the county have significantly contributed to the proliferation of food deserts.

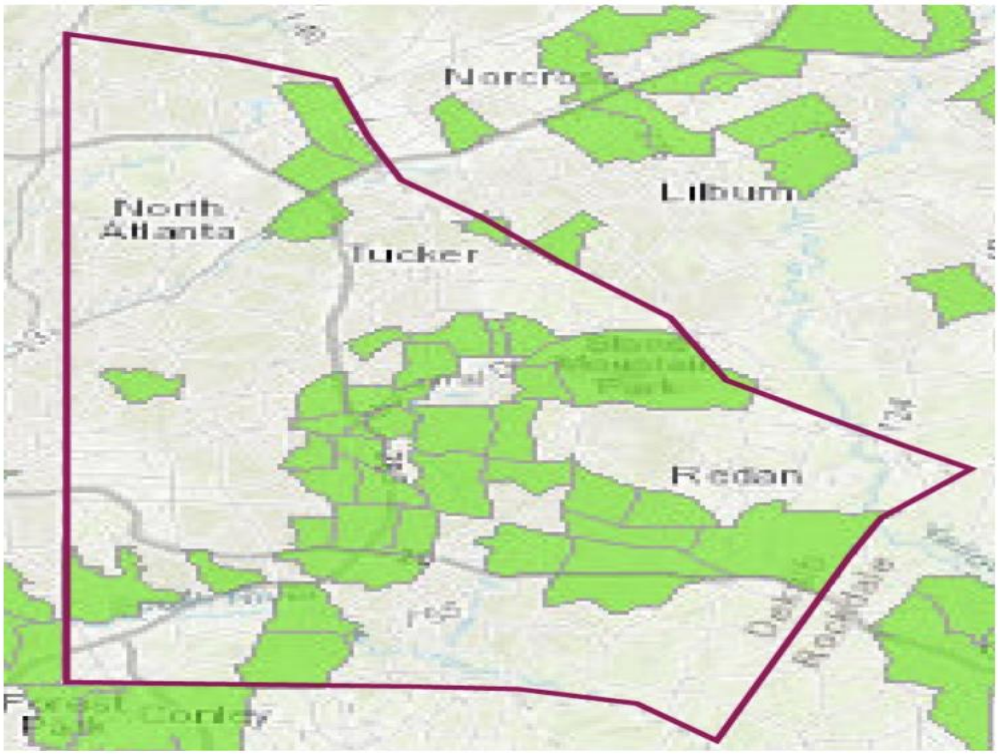

Figure 1: USDA Map of DeKalb County, Georgia food desert (2025)

Food deserts have many implications, primarily related to nutrition. Individuals living in food deserts often lack essential nutrients necessary for good health. Consequently, they are at a higher risk of developing chronic diseases, which can lead to reduced life expectancy. Additionally, undernutrition is a severe consequence of malnutrition that can have dire outcomes for pregnant women, including miscarriages and congenital disabilities.

One of the identifying marks of food deserts is the presence of many fast-food chains, Dollar stores, and mini marts (Karpyn et al., 2019). These entities sell filling foods that lack the requirement for a healthy diet. These foods are either processed, fried, or frozen and rich in sugar, salt, and fat. Diets rich in salt, fat, and sugar can increase the risk of chronic diseases (Andarwulan et al., 2021; Kelli et al., 2019).

While well-intentioned, efforts to address nutritional needs can sometimes lead to unintended negative consequences. Programs designed to improve food access often focus on quantity rather than quality, inadvertently promoting the consumption of calorie-dense but nutrient-poor foods. Promoting calorie-dense food can lead to long-term health issues and contribute to the rise of chronic diseases such as obesity, diabetes, and cardiovascular conditions.

The United States dietary guidelines, 2015-2020, outline that fruits, vegetables, whole grains, and fat-free or low-fat milk should form the foundations of healthy diets (USDA, 2015). This dietary guideline can help people choose healthy diets, which can help prevent diet-related chronic diseases that continue to affect our population. If individuals adhere to the recommendations in the guide, they become responsible citizens who play a role in preventative medicine. People enhance their health and contribute to public health by following these dietary guidelines. Eating healthily lowers the risk of chronic illnesses, preventing a burden on the healthcare system (Shang et al., 2023). Healthy eating is a form of proactive healthcare whereby individuals take the initiative to make informed dietary choices. By engaging in healthy eating, they become responsible citizens, cultivating healthier communities, reducing healthcare costs, and improving quality of life.

Coping with Food Deserts

DeKalb County's food deserts result from government policies, such as the construction of highways and roads. Webb (2016) outlined how the I-20 highway accelerated the growth of affluent communities in North DeKalb and lower-income communities in the South, which tend to have many food deserts. Agyeman and Simons (2012) proposed that food deserts appear in low-income neighborhoods because of disinvestments, making them unprofitable supermarket sites.

These food deserts have been around for years, and they do not seem like they will go away soon. One strategy used to combat the food deserts is a mobile farmers' market started by the University of Georgia Athens Cooperative Extension. The mobile farmers' market aligns with one of the mandates of the UGA Cooperative Extension, which is to improve public health by addressing the health needs of communities (Buys & Rennekamp, 2020).

While farmers' markets are a reasonable effort by UGA to help deal with the problems of food deserts, they are not a sustainable solution (Office of Sustainability, 2020). Farmers' markets are usually in a central location inaccessible to some residents. Secondly, the number of farmers' markets in food deserts cannot suffice for all the residents. Furthermore, some farmers' markets do not accept food stamp debit cards (EBT); hence, some families cannot use them to buy food. Because of the challenges identified with the current farmers' market, there must be other solutions to combat food deserts.

Another solution to the food desert problem is incentivizing convenience stores and Dollar stores to sell fresh fruits and vegetables. DeKalb County is the home to many convenience and Dollar stores. USDA (2017) supports this recommendation because it believes it could help to improve the intake of fresh fruits and vegetables in food deserts. The solution mentioned so far can go a long way to alleviating food deserts, but it depends on policies that could take a long time to manifest. Two immediate solutions that can effectively mitigate the impact of food deserts are promoting agricultural literacy and encouraging residents to cultivate home gardens. Exposing residents to agricultural literacy can help them better understand food production, distribution, and the importance of sustainable practices. It would also give them the knowledge to make informed decisions about their food sources and advocate for better access to healthy options.

Additionally, promoting home gardening enables residents to grow their fresh produce, increasing access to nutritious foods and reducing their reliance on external food retailers. These initiatives address the immediate nutritional needs of communities and foster long-term self-sufficiency and resilience. (Galhena et al., 2013., West et al., 2020).

Frick et al. (1991) define agricultural literacy as the possession knowledge and understanding of the food and fiber system. The authors opine that an individual having such knowledge can synthesize, analyze, and communicate essential information about agriculture. Agriculturally literate people understand how the agriculture industry works, not just where food comes from (American Farm Bureau Foundation). Home gardening is a valuable conduit for making agricultural literacy relevant to adults. It brings informal learning to life by allowing people to have real-life experiences as they learn. Eugenio-Gazalbo et al., (2020), outlined that home gardens are spaces for learning about soil, plants, and animals. It offers learning through observation, discovery, and a hands-on approach. Home gardening employs an experiential learning approach, enabling individuals to understand complex agricultural concepts.

For example, by cultivating a garden, individuals see the entire life cycle of plants, from seed to harvest. They also could experiment with various cultivation techniques, thereby understanding the impact of different soil treatments. Hands-on experience cultivates a deeper understanding and appreciation of agricultural practices (Sutherland & Marchand, 2021). Moreover, home gardening encourages continuous learning and curiosity. Gardeners can explore new plant varieties, adapt to changing environmental conditions, and develop problem-solving skills as they manage pests and diseases. This ongoing engagement with the natural world enhances agricultural literacy and promotes a sense of accomplishment and connection to the food they grow.

Integrating home gardening with agricultural literacy offers a comprehensive approach to learning, combining theoretical knowledge with practical application. Agricultural literacy provides a foundational understanding of key concepts such as soil health, plant biology, and sustainable practices. Meanwhile, home gardening is a dynamic, hands-on laboratory where individuals can directly apply this knowledge, gaining firsthand experience cultivating their gardens. This experiential learning process reinforces theoretical concepts and empowers individuals to grow food, fostering a deeper connection to food sources. Home gardening can be a powerful motivator for healthier eating habits, as individuals are more likely to consume the fresh produce they have grown. Additionally, the physical activity involved in gardening—such as planting, weeding, and harvesting—contributes to overall health and well-being. Palar et al. (2019) note that home gardening is an effective way to increase physical activity, which can help prevent chronic diseases and improve mental health.

Seventh Day Adventism and Home Gardening

The target population for the study is the membership of a Seventh Day Adventist (SDA) Church in Atlanta, Georgia. It was, therefore, reasonable that the Adventist lifestyle and diet are one feature of the conceptual framework. The church bases its unique diet on the healthy laws found in the Old Testament Bible book of Leviticus, which encourages the eating of whole plant foods, such as legumes, fruits, vegetables, nuts, and grains, and limiting consumption of animal products as much as possible (Republic of the Philippines). Following one of the church's eight health principles, the following recommendation is provided for members.

Adventists are encouraged to adopt the most healthful lifestyle, which includes a diet that is vegetarian but avoids caffeine-containing beverages, highly refined foods, hot condiments, and spices, and abstains from Biblically unclean foods, as well as alcohol, tobacco, and narcotics (Fraser, 2003, as cited in Kent et al., 2016).

Research from the Seventh-Day Adventist Nutrition shows that 19% of its members are vegans and their diet primarily consists of fruits, vegetables, legumes, and whole grains (McBride et al. 2021). This eating pattern is important due to its health advantages, such as reduced risks of chronic illnesses. Expanding on these discoveries, Recent studies examine the dietary practices of SDA males in Warsop and Black SDAs in the United States, concentrating on their nutritional consumption and health results. These studies show that these groups have lower consumption of fat, cholesterol and salt and higher intake of dietary fiber and vitamins. Additionally, the studies revealed that the Vegan diet significantly improved nutritional intake (Słociak & Bartnikowska, 2008; Akbar et al., 2007). Supporting these conclusions further, is an Adventist Health Studies, which shows that a vegetarian diet is linked to increased longevity and improved health results (Orlich & Fraser, 2014). The study revealed that individuals following a plant-based diet have lower incidences of chronic illnesses, such as cardiovascular disease and diabetes, and enjoy a greater life expectancy than the broader population. The focus on whole plant foods, including legumes, fruits, vegetables, nuts, and grains, plays a key role in these favorable health outcomes by supplying vital nutrients while reducing the consumption of harmful substances such as saturated fats and cholesterol.

In connection to the study topic "Faith-Based Food Choices: How Food Deserts, Agriculture Literacy, and Home Gardening Shape Food Orientations in a Seventh-Day Adventist Church Community," it is evident that the food choices of SDA members are significantly shaped by their faith and communal practices. Food deserts, which restrict access to fresh and nutritious foods, present a notable challenge to upholding these positive dietary habits. Nevertheless, programs like home gardens can help alleviate these challenges by supplying fresh produce and nurturing a sense of community. Additionally, agricultural literacy in the SDA community can promote healthy eating habits by understanding sustainable agriculture and home gardening. This can empower members to make informed choices, aligning with their health and spiritual values. The SDA community's faith-based food choices, agricultural literacy, and home gardening can promote healthier dietary patterns, well-being, and longevity, and address the challenges of food deserts.

In addition to adhering to a healthy diet, the Seventh-Day Adventist community has set up the only Blue Zone region in the United States, found in Loma Linda, California. Blue Zones are areas with a high concentration of centenarians who have reached old age without experiencing diseases and health conditions such as obesity, cancer, diabetes, and heart problems (Kreouzi et al.). Research shows that the Loma Linda Blue Zone boasts a longer-than-average life expectancy. Furthermore, a prominent American cohort study demonstrated that vegetarian dietary patterns, such as those followed by Seventh Day Adventists, are associated with lower mortality rates (Orlich et al., 2013).

Emerging trends suggest that within the next few years, an increasing number of Americans will be affected by diabetes and obesity (Bloomgarden), 2024. The Seventh-Day Adventist diet may offer a practical solution to this impending health crisis (Banta, 2018).

Using the Seventh-Day Adventist diet as a conceptual framework, the researcher argues that the everyday habits and practices associated with the diet can help alleviate the challenges related to food deserts in DeKalb County. An adaptation of the diet could serve as preventive medicine to increase the health of the population in the County.

An evaluation of the Seventh-Day Adventist diet reveals that it promotes consumption of minimally processed plant-based foods. Information from Loma Linda shows that healthy eating is essential for preventing nutrition-related diseases and enhancing longevity (Shercan et al., 2020). It is a diet associated with eating plenty of fruits, vegetables, whole grains, nuts, and legumes, while limiting or excluding meat, dairy, and processed foods. This research suggests that the Seventh-Day Adventist Diet practices have countless health benefits.

Landless & Charles (2024), health practitioner from the Seventh Day Adventist organization opines that gardening provides a variety of advantages, such as lowering stress levels, enhancing physical fitness, and improving mental and spiritual health. It encourages physical activity, promotes better sleep, and supports a healthy diet, all contributing to overall wellness. The authors also outlined that gardening leads to a healing relationship with nature, nurturing patience, and respect for natural life cycles. Residents of DeKalb County can similarly benefit from gardening activities to enhance their health and extend their lifespan. Gardening promotes the consumption of nutritious foods and encourages physical activity, essential for improving overall well-being and longevity.

Statement of the Problem

There is systematic health disparities associated with food deserts. The National Academy of Sciences (2009) highlighted several interventions to help alleviate food deserts.

These interventions range from incentives for grocery stores and supermarkets in underserved areas to city-wide programs to encourage healthier eating and extend support for small, corner-type stores and neighborhood-based farmers' markets. Another intervention that can help to reduce food deserts is for people to grow some of their food.

Home gardening and agricultural literacy could provide a pathway for correcting food deserts. People worldwide cultivate home gardens, also known as backyard or kitchen gardens. These gardens are pivotal in improving household food security and alleviating micronutrient deficiencies. Planting gardens enhances food and nutritional security by giving people access to nutritionally rich foods. Palar et al. (2019) suggest that home gardening is pivotal in urban agriculture and can directly affect health by linking gardening to the household. Home and community gardens are complementary approaches to urban agriculture, ensuring a more resilient local food system.

If more people get involved and cultivate home gardens, it will drastically reduce food deserts because that would mean they have continuous access to healthy fruits and vegetables (Colson-Fearon & Versey, 2022). The research will assess the agricultural literacy levels of individuals living in food deserts in DeKalb County. The goal is to collect essential information about their understanding of agriculture and its effects on human health and survival. This evaluation can guide organizations and stakeholders in implementing measures to enhance agricultural literacy among Americans, both formally and informally.

Understanding the agricultural literacy levels of the population can improve agrarian education (Croom et al., 2023), teaching methods (Hancock et al.), and initiatives, leading to increased home gardening productivity. Additionally, people must recognize the importance of agriculture for their health and well-being and how to use it to enhance food sustainability.

Purpose of the Study

This study aims to understand how agricultural literacy and home gardening can help address the challenges associated with food deserts. Home gardening must be studied, mainly because there are limited investigations in this era to explain its role in increasing food sustainability in food deserts and helping citizens increase the number of healthy foods. Additionally, studying home gardening can help stimulate policies to encourage and help homeowners in food deserts to produce some of the food they eat. The study will also assess the participants' agricultural literacy levels to identify learning gaps related to agricultural literacy.

Objectives of the Study

The research will examine the DeKalb County residents' belief about cultivating home gardens to deal with the challenges of food deserts. Likewise, the research will assess the agricultural literacy level of the residents concerning the role of agriculture in healthy living. Specifically, the research will address the following primary objectives:

1. Identify Seventh Day Adventism as a context for healthy food choices.
2. Measure orientations to food venues, healthy eating choices, and aversions to vegetables as dietary items as dependent variables.
3. Measure one dimension of agricultural literacy in a population of Seventh-Day Adventist church members.
4. Identify perceived barriers to the cultivation and utilization of home gardens.
5. Assess the individual and cumulative impact of selected background characteristics, agricultural literacy, and food desert residence on food orientations.

The study should suggest ways to encourage people to increase their agriculture literacy and grow the foods they eat at home to help combat food deserts.

These two strategies will guide people living in the food desert areas of DeKalb in taking charge and helping combat food deserts. People who grow the foods need to learn to take control of their family's health. Growing the foods, they need is also central to preventive healthcare and advancing health outcomes in a vulnerable population.

Conclusion

Dekalb County, Georgia, transitioned from rural to urban, resulting in the rise in food deserts in low-income communities. Many of these communities are home to African Americans. Food deserts equate to food insecurity and health disparities because of limited access to healthy food options and public transportation.

One measure to address food deserts in the county is the presence of mobile farmers' markets, which the University of Georgia Cooperative Extension started. These mobile farmers markets sell fresh fruits and vegetables to residents. Some convenient stores sell these crucial food commodities. Despite these measures, food deserts residents still face food insecurity challenges. Promoting agricultural literacy and home gardening are two excellent strategies to improve food security in food deserts in Dekalb County. Agricultural literacy can help residents understand how agriculture affects their daily lives, especially regarding food security.

If residents become agriculturally literate, they will understand their food's origins and production processes. This knowledge can empower them to make informed decisions about their diets and food sources. Additionally, understanding agriculture can inspire individuals to cultivate their gardens and grow some foods they consume. Agricultural literacy can also encourage people to apply gardening techniques such as soil preparation, planting, watering, pest control, and harvesting.

Agricultural literacy includes hands-on learning that allows individuals to get involved in real-world applications while learning agrarian concepts. For example, people can directly interact with their environment, plants, and soil. Hands-on activities, such as planting seeds, tending crops, and managing pests, provide a deeper understanding of agricultural processes.

Agricultural literacy connects with experiential learning, which makes learning meaningful and memorable. Furthermore, the hands-on learning aspect of agricultural literacy allows people to use their critical thinking and problem-solving skills. For example, as people engage in gardening, they encounter real-world problems that require them to use their knowledge to find solutions for positive outcomes. Agricultural literacy is a powerful tool for boosting food security and environmental sustainability. It encourages people to take the initiative to implement food security measures and can also guide them in making informed dietary choices that improve their health and the environment. Investing in agricultural literacy would ensure that communities in DeKalb County become resilient and self-sufficient.

Home gardening is crucial in dealing with food deserts, particularly in low-income areas with limited access to fresh food. By cultivating gardens, the residents will have a continuous supply of fresh food, crucial to their health and nutrition. Home gardening empowers people to become self-sufficient, which can help decrease food deserts' impacts. They enhance food security and can lead to outstanding economic benefits. For example, cultivating home gardens can help residents reduce their grocery bills significantly. It can also help struggling low-income families to make ends meet. Furthermore, home gardening results in surplus food that residents can sell to earn added income. Home gardening is also suitable for physical and mental well-being. When people work in the gardens, they engage in digging, planting, and weeding, which can improve their fitness and overall health.

Gardening can also lead to stress reduction while enhancing mood. Home gardening is a hands-on educational tool that teaches people about the environment and how to eat healthily. In summary, home gardening is a crucial strategy for addressing food security in food deserts. It includes many benefits, such as improving nutrition, saving money, and playing a critical role in overall health. Empowering people to cultivate home gardens can make food deserts self-sufficient communities. We should encourage and support home garden initiatives because they can lead to resilient and healthy neighborhoods.

Chapter 2: Literature Review

Introduction

This chapter aims to provide readers with relevant information related to the research topic. Throughout this literature review, a revision of several issues is necessary. Foremost, the research will address the affected populations, usually minority people such as African Americans and those with low income. Next, the chapter explores the ramifications of living within food deserts. Thirdly, the methods currently being used to help alleviate food deserts. Finally, how agricultural literacy and home gardening methods can help with food sustainability in food deserts.

Theoretical Framework

Bronfenbrenner (1994) conceptualized the social-ecological model (SEM), which theorizes that there are interconnections between personal, interpersonal, and environmental factors that shape human experience. The framework posits that environmental factors contribute to people's behavior (Subotnik & Worrell, 2019). The SEM has five levels that affect people's behavior: intrapersonal, interpersonal, organizational, community, and public policy. The SEM model is a critical framework used in this research to understand the multi-dimensional nature of food. This model examines the complex interconnection between individual, interpersonal, community, and societal factors influencing healthy food access.

Intrapersonal Level

At the intrapersonal level, the focus is on the factors that connect with food choices and gardening, for example, knowledge, attitudes, and behaviors. People's attitudes can decide whether they engage in gardening and healthy eating. People who see gardening as beneficial and enjoyable will want to indulge in it.

They may select healthy foods if they believe eating nutritious food helps their bodies. These positive attitudes will encourage them to cultivate gardens with fresh fruits and vegetables that are naturally healthy. Conversely, negative attitudes or misconceptions about tedious or arduous gardening are potential barriers.

Agricultural literacy is pivotal at the intrapersonal level, as it provides people with knowledge and skills to cultivate their foods and engage in healthy eating (Silva, 2023). For example, a basic understanding of soil health and how to care for plants could encourage people to cultivate home gardens. A knowledge of Agricultural literacy would work well in a food desert where people have limited access to fresh fruits and vegetables. People cultivating the fruits and vegetables needed for consumption can improve their dietary outlook while relying less on processed foods with limited nutrients. Research shows that home gardening can help individuals access healthy and culturally relevant foods while saving money on food (Kersten et al., 2023).

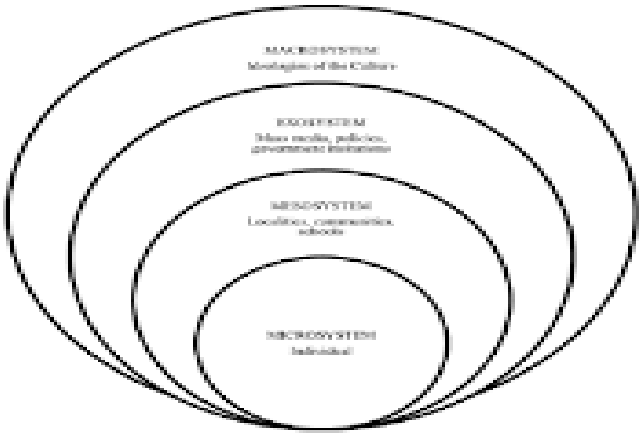

Figure 2. The socio-ecological model adapted from Bronfenbrenner's ecological model of human development. Source: "Ecological Models of Human Development," by U. Bronfenbrenner, 1994, in International Encyclopedia of Education (pp. 37-42), Oxford, UK: Elsevier.

The intrapersonal level examines how innate qualities such as self-efficacy and motivation can help people embrace gardening and opt for healthier food choices. Self-efficacy is related to the level at which people think they can succeed at what they do (Smith et al) and has been shown to be affected by experiences (Croom et al., 2023; McKibben et al., 2022; McKibben, Hyjeck, et al.). Motivation focuses on those internal factors that drive people to achieve goals (Lindner, 1998) and internally controlled individuals are common in agriculture (McKibben et al, 2023). If people have confidence in their gardening skills, they will be more likely to cultivate and support gardens even if they meet challenges. Hands-on training can boost their confidence, such as workshops offered by Cooperative extensions or peer support. If people plant their gardens and see them thriving, this will increase their self-efficacy and motivate them to continue gardening and eating healthier.

Motivation is another crucial factor in encouraging people to cultivate gardens and embrace healthier diets. Some people are motivated to cultivate gardens because they provide fresh fruits and vegetables for healthy eating. Others are motivated to engage in gardening because they know it can help them save money. Recognizing and using these motivations can make gardening inviting and pertinent to individuals.

For example, promoting fresh, home-grown produce to support good health can help those who want to eat healthily (Saaka et al. 2024). Likewise, advertising the cost-saving and environmental benefits of gardening can engage individuals with financial or ecological concerns. Connecting gardening with individuals' goals and values can lead to interventions encouraging people to devote time and energy to gardening and embracing healthier eating habits.

If stakeholders focus on intrapersonal factors, they can implement interventions to advance self-sufficiency and health consciousness, which are crucial for addressing the impacts of food deserts. Promoting these factors can help individuals take the necessary steps to manage their food security.

Interpersonal Level

The interpersonal level examines how social networks and connections can help reduce food deserts' impacts. Many people would want to start a garden or engage in healthy eating but cannot do it by themselves. Support from friends, family, or organizations can get them to do both. For instance, some people get into gardening because their families or neighbors give them seeds or gardening advice. Gestures like these can develop a supportive network that bolsters a sense of belonging and purpose. The sharing of seeds is an excellent interpersonal factor that reduces the impact of food deserts (Oladokun-Dybowski, 2022). It encourages people to engage in gardening to enhance food security. Additionally, social networking can get people involved in gardening. When people see their friends and families cultivate thriving gardens, they will want to get involved and start their own. It is possible to develop interventions that use interpersonal factors to reduce the effects of food deserts.

Organization Level

The organization level explores critical factors that can help reduce food deserts' impact. Organizations, such as schools and Cooperative Extension offices, can start programs and policies that encourage agricultural literacy and home gardening. Many schools have gardening as part of their curriculum, and others have started school gardening. These activities encourage hands-on learning about food security. Additionally, what students learn in garden education can be translated into their homes and the communities in which they live (Burt et al., 2018).

Cooperative Extension is crucial in reducing food deserts by offering educational programs instructing people about gardening, nutrition, and preservation. These programs and initiatives educate people on how to grow food and make healthy food choices. Auburn University extension programs emphasize encouraging people to grow food for food security. The university posits that expanding farm-to-school programs and increasing community gardens are critical strategies for addressing food deserts and improving food security (Certified Public Manager Program Solutions Alabama, 2020). The programs offered by the organization can aid residents in developing sustainable garden practices that can reduce the impacts of food deserts. Organizations such as schools and Cooperative Extension are essential for reducing food deserts. They can provide resources and educational programs that enhance food security. Cooperative Extension, for example, has a vast network and ability to support communities in improving food security. It plays a pivotal role in advocating for policies that address food insecurity at the community level. Organizations' combined efforts can lead to innovations that reduce food security impacts.

Community Level

The community level's role is to create an environment that ensures individuals access healthy food while promoting sustainable practices. For example, communities can advocate for home gardening and urban agriculture for their residents and lobby for zoning laws that allow home gardens. Additionally, they can secure funding for gardening programs and collaborate with local governments to provide resources and support. As policy advocates, communities can create an environment encouraging and sustaining home gardening efforts. Jin, (2024) believe communities should encourage community and home gardening because they build resource-specific ecological and social resilience, such as increased food security.

Integrating home gardening into the community level of the SEM provides a multifaceted approach to dealing with the impacts of food deserts. Chiefly, it enables access to fresh produce, which is often critical for addressing nutritional deficiencies connected to food deserts. Communities can put interventions in place that provide residents with the tools and knowledge they need to cultivate gardens. Such an innovation would result in self-sufficiency, reducing reliance on external food sources. Additionally, it would result in a robust food supply that improves dietary quality. Communities promoting gardening are spreading the culture of health and sustainability, improving residents' overall well-being.

Public Policies

In the Social Ecological Model (SEM), the public policy level addresses food deserts by suggesting systemic changes that improve access to healthy food. Here are some critical ways public policies can help reduce food deserts' impacts. Public policies can ensure that urban planning and zoning laws are in place to foster the development of community and home gardens in food desert areas. Lundberg-Witt (2013) posits that local governments in the United States have broad powers to create laws that promote the health of their citizens. Since local governments have such broad powers, they could use them to encourage zoning laws, which give individuals the space and resources to grow some of the foods they eat.

Public policies can also include educational programs about nutrition, gardening, and food preparation. These interventions can empower people with the resources and skills to cultivate gardens and eat healthily, which are long-term solutions to the impact of food deserts. In conclusion, the Social Ecological Model (SEM) offers an extensive framework for tackling food deserts.

By understanding the interconnection between individual, interpersonal, community, organizational, and policy levels, the SEM underscores the necessity of an integrated approach to bettering food access and security. The individual level requires interventions that push for self-efficacy and motivation. These can empower people to cultivate home gardening and make healthier food choices.

At the interpersonal level, interventions that promote the support of family, friends, and community groups bolster these behaviors, which leads to a supportive network that pushes gardening and healthy eating. Community-level initiatives, such as the promotion of community and home gardens, can supply residents with fresh produce, thereby improving their dietary habits. Communities can also push for policies that provide residents with information and resources to cultivate their food. Organizational-level efforts such as gardening in the school curriculum and the work of Cooperative Extension can increase agricultural literacy and get residents involved in farming. At the local government level, interventions would ensure zoning laws and policies are in place to enhance agriculture. The public policy level would ensure interventions are in place to bolster the food system, reducing the impacts of food deserts. Each level of SEM has strengths, if used effectively, that can lead to sustainable solutions for food deserts, resulting in food security and enhancing the overall well-being of residents.

Development and Impact of Food Deserts

Food deserts are a social determinant of health (Mofleh et al., 2021). The Centers for Disease Control and Prevention describes them as non-medical factors influencing health outcomes. The cause of food deserts is multifaceted and includes factors such as low income, isolation, transportation issues, and governmental policies.

Lathrop (2020) opines they can lower people's life expectancy by up to fifteen years. People who do not have access to nutritious foods will have myriad health challenges, including chronic illnesses.

Li et al. (2018) postulate that the United States is among the wealthiest countries in the world, but its residents' life expectancy is shorter than other affluent countries.
The authors explained that the United States pays more attention to finding drugs to treat illnesses than focusing on preventing illnesses. They further emphasized that chronic diseases that lower life expectancy are preventable. Diet and physical activities play a pivotal role in preventing chronic diseases. The 2015 Dietary Guidelines Advisory Committee Scientific Report promotes diets rich in fruits, vegetables, whole grains, low and non-fat dairy, and lean protein. The committee also encourages people to select dietary patterns low in saturated fat, trans fat, sodium, and added sugars (Neuhouser, 2019). Based on this information, people living in food deserts are disadvantaged because their diets are mostly void of the healthy foods needed for healthy living, which can prevent chronic illness and increase life expectancy. Kelli et al. (2019) conducted a study to figure out the impact of food deserts on life expectancy related to myocardial infarction. The study revealed that living in food deserts will increase the risk of adverse cardiovascular events in those with coronary artery disease. The results showed that people with low income and poor access to food had the worst outcomes. Another study conducted in the Atlanta Metropolitan Area, which included DeKalb County, shows that people living in food deserts had a higher occurrence of hypertension, body mass index, and a ten-year risk for cardiovascular diseases (Kelli et al., 2017).

Gregory & Coleman-Jenson (2017) in their study outlined that Food insecurity is linked to various health issues, including hypertension, coronary heart disease (CHD), hepatitis, stroke, cancer, asthma, diabetes, arthritis, chronic obstructive pulmonary disease (COPD), and kidney disease. They opined that the severity of food insecurity is correlated with an increased risk of developing chronic illnesses. Food insecurity refers to the lack of reliable access to sufficient, affordable, and nutritious foods.

Recent data shows that almost 18 million household in the United States have food insecurity (United States Department of Agriculture, 2025). Fruits and vegetables play a critical role in the body and health by providing energy and various nutrients. They are also rich in dietary fiber, which helps decrease the risk of cardiovascular diseases, overweightness, and obesity. Vitamins and minerals are abundant nutrients, and fruits and vegetables are rich sources of phytochemicals that play the role of antioxidants, phytoestrogens, and anti-inflammatory agents within the body (Slavin & Lloyd, 2012). It is therefore crucial to address food insecurity promptly to improve health outcomes and break the cycle of poverty for millions of individuals and families.

Food insecurity often results in limited access to or the inability to afford healthy foods due to low income or transportation issues. This forces people to rely on fast food, which increases the likelihood of chronic diseases. Furthermore, low-income individuals face challenges in accessing or paying for health care, which can lead to food-related cancers and premature mortality. Food deserts can severely affect the younger generation, causing frequent illness, slow recovery from sickness, and frequent hospital visits. Additionally, there is a correlation between access to healthy foods and educational performance.

Addressing Food Desert

Many causes of food deserts relate to governmental policies that lead to cyclical effects (Haskell, 2021). The government recognizes these challenges and is working to tackle food deserts by using federal funding and putting programs into action to enhance access to nutritious foods. The USDA is one of the chief organizations working to reduce food deserts across the USA. The organization implemented the Community Food Projects Competitive Grant Program (CFPCGP).The program aims to collaborate with stakeholders from various parts of the food system to understand national food security trends and how they might improve local food systems (Tufts University, 2023).

Another solution to food deserts' challenges is the emergence of mobile Farmers' markets. The University of Georgia Athens (UGA) has implemented the mobile Farmers' markets program to increase food availability in the food desert communities of Georgia (Buys and Rennekamp, 2020). Mobile farmers markets are vital channels for providing communities with access to nutritious foods. By bringing fresh produce directly to areas that might lack grocery stores, they help ensure everyone can eat healthily. Mobile farmers' market sells locally grown produce, which means they promote better nutrition and support local farmers and economies. Furthermore, Mobile farmers markets have partnerships with local organizations and offer food assistance programs like SNAP, enabling low-income families to access nutritious food, thereby promoting healthier communities. The mobile farmer's market is critical in ameliorating food deserts by improving food accessibility and supporting local agriculture and economies. Mobile farmers' markets significantly enhance food accessibility and support local agriculture in food deserts. However, these initiatives are insufficient to address the intricate challenges of food scarcity.

A comprehensive approach is necessary to tackle the underlying socio-economic factors and ensure sustainable food security for all communities.

Bringing Awareness to Food Deserts

The solutions mentioned previously can reduce the effects of food deserts, but they alone cannot combat the complex challenge. Many people who live in food deserts have no idea of their situation, necessitating bringing it into the public sphere. Agriculture literacy could give people in food deserts the power to obtain healthy foods. People need to develop awareness of food deserts and how they can help alleviate their impact.

Most people in the United States have limited agricultural literacy (Mercier, 2015). One aspect of agricultural literacy is helping people understand food's role in health. It also educates people on nutrition, food systems, and farming production. Sound knowledge of these factors can help people change how they eat. One staunch supporter of agricultural literacy is the American Farm Bureau Foundation. It outlines that people should know how the agricultural industry works, where food comes from, and its relationship to nutrition and health. One of the organization's missions is to promote agricultural literacy throughout the USA (2023).

Agricultural literacy ensures that people understand the role agriculture plays in human survival. Agriculture literacy has gained popularity in recent years, and its mandate is to bring awareness to the problems and issues facing agriculture (Frick et al., 1995). Spreading agriculture education throughout the United States is critical to help people understand that they play a pivotal role in managing their food supply. Furthermore, agricultural awareness helps people make informed choices about their diet and health status. The presence of food deserts throughout the United States dictates the need for literate residents to decide how they can help with food sustainability.

Research conducted in the last two decades shows the promotion of agricultural literacy among elementary school students (Kovar and Ball, 2013). However, research shows that young people and adults do not understand the role of agriculture in their lives (Pense et al., 2005; Frick et al., 1995). Many in society view farming as merely a hands-on, dirty job. This belief is reflected in schools, where agriculture is often undervalued during subject placement. Academically advanced students are typically assigned to the sciences and the arts, while those perceived as less academically inclined are placed in agriculture and other career and technical fields (McKibben et al., 2022). Research has also shown that parents, teachers, and other family members positively influence their beliefs about science (Lindner et al., 2004) as well as the method of instruction (McKibben & Murphy, 2021; McKibben, Hancock, et al).

Improving Agricultural Literacy

To enhance agricultural literacy, engaging youths in meaningful discussions about agriculture and its significance for human survival is essential. Integrating agriculture education into the curriculum starting at age 12 will ensure that no student stays unaware of the origins of their food (Paul, 2017). Additionally, this approach can help America keep its first-world status by equipping citizens with the fundamental knowledge and skills necessary to support food sustainability. Programs like 4-H and FFA can involve children in agriculture, ensuring its continued prosperity. Educators understand the benefits of integrating agriculture into the curriculum and endorse introducing children to the subject area. Agriculture is robust because it entails experiential learning theory (Mabie & Baker, 1996).

Education can help children develop an appreciation for agriculture, leading them to become ambassadors in the fight for food sustainability. K-12 education needs a robust agricultural literacy program to make Americans agriculturally literate again. Powell et al. (2008) recommend a formal agricultural literacy framework with a multi-disciplinary curriculum, values, and agenda.

Enhancing agricultural literacy involves integrating academic content with agricultural resources across various subjects (Vallera & Bodzin, 2016). It is an approach that can increase students' agricultural understanding, fostering an appreciation for its importance in improving nutrition, health, and overall well-being. Furthermore, it will aid in recognizing the interconnectedness of farming systems in fulfilling human needs. Cosby et al. (2022) believe it is easy to integrate agricultural concepts into subject areas such as science, technology, engineering, and mathematics (STEM). The authors opine that this integration would provide opportunities to increase agricultural literacy using formal and informal education methods.

Agricultural literacy can also be crucial in preventative healthcare because it can help people look for, understand, and apply information to make responsible health-related decisions. Many aspects of agricultural literacy connect with public health and social determinants of health. It could enhance life expectancy in the 21st century and beyond (Brumby et al., 2017). As an educational tool, it can improve health outcomes by teaching children how to develop health-enhancing behaviors. Introducing children to agricultural literacy will enhance knowledge in the generations to come, which can increase nutrition and health outcomes.

The push for increased agricultural development is a policy the United States needs to enforce to reduce or end food insecurity and poverty in food deserts nationwide (Block & Subramian, 2015).

If schools in grades K-12 focus on agricultural literacy, they could incorporate agriculture education as a stand-alone subject. It would be a practical step toward further agrarian development in the nation. It could foster a more sustainable and food-secure future for all communities.

Georgia is on the path to promoting agricultural development by introducing agrarian education in elementary schools. In 2019, the State Board of Education approved standards for agricultural education courses in kindergarten through fifth grade based on the recommendation of State School Superintendent Richard Woods. The new standards are a direct result of Senate Bill 330, legislation passed in 2018 that provides for a pilot program to develop and implement agricultural education in elementary schools (Lane, 2019).

The initiative to incorporate agriculture into elementary school curricula is a positive development. Education is a foundation for good health, increasing knowledge and enabling individuals to make better health choices; a lack of education leads to health disparities (Raghupathi & Raghupathi, 2020). Knowledge can help reduce these disparities, proving that the education system recognizes its role in advancing agricultural development. Education in the 21st century aims to empower students, encouraging them to become lifelong learners and use their knowledge to improve the world (Toro, 2019). It also ensures that students take charge of their learning through active participation.

Urban Agriculture and Environmental Health Promotion

A food desert is a form of food insecurity caused by social, economic, or geographic barriers that prevent access to nutritionally dense foods (Cleveland Clinic, 2023). Urban agriculture (UA) offers a solution to food insecurity.

One form of urban agriculture currently used in the food deserts of Georgia is the mobile farmer's market. While this is a practical choice for sourcing healthy foods, it does not address the needs of everyone affected. Another aspect of urban agriculture encourages individuals to take matters into their own hands by growing some of the food they consume.

The global pandemic proved our ability for ingenuity, particularly in producing some of the foods we consume. During the COVID-19 crisis, there was a significant disruption of food systems, prompting individuals across the United States to engage in gardening to supplement their food supply. According to Clemons et al. (2021), agriculture professionals felt as through the disturbance of the social and interactive elements of agriculture during the height of the COVID-19 pandemic lockdowns adversely affected agricultural development especially in those who deal with young people. Mejia et al. (2020) reported an increase in community gardens during the pandemic, which contributed to reducing food insecurity. Additionally, the Mailman School of Public Health at Columbia University (2023) noted that community gardens played a crucial role behind the scenes, bolstering local food production and helping to prove a more resilient and reliable food system.

The COVID-19 pandemic necessitated resilience, prompting individuals to take control of their food needs. A cross-sectional study by Mead et al. (2021) revealed that during the pandemic lockdown in the United Kingdom, more people engaged in home gardening. The study showed these participants experienced lower food insecurity and improved well-being due to their gardening activities. If individuals could address food insecurity during a pandemic by taking matters into their own hands, it is possible to do the same now, potentially reducing or cutting food deserts. Therefore, it is imperative to promote urban agriculture to eradicate food deserts.

Urban agriculture (UA) can help develop a robust food system (Palowski, 2018). DeKalb County's food system is weakened due to the presence of food deserts. UA is a food system that includes production, transportation, and food consumption from the farm to the table. It can effectively complement the resilience food system conceptual framework, which advocates for the provision of sufficient, proper, and acceptable food to all individuals, even in the face of unforeseen disturbances (Sharfstein, 2023). This framework emphasizes the accessibility of fresh food at the community level (Carney et al., 2012). Lida et al. (2023) highlights that while there is extensive research on food deserts, it focuses on access to food retailers. The authors argue that it is time to promote local food production through urban agriculture, aligning with the principles of the resilient food systems conceptual framework.

A critical aspect of urban agriculture (UA) is the cultivation of home gardens. There is a common misconception that adequate land space is necessary for home gardening (University of Minnesota Extension, 2021). Some individuals have insufficient land space, while others have no space or poor soil quality. However, there are innovative methods for home gardening, such as containers or raised bed gardens. Nagai (2014) highlights that these gardening styles are suitable for gardeners of all ages. The author also notes that these methods are user-friendly due to their structured design, controlled soil blend, and ease of planting. The UA framework promotes home gardening in various forms as a practical means to enhance food security at the community level. Another essential aspect of the UA framework is ensuring that all households have access to nutritionally adequate and safe food or the ability to obtain food in a dignified manner. Food security is a social determinant of health, ensuring that individuals have access to nourishing foods for their well-being (Centers for Disease Control, 2023).

Cooperative Extension Promotes Agricultural Literacy

Cooperative Extension can play a more significant role in the 21st century in enhancing the quality of life for Americans, including those existing in food deserts. It owns the resources to guide Americans in reconnecting with their agricultural roots (Buys & Rennekamp, 2020). Currently, Cooperative Extension has set up its presence in society by offering educational opportunities for farmers and providing families with nutrition education and food safety training. As communities wrestle with the challenges of food deserts, they need experts from Cooperative Extensions to show them how to deal with the problem (Patton & Blaine, 2001). Effective leadership is needed to help develop the competencies needed to affect needed change (Strong et al., 2013). Extension leadership is needed to start new knowledge-based programs that teach communities how to improve food security (Buford et al., 1995). Harkavy and Hodges (2012) support this venture as they believe universities should embed themselves in communities and prioritize tackling the universal problems they face. Food deserts are a universal problem that needs immediate attention.

To successfully engage communities, Cooperative Extension leaders must divert from the traditional outreach methods they use. Firstly, extension leaders need to deal with the challenges that hamper the promotion of agricultural literacy (Clemons et al., 2018). One of these challenges is widespread detachment from agriculture (Clemons & Lindner, 2018; Clemons et al.). According to Quinn & Carlisle (2019), individuals lack awareness of agriculture and food systems. People are detached because of modernization in society, which has resulted in food being readily available in supermarkets and other food sources. Widespread agricultural illiteracy has extensive repercussions on health, the environment, and food security (Pinkerton et al., 2021).

People who are detached from their food system do not know how to safeguard this vital aspect of their lives. Cooperative Extension leaders can deal with this issue by bridging the knowledge gap. This is possible by having meaningful dialogue with the public and using the opportunities to promote the importance of agricultural literacy.

Cooperative extensions have historically assisted communities in dealing with their problems (Munroe et al., 2022). They must now expand their work to help people improve their agricultural literacy, which can help them address food insecurity. Promoting agricultural literacy can be pivotal in improving community knowledge and engagement in agriculture.
The second challenge that Extension leaders need to address is helping communities understand the relevance of agriculture to their daily lives. Many individuals are unaware of the importance of agriculture. For instance, people living in urban areas are often physically and psychologically distant from their food sources, which prevents them from appreciating agriculture.
Additionally, many individuals lack exposure to agriculture because it was not included in their school curriculum. Henry et al. (2014) advocate for the expansion of agriculture education in urban high schools due to its many benefits.

Tarpley and Miller (2004), as cited in Henry et al. (2014), argue that offering agriculture education in urban high schools would increase agricultural literacy. The study explains that an increase in agrarian literacy would provide communities with a competent understanding of agriculture, food, and natural resources. The information above highlights a gap in agricultural education in some urban schools, presenting an opportunity for Cooperative Extensions to promote the expansion and development of urban secondary agricultural education programs. Cooperative Extension's mission is to offer its resources to address public needs.

Burton et al. (2022) suggest that Cooperative Extensions must address the health needs of people in urban areas. The authors recommend that Extensions forge partnerships with academic units and other organizations to help cut health inequalities. Cooperative Extensions has the knowledge and resources to help schools incorporate agricultural education into their curriculum. Exposing students to agriculture education in urban schools would increase their understanding of the food system and agricultural literacy. Furthermore, it would help them play a more significant role in advancing food security in their communities.

Promoting Urban Agriculture

Sustainable agriculture is often associated with rural areas. However, modernization has led to an increase in urban spaces, necessitating urban agriculture. It is time to promote innovative methods for participating in urban agriculture, such as rooftop gardening, greenhouses, indoor and vertical farms, and edible green walls (International Institute for Sustainable Development, 2018). Urban gardening aims to teach people how to produce food to achieve positive health outcomes. Now is the time for stakeholders in urban food deserts to start dialogue that will make urban agriculture an essential part of the built environment.

Urban agriculture is a measurable response that can help alleviate the challenges associated with food deserts. Promoting urban gardening could aid underserved food desert communities. Research shows that poorer households cultivating food in urban areas save money by selling excess produce or through direct savings (Mcata.2019). Feeding the population in urban food deserts is a critical issue. Therefore, urban agriculture deserves more attention from the government as a positive strategy to promote food security.

Another significant benefit of urban agriculture is its contribution to environmental health and climate improvement. Cultivating the land absorbs rainfall, prevents stormwater from clogging the sewer system, and helps reduce pollution (Dewey, 2021).

Varlamoff (2015) explains how the University of Georgia Athens Cooperative Extension tries to bolster urban agriculture. Given Georgia's warm climate, long growing season, and robust network of cooperative Extension agents, urban farms and community gardens thrive. From Metro Atlanta, to Dalton, Warner Robbins, Savannah, Athens, Augusta, Carrollton, and Valdosta, UGA Extension agents, Master Gardener Extension volunteers, and UGA students are helping to make approximately 360 farms, community, and school gardens successful.

UGA's Cooperative Extension collaborates with teachers in Georgia's Pre-K to 12 schools to grow fresh produce in school gardens. The Agency also works with various clubs and societies to promote gardening programs. Volunteers and UGA extension agents empower gardeners with research-based knowledge to maximize their fields (Varlamoff, 2015). UGA deserves commendation for the work it has undertaken to boost urban agriculture in the state of Georgia.

Educational Initiatives and Advocacy

One-way Cooperative Extensions can bolster urban agriculture is to provide communities with educational programs that can lead to successful gardening. Residents need workshops that expose them to diverse ways of gardening. For example, some residents live in areas where they do not have gardening spaces, but that should not deter them from growing some of the food they eat. They could engage in container gardening to produce their food, and Cooperative Extension could play an essential role in promoting this type of gardening. Nagase & Lundholm (2021) believe container gardening is possible but needs promotion.

The authors believe it is necessary to engage citizens and develop their awareness of how they can help improve urban spaces through container gardening. Cooperative Extension has the wherewithal to promote container gardens for those with limited land spaces.

Food Deserts, Agricultural Literacy, and Home Gardening

"You are what you eat" is a well-known scientific phrase. It shows that physical well-being correlates with nutrition (Celimli-Inaltong, 2014). This slogan is ideal for connecting food deserts with agricultural literacy and home gardening. Introducing agricultural literacy to food desert communities will help people realize their food intake is substandard. They will also understand that eating nutritious food improves their health and longevity.

Furthermore, the slogan can stimulate discussion, encouraging people to participate and cultivate their food. After all, agricultural literacy is only helpful if people put it into practice. The slogan is critical for helping people embrace solutions that can move them toward self-reliance. It can guide them in adjusting their focus and thinking long-term about using agriculture to improve their living conditions.

History of Home Gardening

Modern agriculture appeared from small garden plots cultivated by early humans after they switched from a nomadic life. When humans settled and cultivated crops, they had a steady food supply, which led to the agricultural revolution. Home gardens have stood the test of time and play a pivotal role in food security (Galhena et al., 2013). Home gardens became prominent in the United States because stores and farms selling produce were absent in colonial America. People in the colonies cultivated small gardens at the front or back of their homes to provide essential food supplies and herbs for cooking and medicine.

During World War II, home gardens increased in popularity because people had to grow some of the foods they ate because of the war's food shortage. President Franklin D. Roosevelt, at the time, encouraged Americans to fight shortages by planting home gardens known as Victory Gardens. By 1944, these gardens supplied forty percent of the vegetables needed by the citizens of the United States. USDA archived facts show that 20 million such gardens existed in America (Hermann, 2015). Nowadays, home gardening is one measurable global strategy to improve food insecurity and could work well in food deserts.

The USDA is a strong proponent of home gardens and endorses them through its venture People's Garden initiative. The USDA teaches people how to grow gardens using conservation practices (USDA, 2022). The organization promotes People's Gardens to empower communities to cultivate healthy food sustainably. The notion is that these gardens can guide communities in collaborating and developing green spaces while increasing access to nutritious food. The organization promotes gardening because it can significantly affect it—from creating a more robust and resilient local food system to encouraging communities to address issues like nutrition access and climate change (USDA, 2022).

Let's Move, 2023). It was her way of showing America that its future success was grounded in healthy eating, which would help to reduce health issues. The action by the First Lady is symbolic and shows how she values returning to the grassroots and embracing self-sufficiency by growing the foods eaten. Mrs. Obama instituted the White House Kitchen Garden and the "Let's Move" campaign. The purpose of the campaign was to bring awareness to childhood obesity.

She linked the garden initiative with the campaign to wage war on obesity. Mrs. Obama's action shows that as Americans, we must join the fight to reduce chronic disease related to nutrition, and what better way to do so than through gardening?

Farming in Georgia

Agriculture is the number one and by far the largest industry in Georgia for over three hundred years. In 1730, Georgia became the last colony established by the British Empire. The colony of Georgia was the idea of James Oglethorpe, a member of the British House of Commons who was notable for defending people experiencing poverty. The first colonists arrived in Savannah in 1733, aiming to cultivate profitable crops and export them to England (Georgia Farm Bureau, 2023). However, farming did not begin with the colonists but with Yamacraw Native Americans, who had established horticulture centuries before.

The Yamacraw were instrumental in guiding the colonists to develop successful crops. Oglethorpe and the colonists wanted the Georgia colony to thrive, so they created an experimental garden in Savannah known as the Trustee Garden. In it, they reared crops for agricultural exports. They also employed the botanist Hugh Anderson, who went to countries with similar climates, like Georgia, to gather plants. The Trustee was the first in the colony to research the crops that would grow well in Georgia. The colony later moved to a plantation system that used enslaved people to grow crops like rice, indigo, and cotton (Flatt, 2004). Georgia remained agrarian until after World War II when the rural population decreased.

Georgia has a favorable climate, characterized by long, hot, humid summers and mild winters, supports its agricultural sector. The state's subtropical location near the Gulf of Mexico and the Atlantic Ocean enhances its farming suitability, as noted by the North Carolina Institute for Climate Studies (2022).

Georgia is perennially the number one state in the nation in the production of peanuts, broilers (chickens), pecans, blueberries, and spring onions (Georgia Farm Bureau). The state is also at or near the top of cotton, watermelon, peaches, eggs, cucumbers, sweet corn, bell peppers, tomatoes, cantaloupes, rye, and cabbage. Producers across the state raise cattle, horses, goats, sheep, hogs, poultry, turkeys, and alligators. The Georgia Farm Bureau further noted that many parts of the state still engage in agricultural production (Georgia Farm Bureau).

The evidence presented in the preceding chapter provides compelling reasons for individuals in Georgia to return to their agrarian roots and cultivate the foods they consume. This practice could grant them direct access to organic and nutritious food. Home gardening requires minimal economic resources (Kansas State University Agricultural Experiment Station and Cooperative Extension Service). By engaging in home gardening, Georgians can reap the health benefits of consuming fresh, organic produce while fostering a deeper connection to their food sources. Home gardening promotes better nutrition, encourages sustainable living, and enhances self-sufficiency. Additionally, it can strengthen community bonds as neighbors share tips, seeds, and surplus harvests, contributing to a more resilient and health-conscious society.

Cultivating a garden is not difficult due to the availability of accessible planting materials. Individuals interested in farming without prior knowledge can seek assistance from the UGA Cooperative Extension. The Extension offers a Home Garden Series publication that provides comprehensive information on cultivating home gardens (Westerfield). This publication offers detailed guidance on starting and maintaining a home garden, covering essential topics such as soil preparation, plant selection, pest management, and cost savings.
It encourages sustainable practices and maximizes yields in small spaces for novice and experienced gardeners.

Bhattacharjee et al., (2006), recommend home gardens because they improve food intake and quality, helping urban families consume more fresh fruits and vegetables.

People who grow home gardens achieve excellent dietary outcomes by incorporating healthy foods into their diets, which is crucial for supporting good health. Additionally, home gardening can reduce food expenses, making it a cost-effective way to improve diet quality (Cerda, 2022). In conclusion, home gardening will lead to better nutrition and health outcomes and help with financial savings and self-sufficiency. By encouraging the cultivation of fresh produce, home gardens serve as a sustainable solution to enhance dietary quality and overall well-being.

Different organizations have implemented measures to address the challenges associated with food deserts in DeKalb County, Georgia. For example, the University of Georgia Athens Cooperative Extension implemented mobile Farmers' Markets in the various food deserts in the County (University of Georgia, Extension (2021).

These mobile markets have ensured that people can access fresh fruits and vegetables at least some of the time. While we commend this initiative, it does have some limitations. For instance, many residents of food deserts lack access to transportation. Most mobile markets are situated in strategic locations that are not easily accessible to everyone. Consequently, although these markets serve a valuable purpose, they do not fully address the immediate needs of all individuals in these areas.

While mobile farmers markets help alleviate the stress of food deserts, they are not a workable long-term solution. A more sustainable approach involves the introduction of agricultural literacy and the promotion of home gardening. Agricultural literacy equips individuals with the knowledge and skills necessary to understand their food's origins and production processes.

This understanding empowers people to make informed decisions about their diets and food sources. Integrating agricultural education into school curricula and community programs can foster a deeper appreciation for agriculture and its critical role in human health and survival. Agricultural literacy can inspire individuals to engage in gardening and other farming activities, promoting self-sufficiency and sustainable living.

Home gardening offers a practical and accessible way for individuals to grow their food, even in urban environments. Innovative methods such as container gardening, raised bed gardens, and vertical farming allow people with limited space to cultivate their produce. Home gardening provides numerous benefits, including access to fresh, organic fruits and vegetables, improved nutrition, and reduced food expenses. It also encourages physical activity and fosters a connection to nature, contributing to overall well-being. We can create a more resilient and self-sufficient food system by focusing on agricultural literacy and home gardening. These initiatives can help reduce food insecurity, improve dietary outcomes, and enhance the quality of life for individuals living in food deserts. Moreover, promoting these practices can strengthen community bonds and support the development of a more health-conscious and sustainable society.

Previous Research

The following themes have been found in earlier studies within the literature review: Food Deserts as a Social Determinant of Health: Food deserts are areas where access to healthy foods, such as fruits and vegetables, is limited due to governmental policies. This lack of access causes many health problems for residents. Correlation with Crime and Violence: There is a correlation between food deserts and increased crime and violence, attributed to the low socioeconomic status of the residents.

Smith et al. (2020) found that counties in Georgia with high occurrences of gunshot incidents also had high rates of food insecurity and were home to food deserts.

Impact on Mental Health and Behavior:

The United States Department of Justice (1980) suggested that a lack of food can alter the mind and lead to criminal behavior. The report shows that nutritional deficiencies can transform a normal brain into a criminal mind. The literature revealed a gap concerning the role of Cooperative Extension in issuing agricultural literacy information to enhance understanding of the challenges faced by individuals living in food deserts. The research highlights several policies aimed at addressing food deserts, including the implementation of Mobile Farmers' Markets and the incentivization of convenience stores and Dollar stores to sell fresh fruits and vegetables. There is also a gap in the literature promoting home gardening as a workable way for combatting food deserts; though one did mention community gardens (Baliki et al., 2019). The existing gap in literature may hinder the development and implementation of effective strategies to promote home gardening, thereby limiting its adoption as a practical solution to address food deserts.

Most research on food deserts concentrates on food insecurity as well as the impact they have on people. They also focus on temporary solutions to provide healthy food for the residents. These temporary measures only help to an extent, but the long term is to end food deserts because they prevent people from enjoying good health. Cruz-Piedrahita et al. (2024) suggest that lack of access to healthy foods in food deserts leads to diets high in processed and energy-dense foods, which are precursors of increased obesity, which can lead to metabolic disorders such as diabetes.

The study aims to address the gap in literature by providing long-term solutions that can eventually lead to the elimination of food deserts. One proposed solution is for Cooperative Extensions to play a more significant role in combating food deserts. They can offer non-formal education and learning activities to help individuals cope with the challenges posed by food deserts. Many people living in food deserts have limited options for accessing healthy foods. According to the Cleveland Health Clinic (2023), some food deserts force residents to rely entirely on corner stores, convenience stores, and gas stations for their groceries. Obtaining nutrient-rich foods from these sources can be challenging, if not impossible. Therefore, individuals living in food deserts should have greater access to information that can help them improve their food security. Cooperative Extension professionals can address these needs by involving residents in the design, implementation, and evaluation of programs to ensure the programming is relevant and desired (Cuite & Erickson, 2022). Building deeper community partnerships can help residents mitigate the impact of food deserts and enhance their access to healthy, nutritious foods.

The research proposes that Cooperative Extensions should use evidence-based science, modern technologies, and other available resources to address public needs, such as food deserts. By providing agricultural literacy to individuals living in food deserts and promoting home gardening, Cooperative Extensions can significantly improve lives.

Many residents of food deserts belong to the low socioeconomic bracket and cannot afford to purchase healthy food. Therefore, these initiatives can empower them to grow their own nutritious food, enhancing their food security and overall well-being.

The research will contribute to the literature by showing that individuals can enhance food sustainability by growing the foods they consume. It will highlight that home farming is essential for having nutritious foods readily available. Backyard gardening is undoubtedly one of the solutions to reducing food insecurity challenges associated with food deserts.

If residents of these areas commit to cultivating their own food, we will see a gradual reduction in food deserts. Moreover, home gardening can help reduce health disparities, leading to improved health outcomes for the community. It promotes the farm-to-table system, which is a precursor to good health. By growing food people can quickly access ingredients with higher nutritional benefits, contributing to preventive health through healthy eating and physical activity. Combining agricultural literacy with home gardening is the way forward to achieve food sustainability in the food deserts of DeKalb County. This approach empowers individuals to take control of their food sources, leading to a more resilient and health-conscious society.

Conclusion

This chapter explores the theoretical framework guiding the research on food deserts, focusing on the experiences of affected populations, including minorities and low-income groups. The aim is to illuminate the multi-dimensional challenges these communities face in accessing nutritious food and to evaluate potential solutions to improve their circumstances. The review unfolds through a critical examination of several key areas: the socio-economic implications of living in food deserts, current methodologies employed to alleviate these challenges, and the significance of agricultural literacy and home gardening initiatives in fostering food sustainability.

Utilizing Bronfenbrenner's Social Ecological Model (SEM), the research investigates the intricate interplay among intrapersonal, interpersonal, organizational, community, and public policy factors that influence dietary behaviors and food access. At the intrapersonal level, the study highlights how attitudes, knowledge, and personal beliefs about gardening and nutrition impact individual choices. Positive beliefs in gardening and healthy eating can foster engagement and skill development, while negative misconceptions may hinder the cultivation and consumption of fresh produce. Moreover, the chapter underscores the essential role of agricultural literacy in empowering individuals within food deserts. Equipping these communities with the necessary knowledge and skills for practical home gardening can enhance their dietary options, reduce reliance on processed foods, and improve their overall health and well-being.

This comprehensive review aims to inform stakeholders about the systemic issues surrounding food deserts and advocates for targeted interventions that leverage agricultural practices to promote food security and sustainability. In conclusion, addressing the complex challenges of food deserts requires a multifaceted approach that considers the interrelated factors outlined in the SEM, coupled with actionable strategies to elevate agricultural literacy and gardening practices among marginalized communities.

Chapter 3: Method

The chapter describes the sample, data collection procedures, and context for the survey. It includes the specifics of the dependent and independent variables. The research questions are answered using an analytic approach. The chapter also introduces the research design and the validity and reliability of the findings.

Statistical analysis

Inferential statistics were performed with an alpha level established beforehand at .05 for all analyses. This indicates that results yielding a *p-value* below .05 were regarded as statistically significant. The statistical methods employed comprised t-tests, ANOVAs, and regression analyses, as suitable for the dataset.

Approach

The current study uses a mixed method to examine the participants' feelings of using agricultural literacy and home gardening to reduce the effects of food deserts in DeKalb County. A unique feature of mixed-method research is its use of quantitative and qualitative data to understand a research problem (Lall, 2021). It is a helpful feature that allows researchers to confirm and improve findings using multiple avenues. Another reason for using the mixed method is that combining quantitative and qualitative data can help lead to greater rationales (in this case, it will help us to understand that food desert goes beyond the proximity of people to food stores). The mixed method approach produces robust research, a feat impossible with just one method (Creswell, 2009).

Sample

This study targets Seventh-Day Adventist Church members in Decatur, DeKalb County, Georgia.

In 2024, the researcher collected data from 102 church members who completed a self-administered take-home questionnaire. The researcher distributed 150 questionnaires to church members, and participants returned 102 questionnaires.

Data Collection

Respondents volunteered to participate in the research after receiving clarifications at a church meeting. During the announcement section of the worship service, the Pastor informed the members about the impending research. He asked interested members to speak with the researcher in the dining area after the service. Personal interactions, a well-defined sample, a paper-based instrument, and the presence of the researcher were all done in an attempt to facilitate better and more complete data collection (McKibben et al., 2025)

The respondents who consented to complete questionnaires met with the researcher one-to-one to learn about the research's purpose. Once they agreed to participate, each participant received a questionnaire and an envelope. The respondents received instructions to place the completed survey in the envelope and return it to the church office for investigators to collect. Data collecting started on February 1, and concluded on March 9. Participants received one hundred and twenty surveys, and 102 people returned the survey, which was an 85% response rate. According to (Lindner, et al, 2001; Lindner, 2002) when an 85% response rate is achieved, efforts to control nonresponse error are unnecessary. The survey Instrument (Appendix A) consisted of 17 structured questions assessing opinions about food deserts, agricultural literacy, and other topics. The questionnaire also included 30 test items that evaluated the respondents' knowledge of farming and food topics.

Data Entry

Excel was the software used to analyze data because it has features that provide precise entry and data cleaning. After formatting the data in Excel, it got uploaded to SPSS for more advanced statistical analysis. SPSS is an excellent statistical tool for completing various analyses, such as regression, ANOVA, and factor analysis, to gain deeper insights into the data. Using Excel eased data entry and basic calculations, while SPSS offers powerful tools for deeper statistical analysis. The combination of these tools ensured valid and reliable results from the data analysis. Interpretations of scaled items were made based on the Lindner Convention (Lindner & Lindner, 2024).

Table 1

Descriptive Statistic for Dependent Variable Survey Items

Measure	Response framework and codes	Theoretical range	Actual range	Valid	Missing
Food experience	Sum of items	5-20	5-15	12	0
Rate your experience getting food at the dollar store Rate your experience at a fast-food place Rate your experience at a restaurant Rate your experience at the local community garden	1=Very Good 2=Good 3=Not good or poor 4=Poor 5-Very poor				
Healthy eating	Sum of items	5-20	5-15	12	0
Two or more servings of fresh vegetables daily Three or more servings daily There is reputable food sources within a 20-minute walk or 1-mile drive	1=Strongly Agree 2=Agree 3=Neither agree nor disagree 4=Disagree 5=Strongly disagree				
Vegetable averse	Sum of items	5-20	5-15	12	0
I don't care for fresh fruits and vegetables. I don't know what to look for when buying fresh fruits and vegetables. Transportation issues prevent me from eating fresh fruits and vegetables. The locations that sell fruits and vegetables are far from home. Fresh fruits and vegetables are too expensive	1=Strongly Agree 2=Agree 3=Neither agree nor disagree 4=Disagree 5=Strongly disagree				
Snap Access	Sum of items	5-20	5-15	12	0
I can use snap at places selling fruits and vegetables	1=Strongly Agree 2=Agree 3=Neither agree nor disagree 4=Disagree 5=Strongly disagree				

Measures

Dependent Variables

Gardening Self-Efficacy

Table 2 evaluates respondents' feelings of their ability and interest in home gardening. This indicator aggregates responses to various statements reflecting their attitudes towards gardening and their confidence in gardening abilities. The alpha reliability coefficient of .750 shows that these items reliably align with the research aims.

Table 2

Gardening Self-efficacy Reliability Analysis

Survey item	Number of items	Alpha if item deleted
People should cultivate some of the foods they eat	5	0.75
I would consider myself good at growing food	5	0.68
I would be interested in learning about home gardening	5	0.71
I am confident that I can start a home garden	5	0.56

Food Experience

Table 3. measures how the respondents perceive their food environment. The indicator sums up the frequency of accessing foods from *four* different food sources. The alpha reliability was .754, which suggests that the items are consistent with the research's purposes.

Table 3.

Food experience reliability analysis

Survey item	Number of items	Alpha if item deleted
Rate your experience accessing food from dollar stores	3	0.62
Rate your experience accessing food from fast food places	3	0.62
Rate your experience accessing food from restaurants	3	0.64
Rate your experience accessing food from local community gardens*	3	0.75

Healthy Eating

Table 4 presents the reliability analysis for survey items related to healthy eating. The item "There are reputable food sources within a 20-minute walk or 1-mile drive" has the highest reliability score, indicating it is the most consistent in measuring healthy eating habits among the participants.

Table 4.

Healthy Eating Reliability Analysis

Survey item	Number of items	Alpha if item deleted
I eat two or more servings of fresh fruit and vegetables daily.	2	0.43
I eat three or more servings of fresh fruit and vegetables daily.	2	0.61
There are reputable food sources within a 20-minute walk 1 mile drive*	2	0.79

Vegetable Averse

Table 5 summarizes the independent variable's measures, coding, range, and missing values.

The following sections present the distribution of responses and treatment of each measure for data analysis.

Table 5.

Vegetable Averse Reliability Analysis

Survey item	Number of items	Alpha if item deleted
I don't care for fresh fruits and vegetables	4	0.67
I don't know what to look for when buying fresh fruits and vegetables	4	0.64
Transportation issues prevent me from eating fresh fruits and vegetables	4	0.69

Independent Variables

Descriptive Statistics

Table 6 provides descriptive statistics for various independent variables in a study conducted by the Atlanta Seventh Day Adventist in 2024. It includes measures such as whether a zip code is in a food desert, levels of education, employment status, ability to use SNAP benefits, agricultural literacy, and attitudes towards home gardening. Each variable is coded with specific response frameworks and ranges, showing the actual range of responses collected from 102 valid participants, with no missing data.

Table 6.

Descriptive Statistics for Independent Variables

Measure	Response framework codes	Theoretical range	Actual range	Valid	Missing
Food desert	0=Zip Code in Food Desert 1=Zip Code Outside of Food Desert	0-1	01	102	0
Education	1=Some high school 2=High School 3=Trade School 4=bachelor's degree 5=Post-graduate Degree	1-5	1-5	102	0
Employment Status	1=Part-time 2=Full time 3=Part-time 4=Seeking Employment 5=Retired	1-5	1-5	102	0
Able to Use Snap	1=No 2=Yes	1-2	1-2	102	0
Ag Literacy	Count of correct answers	0-3	0-3	102	0
Home Gardening	1=Strongly Agree 2=Agree 3=Neither Agree nor Disagree 4=Disagree 5= Strongly Disagree	1-5	1-5	102	0

Food Desert Residence

Table 7 measures the distribution of food desert residence among participants in the Atlanta Seventh-Day Adventist study conducted in 2024. It shows the frequency and percentage of participants living inside and outside food deserts. Specifically, 59 participants (57.8% of the total) live inside food deserts, which accounts for 67.8% of the valid responses. Meanwhile, 28 participants (27.5%) live outside food deserts, representing 32.2% of the valid responses. The table provides insights into the prevalence of food desert residence within the study population. Food desert residence has two categories.

Table 7.

Distribution of Food Desert Residence

Food desert residence	f	%	Food desert residence
Inside food desert	59	68	Inside food desert
Outside food desert	28	32	Outside food desert
Number	87	100	Number

Note: f does not equal the total due to item non-response.

Table 8 measures participants' education levels in the Atlanta Seventh-Day Adventist study conducted in 2024. It shows the frequency and percentage of participants at various education levels, including some high school, high school, trade school, bachelor's degree, and post-bachelor's degree. The table also includes the valid percentages for each education level, accounting for missing data. This information helps us to understand the educational background of the study population. Table 8 has five categories.

Table 8.

Distribution of Education Level

Education level	*f*	%
Some high school	10	10
High school	24	24
Trade school	7	7
Bachelor's degree	25	26
Post bachelor's degree	32	31
Missing	99	4
Total	102	100

Birth Year

Table 9 reports the birth years of respondents in the Atlanta Seventh-Day Adventist study conducted in 2024. It shows the frequency and percentage of participants born in different periods, including before 1929, between 1930 and 1949, 1950 and 1969, 1970 and 1989, and 1990 or above. The table provides both the overall percentage and the valid percentage for each birth year category, helping to understand the age distribution of the study population. **Age** has five categories.

Table 9

Distribution of Birth Year Responses

Birth year	*f*	%
Before 1929	15	15
1930-1949	9	9
1950-1969	41	40
1990-1989	22	22
1990 or above	15	15
Total	102	100

Employment Status

Table 10 measures participants' employment status in the Atlanta Seventh-Day Adventist study conducted in 2024. It shows the frequency and percentage of participants employed full-time, part-time, seeking employment, or retired. The table also includes the valid percentages for each employment status category, accounting for missing data. This information helps to understand the employment distribution within the study population. Employment status has five categories.

Table 10.

Distribution of Employment Status Responses

Employment	*f*	%
Full-time	57	56
Part-time	8	8
Seeking employment	3	3
Retired	29	28
Missing	5	5
Total	102	100

Gender

Table 11. The data reflects the frequency and percentage of respondents in each category, providing insights into the gender composition of the surveyed population. Gender data has three categories.

Table 11.

Distribution of Gender Responses

Gender	*f*	%
Male	27	27
Female	74	73
Other	1	1
Total	102	100

SNAP Usage

Table 12 measures the frequency and percentage of respondents for each category, providing insights into the overall sentiment toward SNAP usage among the surveyed population. I can use my SNAP /food stamps benefits at grocery stores that sell fresh fruits and vegetables.

Table 12.

Distribution of SNAP User Responses

Response	*f*	%
Agree	21	21
Strongly agree	17	17
Neither agree nor disagree	23	23
Disagree	11	11
Strongly disagree	20	20
Missing	10	10
Total	92	100

Note: f does not equal the total due to item non-response

Agricultural Literacy

This section measures the agricultural awareness of the participants. The variable had codes ranging from 0-3. The three questions and correct answers were as follows: Carrots, onions, and sweet potatoes are all vegetables, and what part of a plant? The responses were A. seeds, B. flower, C. root, and D. stem. The correct answer for this question was "C," the root. The second question: Which food combinations best describe a balanced meal using the four basic food groups? The answers were: A. broccoli, biscuits, peaches, & lamb; B. eggs, milk, pancakes, & orange juice; C. milk, granola, grapefruit, & bread & D. steak, toast, butter, & eggs. The correct answer for this question was "B," eggs, milk, pancakes, and orange juice. The third question: How many servings of vegetables do we need daily? The answers were A. 6-11, B. 2-3, C. 3-5, and D. 1-2. The correct answer for this question was "B," 2-3. The measure counts the correct answers and ranges between zero and three. It demonstrated a reliability of ($\alpha = 0.83$)

Table 13.

Distribution of Agricultural Literacy Scores, Atlanta Seventh Day Adventists

Response	*f*	%
A	1	1
B	15	15
C	77	76
D	9	9
Missing	0	0
Total	102	100

Home Gardening Interest

Table 14. Home Gardening Interest measures the responses to three questions, coded 3-12. The questions were: I consider myself good at growing food; I would be interested in learning more about gardening; and I am confident I can start a home garden. The response framework was: Strongly agree, Agree, Disagree, and Strongly disagree. The measure sums up the responses and proves an alpha reliability of .75.

Table 14.

Distribution of Home Gardening Interest Scores

Scores	***f***	**%**
3.00	24	24
4.00	8	8
5.00	10	10
6.00	12	12
7.00	10	10
8.00	15	15
9.00	14	14
10.00	2	2
11.00	2	2
12.00	5	5
Total	102	100

Data Analysis

The Excel-formatted data was transferred to SPSS. The data was analyzed using the programs' univariate statistics, crosstabulations, correlations, and regression analysis. The study analyzed data by calculating the mean scores for essential variables to identify central tendencies and trends, which can explain a concise summary of average responses. The analysis employed Pearson's correlation coefficient to assess the strength and direction of relationships between continuous variables, revealing how changes in one variable relate to changes in another. Regression analysis explored the relationship between a dependent variable and one or more independent variables. This multiple regression analysis facilitated the prediction of outcomes and the identification of significant predictors, thereby enhancing the understanding of the factors influencing the dependent variable. The study also involved significance testing to determine the findings' statistical significance. It includes a t-test and ANOVA, which compare meaning between groups and evaluate differences in the studied population.

Chapter 4: Findings

Chapter 4 tests the hypotheses developed in Chapter 2. It examines the means scores of the dependent variables across categories of the independent variables and presents correlations and regression analyses to elucidate the problem further.

Bivariate Analysis

This section tabulates the mean scores of the dependent variables for each independent variable. Statistical tests are evaluated, and the patterns of differences are discussed.

Food Desert Residence

Table 15.

Mean Food Experience, Healthy Eating, and Vegetable Aversion Scores by Food Desert Residence

Residence	Food experience	Healthy eating	Vegetable averse	Number
Inside food desert	14.4	11.0	16.0	47
Outside food desert	17.0	12.0	17.0	55
t-test	2.1*	0.32	0.39	***102***

*$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

The *t-test* results are critical in this analysis because they compare the two groups (inside and outside food deserts) for each dependent variable. We are interested in the food experience t-test result of 0.01 because it shows a statistically significant difference between the mean scores of food experience for residents inside and outside food deserts. Healthy eating or vegetable averse had no statistical significance. A statistically significant *p-value* of (0.01) shows a meaningful difference in food experience between residents inside and outside food deserts. It suggests that residents outside food deserts have a higher mean food experience score (16.16) than those inside (14.4). We can assume from the findings that people who live outside food deserts will have better food experiences.

Ryan Jones (2024) described food experiences inside and outside the food desert. He noted that people living in Memphis's food deserts face many health challenges, such as limited access to nutritious foods. On the other hand, people living in the wealthier areas of Memphis can live thirteen years longer than those living in food deserts.

Table 16.

Mean Food Experience, Healthy Eating, and Vegetable Aversion Scores by Age Category

Age	Food experience	Healthy eating	Vegetable averse	Number
1929 or before	16.2	11.3	15.2	15
1930-1949	15.1	9.3	18.0	9
1950-1969	14.6	10.4	16.2	41
1970-1989	15.4	12.3	17.0	22
1999 and above	16.5	14.3	15.9	15
F-test	13.4	57.5*	13.9	102

Note: *$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

Table 9 shows no statistically significant variation in food experience or vegetable aversion between age groups. Similarly, vegetable aversion had a *p-value* of 0.2, implying a 20% possibility that the differences are random. Since both *p-value*s are higher than the conventional significance level of 0.05, we can conclude there are no significant variations in food experience and vegetable aversion among the different age groups.

Healthy eating had an ($F = 57.5$), a significant difference in healthy eating habits across different age categories. According to the table, the highest mean score for healthy eating was 14.3 for individuals born in 1999 or later. This shows that individuals born in 1999 or later had the healthiest eating habits among the study's groups. The lowest mean score for healthy eating was 9.3 for those born between 1930 and 1949.

The younger participants are likely to have healthier eating habits because they have more access to nutritional information. Recently, there have been cultural shifts towards health and wellness and effective public health campaigns, which could explain why the younger population is more inclined to healthy eating. Research reveals that Generation Z makes more health-conscious decisions about eating than the other generations (Mason & Wagstaff, 2020). Generation Z, also known as digital natives, rely on technology, and they use this skill to gather information about healthy living and eating nourishing foods.

The results conclude that age does not significantly affect food experience or vegetable aversion. However, a notable finding is the significant difference in healthy eating habits across the different age groups. The finding has implications for providing nutritional intervention and public health strategies for the various age groups. The younger generations are adept at using technology and public health strategies. They should ensure that they receive robust health information to help them live healthier lives, including eating nourishing foods.

Employment Status

Table 17 examines the relationship between the dependent variables and employment status. The *F-test*s were not significant.

Table 17

Mean Food Experience, Healthy Eating, and Vegetable Aversion Scores by Employment Status

Employment	Food Experience	Healthy Eating	Vegetable averse	Number
Full time	15.1	12.0	16.8	57
Part time	18.0	15.0	16.0	8
Seeking employment	16.3	15.0	18.0	3
Retired	15.2	10.0	16.0	29
F-test	0.18	0.01	0.38	97

Vegetable aversion has a *p-value* of 0.37; since the *p-value* is greater than 0.05, there is no significant difference in vegetable aversion scores between the employment status group. Food experience had a *p-value* of 0.18, which is greater than the *p-value* of 0.05, meaning there is no significant difference in food buying experience between the employment groups.
On the other hand, healthy eating had a *p-value* of 0.01, which is less than 0.05. This means there is a significant difference in scores for healthy eating between the employment status groups. The evidence concludes that there is a statistically significant difference in the scores for healthy eating between the different employment status groups. This implies that participants' employment status impacts their eating habits related to fruits and vegetables.

Education

Based on the *F-test* in Table 18, no statistically significant differences exist in food experience, healthy eating, or vegetable aversion scores across different education levels among the Atlanta Seventh Day Adventists in 2024.

Table 18.

Mean Food Experience, Healthy Eating, and Vegetable Aversion Scores by Education

Education	Food experience	Healthy eating	Vegetable averse	Number
Some high school	14.0	11.0	18.0	10
High school	16.0	12.0	15.0	24
Trade School	16.0	0.0	16.0	7
Bachelor's degree	16.0	12.0	17.0	25
Postgraduate	16.0	11.0	17.0	32
F-test	0.82	1.9	0.90	98

Gender

The t-tests in Table 19 show no statistically significant differences between males and females in food experience, healthy eating habits, or vegetable aversion. They do not reach the significance level of 0.05.

Table 19

Food Experience, Healthy Eating, and Vegetable Averse, Characterized by Gender, Atlanta Seventh-Day Adventists.

Gender	**Food experience**	**Healthy eating**	**Vegetable averse**	**Number**
Male	16.0	11.0	16.0	27
Female	16.0	12.0	17.0	74
t-test	0.87	0.55	0.28	101

SNAP Usage

The table provides insights into the food experiences, healthy eating habits, and vegetable aversion among Atlanta Seventh Day Adventists in 2024 based on their agreement about using SNAP (Supplemental Nutrition Assistance Program). Respondents are categorized into five groups: Agree, Strongly Agree, Neither Agree Nor Disagree, Disagree, and Strongly Disagree.

Table 20.

Food Experience, Healthy Eating and Vegetable Averse, By Ability to Use SNAP

Can use SNAP	Food experience	Healthy eating	Vegetable averse	Number
Agree	17.0	12.6	16.4	21
Strongly agree	15.3	2.3	16.1	10
Neither agree nor disagree	14.2	17.0	17.0	17
Disagree	15.0	18.0	18.0	11
Strongly disagree	15.2	16.4	16.4	23
F-test	0.24	1	-0.28**	82

*$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

Those who agree with using SNAP show average scores of 17.0 in food experience, 12.6 in healthy eating, and 16.4 in vegetable aversion, while those who strongly agree have lower scores in healthy eating (2.3). Individuals who neither agree nor disagree report scores of 14.2, 17.0, and 17.0, respectively, and those who disagree average 15.0, 18.0, and 18.0. Respondents strongly disagreed, averaging 15.2 for food experience, 16.4 for healthy eating, and 16.4 for vegetable aversion. The ($F = 0.24$) shows no significant difference among the groups, and a notation of "1 -.281" with "$p < 0.01$" reveals a significant negative correlation between the two variables at the 1% significance level.

Agricultural Literacy

The table analyzes food experience, healthy eating habits, and vegetable aversion among Atlanta Seventh Day Adventists in 2024, stratified by their agricultural literacy levels. The participants are classified into three groups based on their agrarian literacy levels: low, medium, and high.

Table 21.

Food experience, Healthy Eating and Vegetable Averse, By Agricultural Literacy

Agricultural literacy	Food experience	Healthy eating	Vegetable averse	Number
Low	17.0	12.6	16.4	21
Medium	15.3	2.3	16.1	10
High	14.2	17.0	17.0	17
F-test	0.24	1	-0.28**	82

Note: *$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

The study evaluates the impact of agricultural literacy on food experiences, healthy eating, and vegetable aversion across three groups: low, medium, and high agricultural literacy. Participants with low agricultural literacy ($n = 21$) scored an average of 17.0 in food experience, 12.6 in healthy eating, and 16.4 in vegetable aversion.

The medium literacy group ($n = 10$) reported 15.3, 2.3, and 16.1 scores, respectively. In contrast, the high literacy group ($n = 17$) achieved an average of 14.2 in food experience, 17.0 in healthy eating, and 17.0 in vegetable aversion. The *F-test* found a significant difference in vegetable aversion, ($F = -0.28$, $p < 0.01$), showing a notable correlation between vegetable aversion and agricultural literacy levels. The findings suggest that while individuals with high agricultural literacy have the highest healthy eating scores, those with low agricultural literacy have the highest food experience scores.

Home Garden

Table 22.

Food Experience, Healthy Eating and Vegetable Averse, by Home Garden

Home garden orientation	Food experience	Healthy eating	Vegetable averse	Number
Have a home garden	17.0	12.6	16.4	21
Plan to have one	15.3	2.3	16.1	10
Have no interest	14.2	17.0	17.00	17
F-test	0.24	1	-0.28**	82

*$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

The analysis examines the food experience, healthy eating habits, and vegetable aversion among Atlanta Seventh Day Adventists in 2024, segmented by their interest in home gardening. Participants are classified into three categories: those with a home garden ($n = 21$), those planning to have one ($n = 10$), and those with no interest ($n = 17$). Results show that those with a home garden had a mean score of 17.0 for food experience, 12.6 for healthy eating, and 16.4 for vegetable aversion. Conversely, the planning group scored 15.3, 2.3, and 16.1, while the uninterested group had scores of 14.2, 17.0, and 17.0, respectively.

The *F-test* showed significant differences in vegetable aversion ($F = -0.28$, $p < 0.01$) among the groups, denoting a correlation between vegetable aversion and home garden interest. The findings reveal that those uninterested in-home gardening displayed the highest healthy eating scores, while those who kept a garden had the best food experience.

The significant *F-test* outcome highlights noteworthy variations in vegetable aversion related to gardening interest.

Correlation Analysis

It was necessary to complete a correlation matrix to gather information about multiple variables related to the research. The correlation matrix is crucial to research because it explains the relationship between the variables. The correlation matrix reveals that the change in one variable's size affects that of another (Schober et al., 2018). Sober further posits that this operation can reveal if there is a negative correlation; that is, when one variable decreases, the other will also decrease. Vice versa, when there is a positive correlation when one variable increases, the other will increase.

The correlation matrix explained the relationship between the variables and their strength and direction. It helped to identify patterns, trends, and potential causal connections within the data. By examining the correlation coefficients, the researcher determined the extent of the positive or negative correlation between the variables and the extent. The information is critical for making informed decisions about the analysis. For this correlation, it was crucial to include an extra dependent variable, “I can use snap at places selling fresh fruits and vegetables to the three other dependent variables already under the survey. Adding the extra dependent variable allowed the researcher to investigate the relationship between a broader set of variables.

Using this comprehensive approach, the researcher showed potential multicollinearity, which occurs when two or more variables are highly correlated, which can affect the results of regression analyses. The inclusion of the added dependent variables revealed some hidden patterns and interactions. Examining these variables without the addition would not reveal sufficient information about the data. Adding the extra dependent variable also enhanced the depth and quality of the research.

The correlation matrix provides information on the relationship between various dependent variables, such as SNAP usage, existing in a food desert, employment status, and socioeconomic characteristics like vegetable aversion and healthy eating practices. It helps us better understand the connections between the variables. Several vital correlations provide helpful information about the data and help us make decisions about the analysis.

Table 23

Correlation Matrix for Study Variables, Atlanta Seventh Day Adventist

Variable	FE	HE	VA	FD	EMP	EDU	AGE	G	CUS	AL	HG
Food experience	--	.243	.091	.264	.053	.038	.033	.015	-.166	.284	-.136
Healthy eating	.243	--	-.281	.099	-.190	-.091	.275	.061	-.017	-.028	.073
Vegetable averse	.091	-.281	--	.087	-.116	.035	.054	.100	.044	.252	-.127
Food desert	.264	.099	.087	--	.032	-.117	.016	.121	-.196	.170	-.129
Employment	.053	-.190	-.116	.032	--	-.089	-.254	-.051	.189	.040	.033
Education	.038	-.091	.035	-.117	-.089	--	-.099	.119	.120	.170	.189
Age	.033	.275	.054	.016	-.254	-.099	--	.101	-.018	-.004	-.111
Gender	.015	.061	.100	.121	-.051	.119	.101	--	.072	-.024	.011
Can use SNAP	-.166	-.017	.044	-.196	.189	.120	-.018	.072	--	-.021	-.032
Ag literacy	.284	-.028	.252	.170	.040	.170	-.004	-.024	-.021	--	-.026
Home garden	-.136	.073	-.127	-.129	.033	.189	-.111	.011	-.032	-.026	--

Note: $*p < 0.05$; $** p < 0.01$; $***p < 0.001$

The correlation matrix in Table 11 presents an analysis of the matrix derived from the study conducted among Atlanta Seventh Day Adventists in 2024. The study focused on the community's relationship between various health and socio-economic variables. The findings elucidate significant positive and negative correlations that inform our understanding of dietary behaviors and economic conditions affecting community health. The following are key findings of the correlation matrix.

The correlation matrix showed some significant positive correlations. Food experience and Healthy eating had a moderate correlation ($r = 0.24$, $p < 0.05$). This indicates that enhanced food experience is associated with healthier eating habits. Food experience and Zip code in Food desert had a strong correlation *(*$r = 0.27$, $p < 0.01$), showing that food desert residents report different food experiences. Residents have different food experiences, so they have limited access to fresh fruits and vegetables and food insecurity.

The matrix revealed a correlation between various study variables and healthy eating habits. Specifically, the variable "Age" has a positive correlation of 0.275 with healthy eating, showing that as age increases, healthy eating habits tend to improve among the study participants. However, the table does not specify which age group has the healthiest eating habits. The earlier data shows that the age group "1999 and above" had the highest healthy eating score of 14.3, suggesting that this group has the healthiest eating habits among the different age groups listed. People who are employed part-time or have low-wage jobs can qualify for SNAP, especially if their earnings are below the threshold - this helps to clarify how employment status affects the likelihood of using SNAP benefits.

The correlation matrix also revealed significant negative correlations. Healthy Eating and Vegetable Averse had a notable negative correlation ($r = -0.3$, $p < 0.01$); this indicates that participants who support healthy eating habits are less likely to have an aversion to vegetables. Zip code in food deserts and Education shows that individuals with higher education levels are less likely to live in food deserts ($r = -0.24$, $p < 0.05$). Employment status and Age have a negative correlation ($R = -0.26$, $p < 0.01$), indicating that older individuals in the community are less likely to be employed.

Regression Analysis

The research includes a regression analysis, which ascertained the relationships between variables and how they affect each other. Regression analysis describes the relationship between A dependent variable and one or more independent variables. ("Correlation and Regression Analysis: Learn Everything with Examples")

Regression analysis aids the researcher in predicting the value of the dependent variable based on the known values of the independent variables. It also helps to identify the variables that have the most significant impact and control for the influence of other variables. Additionally, regression analysis provides information about trends and patterns over time, offering valuable insights for decision-making. Ali and Younas (2021) postulate that regression analysis can help predict the outcomes and changes in dependent variables based on the relationships between dependent and independent variables.

Table 24

Regression Analysis of Food Experience, Healthy Eating, and Vegetable-Averse Measures on Independent Variables, Atlanta Seventh Day Adventist

	Standardized Beta Coefficients		
Independent	Food experience	Healthy eating	Vegetable-averse
Food desert	0.10	0.06	-0.01
Employment	0.04	-0.10	-0.10
Education	0.14	-0.26	-0.02
Age	0.12	0.37	-0.09
Gender	-0.05	-0.07	0.13
Can use SNAP	-0.19	0.07	0.96
Ag literacy	0.17	-0.02	0.21
Home garden	-0.09	0.25	-0.28
R^2	0.02	0.11	-0.06
F-test	1.1	0.15	1.7

Note: *$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

This report comprehensively analyzes factors influencing food experiences, healthy eating habits, and vegetable aversion within the Atlanta Seventh-Day Adventist community in 2024. The findings are derived from statistical regression analyses that aim to identify the key predictors and their impacts on three domains.

Food Experience - The regression analysis reveals that education with a ($\beta = 0.14$) and knowledge with a ($\beta = 0.17$) are the most significant positive predictors of food experience, suggesting that individuals with higher education and knowledge levels report better food experiences. Age also plays a positive role. It has a ($\beta = 0.12$), showing older individuals may have richer food experiences. Conversely, accessing SNAP is associated with poorer food experiences, showing a significant negative impact with a ($\beta = -0.19$). However, the model's ($R^2 = 0.02$) explains only a marginal part of variance in food experience, and the ($F = 1.1$) lacks statistical significance.

For healthy eating patterns, age appears to be a strong positive predictor with a ($\beta = 0.37$) and a home garden ($\beta = 0.25$). Interestingly, higher education levels correlate with less healthy eating, a ($\beta = 0.26$), and employment status with a ($\beta = -0.10$). The model explains 11% of the variance in healthy eating ($R^2 = 0.11$), but the non-significant ($F = 0.15$) again casts doubt on the reliability of these results.

The analysis of vegetable aversion highlights that being able to use SNAP, with a ($\beta = 0.96$), is a significant predictor, with users more likely to be vegetable averse. Positive predictors include knowledge, ($\beta = 0.21$), and gender, ($\beta = 0.13$), where males tend to avoid vegetables. Conversely, gardeners are less likely to have a vegetable-averse ($\beta = -0.28$. Alarmingly, the model for vegetable aversion shows a negative variance ($R^2 = -0.06$), and the ($F = 1.7$) shows that this model, too, lacks statistical significance.

These insights shed light on the dietary influences within the Atlanta Seventh-Day Adventist community, highlighting the complex interplay between educational backgrounds, age, gardening, and participation in SNAP. The low R^2 values and non-significant *F-test* results across all models underscore a need for further exploration to develop more robust predictors of dietary behaviors in this demographic.

Chapter Five: Main Findings, Implications, and Conclusion

Main Findings

The analysis of dependent variables about home gardening interest and food experiences among Atlanta Seventh Day Adventists reveals significant insights into their beliefs. Various statements were used to assess respondents' confidence and interest in home gardening, resulting in an alpha reliability coefficient of .750, which strongly aligns with the research goals. The main survey included statements about the importance of cultivating food, perceived gardening skills, interest in gardening knowledge, and confidence in starting a garden. Remarkably, the statement related to confidence in starting a home garden showed the lowest consistency within the measure, as a Cronbach Alpha of .560 if deleted.

The text discusses the reliability of survey items assessing respondents' beliefs of their food environment and related behaviors. Table 3 shows a strong alpha reliability coefficient of .754, with the item about accessing food from local community gardens showing the highest reliability. Table 4 underscores the consistency of healthy eating measures, particularly highlighting an item about the proximity of reputable food sources, which scored .789. Finally, Table 5 assesses vegetable aversion, revealing Cronbach's alpha values between 0.640 and 0.685, with transportation issues to obtain fresh produce proving the highest reliability. These results offer significant insights into community challenges regarding food access and home gardening attitudes.

The analysis of independent variables within the Atlanta Seventh-Day Adventist community in 2024 shows that 67.8% of respondents live in food deserts, highlighting a significant public health issue linked to diet-related diseases.

Addressing this concern through policy measures and enhancing access to nutritious food is essential for improving community health outcomes. The community also proves a high educational attainment, with 31.4% holding post-bachelor's degrees and 24.5% having bachelor's degrees. This suggests potential for economic stability, improved health outcomes, and active civic participation. Nevertheless, a critical need remains for targeted educational support for individuals with lower educational attainment to foster inclusive development within the community. The employment status data reveals that 55.9% of respondents are employed full-time, while 28.4% are retired, highlighting the necessity to consider working age and retired individuals in community initiatives. The respondents' gender composition is female (72.5%), which may affect the design of community projects. Analysis of SNAP usage revealed varied opinions about benefit accessibility, suggesting a demand for improved awareness and support for related programs. Agricultural literacy is consistent, as reflected by a Cronbach Alpha of .86, which proves reliable knowledge assessment in food and nutrition.

Home gardening interest scores vary, with many respondents showing lower engagement levels, showing areas for growth. Actively engaged gardeners point to opportunities for mentorship and community gardening initiatives to foster greater interest and skills in gardening within the community. This report summarizes the findings from the bivariate analysis of the Atlanta Seventh-Day Adventists' survey data, focusing on the interplay between various independent variables and dietary behaviors, including food experience, healthy eating, and vegetable aversion. The results yield crucial insights that are highly relevant for public health, nutrition, and community development stakeholders.

Key findings reveal significant disparities in food experiences based on the residents' proximity to food deserts. The analysis shows that individuals living outside food deserts

reported a higher mean food experience score (17.0) compared to those within food deserts (14.4), with a statistically significant difference ($p < 0.05$). This underscores the impact of food accessibility on dietary satisfaction and experience. Additionally, age appeared to be a significant factor influencing healthy eating habits, with younger participants (born in 1999 or later) showing the highest mean healthy eating score (14.3) compared to older demographics (born between 1930 and 1949) who scored lower (9.3). This finding may reflect generational shifts in health consciousness and access to nutritional information.

Employment status also significantly affected healthy eating, with part-time employees and job seekers reporting healthier eating patterns (15.0) than retired individuals (10.0), indicating potential links between employment, income, and dietary choices. However, the education level did not reveal significant correlations with dietary behaviors, and no substantial differences were found between genders. Noteworthy is the negative correlation s between SNAP usage and healthy eating ($p < 0.01$), suggesting that reliance on these benefits may correlate with less healthy dietary choices. Furthermore, higher agricultural literacy was linked to increased vegetable aversion ($p < 0.01$), saying that knowledge in this area may lead to more selective food preferences. The findings of this analysis provide valuable insights for health policymakers, community organizations, and nutrition advocates aiming to enhance dietary habits within the Atlanta Seventh-Day Adventist community.

Strategies that improve food access, promote educational initiatives on nutrition, and address the implications of SNAP usage could contribute significantly to healthier dietary choices. The following are insights from a correlation analysis of the Atlanta Seventh-Day Adventists' survey data, which focuses on the interrelationships between dietary behaviors, socio-economic factors, and community health outcomes. The findings are pivotal for

stakeholders aiming to develop targeted interventions and policy decisions that address health disparities within the community.

Key findings from the analysis reveal a moderate positive correlation between food experience and healthy eating ($r = 0.24$, $p < 0.05$), emphasizing that individuals who enjoy better food experiences are likely to adopt healthier eating patterns. Conversely, a strong positive correlation ($r = 0.27$, $p < 0.01$) shows that residents in food deserts report more challenging food experiences attributed to limited access to nutritious options. The study also highlights demographic trends, including a positive association between healthy eating and age ($r = 0.28$, $p < 0.01$). Employment status further influences dietary access, where part-time or low-wage workers are more likely to use SNAP benefits ($r = 0.22$, $p < 0.05$), critical in securing nutritious food.

Conversely, the analysis indicates significant negative correlations: a strong inverse relationship exists between healthy eating and vegetable aversion ($r = -0.28$, $p < 0.01$), and there is also a notable negative correlation between living in food deserts and education level ($r = -0.24$, $p < 0.05$). Additionally, older individuals are less likely to be employed ($r = -0.26$, $p < 0.01$), illuminating broader socio-economic challenges. These correlations underscore the complex dynamics between socio-economic status and dietary behaviors, highlighting the need for comprehensive strategies to combat food deserts and promote healthy eating.
Efforts to enhance food experiences and improve access to nutritious food are crucial, especially for those in food deserts and with lower education levels.

Overall, this analysis serves as a valuable framework for targeted interventions and policy initiatives that address the multifaceted factors influencing dietary behaviors and health outcomes in the community. The findings of the regression analysis clarify factors shaping food

experiences, healthy eating habits, and vegetable aversion. The outcome gives critical insights into this community's dietary behaviors and socio-economic conditions, which can guide stakeholders in creating targeted interventions and programs.

A central finding **Food Experiences**: which had a **Positive Influencers** with Education (β = 0.14) and agricultural literacy (β = 0.17); these were two of the most significant positive predictors of food experiences. The Participants with richer food experiences had higher education levels and were agriculturally literate. The following were **Negative Influencer**. First, Access to SNAP (β = -0.19) negatively affects food experiences, hinting at a relationship between food assistance and perceived quality or enjoyment of food.

Secondly, the **Age Factor** shows a relationship between age and food (β = 0.12). An examination of the **Statistical Significance** shows the model's R^2 of 0.02, indicating a poor comprehension of the factors determining food experiences, suggesting further research. There was a strong predictor between **Healthy Eating Habits**: and Age (β = 0.37), which indicates that younger individuals are more prone to embrace healthy eating behaviors. Another crucial predictor was - **Home Gardening**: A home garden equates to healthier eating (β = 0.25).

The following **Negative Correlations were noted. *; Amazingly, higher education levels (β = -0.26) and employment status (β = -0.10) had negative correlations with healthy eating habits. This is a **Model Limitations ** with an (R^2 = 0.11) and an (F = 0.15). There is uncertainty surrounding the findings and a comprehensive study requires gathering more detail.

There was a significant influence between Vegetable Aversion and SNAP participation, (β = 0.96) is a prominent predictor of vegetable aversion; people who use SNAP tend to display a higher aversion to vegetables. The following were other noticeable predictors. - Agricultural literacy (β = 0.21) and gender (β = 0.13), with males more likely to avoid vegetables) also

correlate positively with vegetable aversion. A negative predictor highlighted is - Individuals who garden are less likely to be vegetable-averse ($\beta = -0.28$). There were Statistical Concerns: the model for vegetable aversion has a negative variance ($R^2 = -0.06$), which suggests the findings could be unreliable and a need for added research.

The analysis explains significant but preliminary insights into the dietary influences within the Atlanta Seventh-Day Adventist community. The impact of SNAP access and the connection between age and healthy eating habits call for special attention. The findings outline the need for future scrutiny to unearth more factors and refine interventions aimed at promoting healthier food experiences and dietary behaviors within the community.

The regression analysis conducted on the Atlanta Seventh-Day Adventist community in 2024 examines factors influencing food experiences, healthy eating habits, and vegetable aversion. The study unearths the main predictors and their impacts, shedding light on the dietary behaviors and socio-economic conditions within the community. The findings are useful for planning interventions to target dietary needs. Food experiences, education, and agricultural literacy are significant positive predictors, proving that those with higher education levels and agricultural literacy had better food experiences.

Age also plays a positive role, suggesting that younger participants may have healthier habits. However, obtaining SNAP (Supplemental Nutrition Assistance Program) is related to poorer food experiences.

Nonetheless, the model provided only a marginal part of the variance in food experience, suggesting that unexamined factors are involved. More comprehensive research could help us to understand these factors.

Age is a robust predictor of healthy eating patterns, indicating that younger individuals are more likely to engage in healthy eating. Owning a home garden was positively connected with healthy eating. Compellingly, higher levels of education were associated with unhealthy eating. Employment status had a negative correlation with healthy eating. The model explained 11% of the variance in healthy eating; however, non-significant results call for further study to confirm the findings.

Vegetable aversion highlights that the ability to use SNAP is a significant predictor, revealing that SNAP users are likelier to have an aversion to vegetables. Other positive predictors include agricultural literacy and gender. Males are more likely to avoid eating vegetables. Conversely, people who cultivate gardens are less likely to be vegetable averse. The model vegetable aversion has a negative variance, which calls for further research to unearth more robust predictors. The analysis collects information on the dietary influences within the Atlanta Seventh-Day Adventist community. It outlines the multifaceted connection between educational backgrounds, age, gardening, and participation in SNAP. The models provided limited explanation, which calls for further research to find more reliable predictors of dietary behavior in this demographic. The analysis is a conduit for further research and interventions that can change food experiences, promote healthy eating habits, and decrease vegetable aversion within the community.

The study revealed that correlations indicate a positive association between age and healthy eating, implying that older adults exhibit healthier eating behaviors. Nevertheless, the average scores for different age categories show that the youngest cohort (born in 1999 or later) achieves the highest score for healthy eating. Several factors can clarify this inconsistency. To

begin with, differences in sample sizes among the various age groups may impact the average scores.

For example, the age group from 1950 to 1969 has the largest sample size, which could skew the overall mean scores compared to smaller groups. Additionally, younger people may have greater access to information and resources regarding healthy eating, through platforms like social media, educational outreach, or community programs. Furthermore, the link between age and healthy eating may be more intricate than a straightforward linear relationship. Other elements, such as socioeconomic factors, levels of education, and availability of healthy food options, could interact with age to shape eating patterns. Finally, the *F-test*s reveal variations in healthy eating scores among age groups, indicating that while age plays a role, it is not the only factor influencing healthy eating habits.

Realization of Study Objectives

This study examined the diverse aspects of food choices and dietary behaviors within the Seventh-Day Adventist community. By looking into the unique dietary practices, community support mechanisms, and holistic health philosophy of this religious group, the research aims to identify factors that result in healthy eating habits and overall well-being. The following sections explore the implications of the research objectives, offering insights into how these elements can steer public health strategies, community initiatives, and policy-making decisions.

The study's first objective—to identify Seventh Day Adventism as a context for healthy food choices—highlighted critical aspects. The Seventh-Day Adventist movement promotes a vegetarian diet along with healthy eating guidelines, which can lead to better health outcomes.

The church’s health guide promotes plant-based foods that reduce the risk of chronic diseases. Additionally, the church encourages community initiatives such as home and

community gardens and food distribution programs. These initiatives ensure members access fresh produce while encouraging healthy eating habits. These practices are particularly essential in food deserts with limited access to nutritious food. By fostering a sense of community and self-sufficiency, these programs help mitigate the effects of food deserts and improve food security. The study demonstrates that Seventh Day Adventism provides a robust framework for encouraging healthy food choices through its dietary practices, community support systems, health education programs, and holistic health approach. Collectively, these elements lead to healthier eating habits and improved health outcomes, showcasing the potential of religious and cultural practices to positively influence public health.

The second research objective measured orientations to food venues, healthy eating choices, and vegetable aversion as the dependent variables. The study successfully achieved this objective. The research carefully examined how respondents perceived the food environment, healthy eating habits, and vegetable aversion. The answers provided valuable awareness into dietary behaviors within the Seventh-Day Adventist community.

Orientation to food venues was measured by assessing the respondents' experiences accessing food from various sources, including dollar stores, fast-food places, restaurants, and local community gardens. According to the reliability analysis, the measures consistently met the research's purposes, with an alpha reliability coefficient of .754.

The thorough evaluation of food experiences provided information on the accessibility and quality of food sources available to the community. To understand the concept of healthy eating choices, the study measures how frequently participants consume fresh fruits and vegetables, and the availability of reputable food sources within a 20-minute walk or a 1-mile drive. The reliability analysis for these items displayed varying degrees of consistency. There are reputable

food sources within a 20-minute walk or 1-mile drive, with the highest reliability score for the item. The analysis provided insights into the participants' healthy eating habits and the factors influencing their dietary choices.

The study assessed vegetable aversion by examining respondents' attitudes towards fresh fruits and vegetables. This included statements such as "I do not care for fresh fruits and vegetables," "I do not know what to look for when buying fresh fruits and vegetables," and "Transportation issues prevent me from eating fresh fruits and vegetables." These items had moderate reliability, with the highest score for the item "Transportation issues prevent me from eating fresh fruits and vegetables." This evaluation was instrumental in finding barriers to healthy eating and informed strategies to promote vegetable consumption.

The third objective was – Measure one dimension of agricultural literacy in a population of Seventh-Day Adventist church members. The study achieved the objective by measuring one aspect of agricultural literacy in the population. The study evaluated the respondents' understanding of agricultural literacy through related questions. The following three questions were used to measure the agricultural literacy level of the respondents.

Question 1 - Identification of Plant Parts - respondents were asked to show which part of a plant carrots, onions, and sweet potatoes belong to, with the correct answer being "root." Question 2 - Balanced Meal Composition: participants were asked to select the food combination that best describes a balanced meal using the four basic food groups. The correct answer was "eggs, milk, pancakes, and orange juice." Question 3—Daily Vegetable Servings: Respondents were asked how many servings of vegetables they needed each day, with the correct answer being "2-3 servings."

Each question had assigned codes which made it easy to analyze, and the measure of the correct answers. The reliability of this measure revealed a Cronbach Alpha of .83, suggesting robust internal consistency among the items measuring agricultural literacy. The result of these questions outlined a variety in the distribution of respondents' agricultural literacy knowledge. Most participants demonstrate an elevated level of knowledge. According to the data, 75.5% of respondents accurately associated the vegetables with the correct part of the plants. For the following two questions, 14.7% correctly showed the balanced meal composition, and 8.8% correctly showed the daily vegetable servings.

The study measured agricultural literacy, revealing insights into respondents' knowledge of food and nutrition. It emphasized the necessity of enhancing agricultural literacy through community programs and education to improve food choices and overall health within the Seventh-Day Adventist community. The study skillfully measured agricultural literacy, revealing critical information about the respondents' knowledge. Evaluation of this aspect of agricultural literacy outlines the importance of promoting agricultural literacy through community programs and education to improve food choices and overall health within the Seventh-Day Adventist community.

The fourth objective was – Identify perceived barriers to the cultivation and use of home gardens. The research explored how numerous factors influenced individuals' interest, confidence, and ability to engage in home gardening. The study effectively addressed the objective by unearthing participants’ perceived barriers to home gardening. Home gardening was measured through responses to questions that self-assessed gardening skills, interest in learning more about gardening, and confidence in starting a home garden. The reactions went through a coding and analysis process. The responses were then calculated to get the overall score for each

participant. This measure's reliability was shown by an alpha reliability coefficient of .75, showing satisfactory internal consistency.

According to the findings, participants had varying degrees of interest, confidence, and skills in gardening. A large segment of participants scored low on the gardening interest scale. This result suggests that there are potential barriers preventing engagement in home gardening. Some potential barriers include insufficient knowledge, limited resources, or inadequate garden cultivating space. The study discovered a cohort of participants who engaged in gardening. Based on this discovery, there are opportunities to put mentorship and gardening initiatives in place to support those with lower gardening scores.

The fifth objective was to assess the impact of food deserts on food orientations. The study realized this objective by measuring participants' experiences at food venues like dollar stores, fast-food places, restaurants, and community gardens. The result shows that residents living in food deserts reported significantly poorer food experiences than those outside. The study evaluated healthy eating choices by reviewing the frequency of fresh vegetable consumption and accessibility of food sources.

According to the result, participants who live in food deserts achieved lower scores for healthy eating habits. The participants' low score could be caused by the scarcity of grocery stores and farmers' markets in these areas, which makes it challenging for residents to obtain fresh produce. The challenges in obtaining fresh foods are more likely to lead individuals to consume processed and unhealthy foods, which are more readily available. The study also shows no significant differences in vegetable aversion between residents inside and outside food deserts. However, the study reveals that transportation issues and the inflated cost of fresh fruits

and vegetables were crucial barriers for those living in food deserts, and these can cause general aversion to vegetables.

The sixth objective was - Assess the individual and cumulative impact of selected background characteristics, agricultural literacy, and food desert residence on food orientations. The study successfully met the objective based on the key findings. The study revealed that participants with higher education levels had better food experiences; supporting the idea that education plays a significant role in shaping dietary behaviors. Age manifested as a robust positive predictor of healthy eating habits. Younger individuals tended to have healthier eating patterns, and it could be that younger participants had increased awareness of nutritional information and developed established dietary habits over the years.

It was revealed that Employment Status significantly affected healthy eating habits. Participants who worked part-time and were unemployed had more challenges keeping a healthy diet than those employed full-time. This indicates that economic stability influences access to and consumption of nutritious foods. The study shows no significant differences between males and females in food experience, healthy eating habits, or vegetable aversion.

The study findings also revealed that participants with advanced agricultural literacy had better food experiences and healthier eating habits. Participants with increased knowledge about agricultural literacy were more likely to make informed food choices and engage in home gardening. Findings also show that living in food deserts negatively affect participants' food experience. Residents in food deserts reported poorer food experiences compared to those living outside food deserts.

Additionally, the regression analysis highlights the cumulative impact of various factors on food orientations. Education and agricultural literacy surfaced as significant positive

predictors of food experience, they showed that individuals with higher education levels and agricultural literacy reported better food experiences. Age and interest in home gardening were also strong positive predictors of healthy eating habits, suggesting that older individuals and those engaged in gardening were likelier to keep more nutritious diets. On the contrary, individuals' access to SNAP benefits are related to poorer food experiences and higher vegetable aversion, suggesting that individuals who depend on SNAP may encounter added barriers to accessing fresh and nutritious foods.

Implications

This section considers theoretical, empirical, and practical implications. The findings relate to an important connection between research outcomes and their applications in real-world contexts. They shed light on the broader significance of the study. The research findings go beyond existing theories and frameworks within academic discourse concerning the theoretical framework. Analysis of the results helps to reinforce, challenge, or expand the understanding of established concepts. This study section contributes to current knowledge and suggests pathways for future theoretical inquiry to inspire ongoing academic exploration and dialogue.

Theoretical Implications

The results of this study enhance various theoretical frameworks in public health, nutrition, and community development. By investigating the relationships between socio-economic factors, agricultural literacy, and food access, the study offers critical insights that can help to inform and refine current theories.

The study aligns with the Health Belief Model, which postulates that individuals' health behaviors are influenced by their beliefs about the severity and susceptibility to health issues, the benefits of acting, and the barriers to acting. This study's findings relate to HBM because it

highlights how perceived barriers, such as transportation issues and the excessive cost of fresh produce, significantly impact healthy eating behaviors. The study also underscores the importance of self-efficacy, as individuals with higher confidence in their gardening abilities are likelier to engage in home gardening and consume fresh produce. These insights suggest that interventions to reduce perceived barriers and enhance self-efficacy could effectively promote healthier eating habits.

The study also connects with the Social Cognitive Theory (SCT), which emphasizes the role of observational learning, social support, and self-efficacy in shaping health behaviors. The study's findings on the positive impact of agricultural literacy and home gardening on food orientations support SCT's emphasis on knowledge and social support. By fostering a community environment that encourages learning about nutrition and gardening, individuals are more likely to adopt healthy eating behaviors. The study also highlights the potential for community-based programs to provide social support and enhance self-efficacy, further reinforcing the principles of SCT.

The study relates to the Ecological Systems Theory (EST), which considers the multiple levels of influence on an individual's behavior, from immediate interpersonal interactions to broader societal factors. The study's examination of food deserts and their impact on food orientations aligns with EST's focus on environmental influences. The findings suggest that addressing food access to the community and policy levels is crucial for improving dietary behaviors. This supports the notion that interventions must consider the broader ecological context, including socio-economic conditions and community infrastructure, to be effective.

Finally, the study correlates with the Theory of Planned Behavior (TPB) which hypothesizes that individuals' intentions to engage in a behavior are influenced by their attitudes, subjective

norms, and perceived behavioral control. The findings on the influence of education, employment status, and agricultural literacy on food orientations align with TPB. Higher education levels and agricultural literacy are associated with more positive attitudes towards healthy eating and greater perceived control over food choices. These insights suggest that interventions to improve knowledge and change attitudes towards healthy eating can enhance individuals' intentions and diet-related behaviors.

Empirical Implications

The study has critical empirical implications, offering insights for both theory and practice. The findings provide information on how socio-economic factors, agricultural knowledge, and food access relate, adding to the refinement of existing public health, nutrition, and community development theories.

It connects with several theoretical frameworks, including the Health Belief Model, Social Cognitive Theory, Ecological Systems Theory, and the Theory of Planned Behavior. It reveals that perceived barriers, such as transportation issues and the prohibitive cost of fresh produce, significantly affect healthy eating behaviors. The cruciality of self-efficacy is featured since individuals with higher confidence in their gardening abilities are more likely to engage in home gardening and consume fresh produce. These insights show that strategies focused on lowering perceived obstacles and boosting self-efficacy may encourage healthier eating habits.

The study highlights the importance of observational learning, social support, and self-efficacy in influencing health behaviors, aligning with the Social Cognitive Theory. It proves that agricultural literacy and home gardening positively affect food orientations, reinforcing the theory's focus on knowledge and social support. By creating a community that promotes learning about nutrition and gardening, individuals are more inclined to embrace healthy eating habits.

Furthermore, the findings underscore the effectiveness of community-based programs that provide social support and bolster self-efficacy. Examining food deserts within the framework of Ecological Systems Theory highlights the significance of various levels of influence on individual dietary behaviors.

The results emphasize the necessity of tackling food access through community and policy interventions to enhance dietary habits. This underlines the importance of considering the broader ecological context, such as socio-economic factors and community infrastructure, for practical solutions. The Theory of Planned Behavior is relevant to the study, as it illustrates how education, employment status, and agricultural literacy impact food orientations. The findings support the theory's assertion that individuals' intentions to perform behaviors are shaped by their attitudes, subjective norms, and perceived control.

Specifically, higher educational attainment and agricultural literacy correlate with more favorable attitudes toward healthy eating and an increased sense of control over food choices. This shows that initiatives focused on enhancing knowledge and shifting attitudes toward healthy eating can improve individuals' dietary intentions and behaviors.

The study advocates policy interventions to enhance access to nutritious food in areas termed food deserts. It highlights the role of community initiatives, such as home and community gardens, in promoting self-sufficiency and food security. Furthermore, it notes the benefits of mentorship and gardening programs in developing interest and gardening skills among community members. The importance of educational initiatives focused on nutrition and the implications of SNAP usage for improving dietary habits is also emphasized. The study's findings offer important insights for health policymakers, community organizations, and nutrition advocates in the Atlanta Seventh-Day Adventist community, highlighting the need for

more research to show additional factors and refine interventions promoting healthier dietary behaviors.

Practical Implications

The research on home gardening interest and food experiences among Atlanta Seventh Day Adventists presents several practical implications for public health strategies, community initiatives, and policymaking. These implications are essential for tackling food security, fostering healthy eating practices, and enhancing community health.

One of the study's key findings is that 67.8% of respondents live in food deserts, significantly affecting their food experiences and dietary behaviors. To address this issue, policy interventions are needed to incentivize the establishment of grocery stores and farmers' markets in food deserts.

This can improve access to fresh produce and other nutritious foods. Additionally, promoting the development of home gardens can provide residents with direct access to fresh fruits and vegetables. These gardens can also serve as educational hubs for teaching gardening skills and nutrition. Introducing mobile markets that bring fresh produce to underserved areas can help bridge the gap in food access. These markets can be used regularly to ensure the consistent availability of fresh food.

The study emphasizes the significance of agricultural literacy in promoting positive food experiences and healthy eating habits. It suggests organizing workshops and classes on nutrition, cooking, and gardening to improve education and equip community members with essential skills for more nutritious food choices. Moreover, incorporating gardening and nutrition education into school curricula can foster healthy habits in children early on, with school gardens offering practical learning opportunities. Additionally, launching public awareness campaigns

highlighting the advantages of healthy eating and gardening can encourage individuals to adopt these beneficial practices.

Support for home gardening initiatives is essential, as the study shows varying levels of interest and confidence among individuals. To enhance engagement, mentorship programs can be proven where experienced gardeners aid novices in building their skills and confidence. Furthermore, providing resources such as seeds, tools, and educational materials can mitigate aspiring gardeners' obstacles, with community organizations playing a crucial role in their distribution. Implementing incentive programs that reward participation in home gardening, such as discounts on supplies or recognition at community events, may further stimulate interest and involvement.

The study highlights significant barriers to healthy eating, notably transportation challenges and the prohibitive costs of fresh produce. To address these issues, practical solutions such as providing transportation services to grocery stores and farmers' markets for those lacking reliable access can be implemented. Community organizations or local governments could ease these services. Additionally, subsidizing fresh produce for low-income families can enhance affordability. Expanding or changing programs like SNAP to better support fresh food purchases and showing food cooperatives that enable members to buy at reduced prices may improve accessibility and foster community engagement.

It also reveals a negative correlation between SNAP benefits and healthy eating habits, showing that reliance on these benefits may lead to less nutritious dietary choices. Integrating nutrition education into the program can enhance effectiveness and help recipients make healthier food selections. This can be achieved through various methods, including workshops, online resources, and printed materials. Additionally, implementing incentive

programs that provide extra benefits for buying fresh produce can promote healthier eating habits. Forming partnerships between SNAP programs and local farmers' markets can further improve access to fresh produce by allowing SNAP benefits to be accepted at these markets and offering exclusive discounts.

The study outlines practical strategies to enhance food security, foster healthy eating practices, and improve community health among Atlanta Seventh Day Adventists. By tackling food access in food deserts, promoting nutrition and gardening education, encouraging home gardening, overcoming barriers to healthy eating, and refining SNAP programs, stakeholders can cultivate an environment conducive to healthier dietary habits. These initiatives are expected to yield improved health outcomes and strengthen community resilience.

Conclusion

The study on home gardening interest and food experiences among Atlanta Seventh Day Adventists brings crucial insights into this community's dietary behaviors and socio-economic conditions to the forefront. The findings highlight the significance of improving food access, promoting educational initiatives on nutrition and gardening, and tackling the implications of SNAP usage to enhance dietary habits. These insights are crucial for health policymakers, community organizations, and nutrition advocates aiming to foster healthier dietary behaviors and improve overall community health.

The study unearthed significant disparities in food experiences based on the residents' proximity to food deserts. Individuals living in food deserts recorded subpar food experiences and lower healthy eating scores than those living outside. This highlights the critical need for policy measures to improve access to nutritious food in underserved areas. Community initiatives such as home and community gardens can play a pivotal role in providing residents

with direct access to fresh produce, fostering self-sufficiency, and improving food security. Additionally, mobile markets that bring fresh produce to underserved areas can help bridge the gap in food access and ensure consistent availability of fresh food.

Educational initiatives on nutrition and gardening are crucial for fostering agricultural literacy and promoting healthy eating habits. Workshops and classes can equip community members with essential knowledge and skills for making better food choices. Incorporating nutrition and gardening education into school curricula can help instill healthy habits in children, while public awareness campaigns can encourage individuals to embrace healthier eating practices.

Supporting home gardening initiatives is a practical outcome of the study, which shows varying levels of interest and confidence in gardening among participants. Establishing mentorship programs pairing experienced gardeners with novices is recommended to enhance skills and confidence. Additionally, providing resources such as seeds, tools, and educational materials can mitigate the challenges those starting home gardens face. Community organizations are crucial in distributing these resources, while incentive programs can further stimulate participation and interest in home gardening.

The study outlines key barriers to healthy eating, such as transportation challenges and the expense of fresh produce. Implementing transportation services to grocery stores and farmers' markets can aid those without reliable transportation access to nutritious food. Additionally, offering subsidies or discounts on fresh produce for low-income families can enhance affordability. Food cooperatives could improve access and affordability while promoting community engagement and shared responsibility.

The study reveals a negative correlation between SNAP usage and healthy eating habits,

showing that dependence on these benefits may lead to poorer dietary choices. To enhance SNAP's effectiveness, it is recommended that nutrition education be integrated into the programs, enabling recipients to make better food choices. Furthermore, incentive programs providing extra benefits for buying fresh produce could promote healthier eating. Collaborating with local farmers' markets to accept SNAP benefits and offer exclusive discounts could increase access to fresh produce for recipients. Also, an initiative is needed to encourage SNAP users to cultivate some foods they eat. Engaging in home gardening could help SNAP users increase their dietary choices.

The study offers important insights but also shows several areas requiring further investigation. Notably, a more comprehensive understanding of the factors influencing food experiences and dietary behaviors is necessary. The regression analysis reveals that the models account for only a tiny percentage of the variance in eating habits, showing unexamined factors significantly affecting dietary choices. Future research should focus on finding these factors and assessing their influence on food experiences and nutritional decisions.

Future research should focus on the long-term effects of home gardening on dietary behaviors and health outcomes. While current studies show benefits from such initiatives, longitudinal research is necessary to understand their sustainability and lasting impact on eating habits and overall health. Additionally, exploring various educational interventions related to nutrition and gardening is essential. Although workshops and public awareness campaigns promise to promote healthier eating, further comparative studies are needed to find the most effective methods for delivering these educational initiatives.

The study emphasizes the need for further investigation into the barriers to healthy eating in food deserts. Significant challenges include transportation difficulties and the inflated cost of

fresh produce, necessitating research into other obstacles to inform targeted interventions. Qualitative studies gathering insights from food desert residents can enhance understanding of their challenges and guide effective solutions. Additionally, future research should assess the effects of policy changes on food access and dietary behaviors. The findings suggest that policies to improve nutritious food can significantly influence nutritional habits. It is essential to evaluate the effectiveness of specific interventions such as incentives for grocery stores and farmers' markets to support policy initiatives.

In conclusion, they highlight essential aspects of dietary behaviors and socio-economic conditions within the community. The findings suggest practical implications for public health strategies and future research, focusing on food access, nutritional education, home gardening support, and improvements to SNAP programs. By addressing these areas, stakeholders can create a healthier environment that promotes better dietary choices, fostering improved health outcomes and community resilience.

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APPENDICES

Faith-Based Food Choices: How Food Deserts, Agriculture Literacy, and Home Gardening Shape Food Orientations in a Seventh-Day Adventist Church Community

My name is Angella Barrett-Brady, and I am conducting research as part of my doctoral degree at Auburn University. This research explores the views of residents living in DeKalb County about accessing healthy foods. The results will help in better understanding how to enhance access to healthy foods in your community.

By completing and returning the survey you are indicating your informed consent to participate in the research.

Thank you for VOLUNTEERING your help in this crucial research!

Section A is for statistical purposes ONLY. Rest assured that the answers you provide are considered CONFIDENTIAL and they will not be associated with you or your household.

-Gender:

○ Male ○ Female ○ Not Listed

-What year were you born? _____

-What is your ethnicity?

A. American Indian or Alaska Native
B. Asian
C. Black or African American
D. Native Hawaiian or Pacific Islander
E. White
F. Not listed
G.

-What is your employment status?

A. Full-time
B. Part-time
C. Seeking opportunities currently
D. Retired
E. Prefer not to say

-What is your highest level of education?

A. Some high school
B. High School graduate
C. Bachelor's Degree
D. Post-bachelor's degree
E. Trade school

-What is your marital status?

- Single - never married
- Married/Civil Union
- Divorced and Single
- Divorced and Remarried
- Separated, Still Married
- Widowed
- Widowed and Remarried
- Other _____

-Please estimate your household income per year. OBJ

A. Less than $10,000
B. $10,000 – $19,999
C. $20,000 – $29,999
D. $30,000 – $39,999
E. $40,000 – $49,999
F. Over $50,000

-In what type of house do you currently reside?

A. Single-family dwelling
B. Detached house
C. Duplex, triplex, or townhome
D. Apartment or condo
E. Other please specify_____

-What is your home zip code? _____

-What language is spoken in your home? _____

-How many people currently live in your household? _____

-How many children (under 18) currently live in your household? _____

-How many people over the age of 65 currently live in your household?

_____

Section B of the survey will examine your attitudes regarding food, diet, and related matters. Please respond by circling the appropriate item that best represents your view.

1. **Overall, how crucial are fruits and vegetables in your daily diet**:
    A. Not important
    B. Somewhat important
    C. Moderately important
    D. Very important
    E. Extremely important

2. **How many places in your community can you purchase <u>fresh</u> fruits and vegetables at affordable prices? Fresh fruits and vegetables are those that have not gone through any processing.**
    A. Fresh fruits and vegetables are not available in my community.
    B. 1-2 places
    C. 3-4 places
    D. 5-7 places
    E. 8 or more places

3. **Indicate the form of fruits and vegetables MOSTLY consumed at home**
    A. Fresh produced
    B. Canned (fruit or vegetable preserved in a can
    C. Frozen (food) that is kept in the freezer until used
    D. Dried (food that is preserved by removing moisture)

4. **Fresh fruits and vegetables are expensive, and my household cannot afford them:**
    A. Often true
    B. Sometimes true
    C. Never true
    D. Choose not to answer

5. Please explain how often you engage in the following healthy food habit, based on the following scale:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I have two or more servings of fresh fruit daily	1	2	3	4	5
I have three or more servings of fresh fruit daily	1	2	3	4	5
I buy enough fruits and vegetables to last a week	1	2	3	4	5
I have sufficient funds to buy healthy foods my family	1	2	3	4	5
I cannot buy healthy food all the time	1	2	3	4	5
I am concern that my family does not eat enough healthy foods	1	2	3	4	5
I have two or more servings of canned fruit daily	1	2	3	4	5
I have sufficient money to purchase food for the family weekly.	1	2	3	4	5
I can source fruits and vegetables easily in my neighborhood.	1	2	3	4	5
There are reputable food sources within a 20 minutes-walk or 1 mile drive from my home.	1	2	3	4	5
I can use my SNAP /food stamps benefits at grocery stores that sell fresh fruits and vegetables	1	2	3	4	5
I have access to transportation when I want to travel to the quality grocery stores in my neighborhood.	1	2	3	4	5
I have sufficient money to purchase food for the family weekly.	1	2	3	4	5

The USDA says if the community that you live in does not have a supermarket selling fresh or raw produce within one and a half miles of your home, you are living in a food desert.

6. Does this definition apply to your household?
○ Yes ○ No ○ Not sure

7. Are you aware of any neighbors who can relate to the definition?
○ Yes ○ No ○ Not sure

8. Which types of transportation do you use to get to the store/market to purchase food?
A. I/my family owns a vehicle
B. I use public transportation
C. Uber/Lift/taxi
D. I ask for rides from people I know
E. An organization (state/church/civic) brings groceries to my home.
F. I get my food delivered.
G. Other _____

9. In any given month, how FREQUENTLY do you get food from the list below?

	Never	Rarely	Sometimes	Often	Always
Supermarkets such as Aldi, Kroger, Publix, Walmart	1	2	3	4	5
Dollar Stores or food marts	1	2	3	4	5
Fast-food establishments	1	2	3	4	5
Restaurants	1	2	3	4	5
Local community gardens	1	2	3	4	5
Backyard garden	1	2	3	4	5
Farmers' market	1	2	3	4	5
Pantry	1	2	3	4	5

10. Which food places are within a 5-mile radius of your home? (<u>Check all that apply</u>)
o Supermarkets such as Aldi, Kroger, Publix, Walmart
o Dollar Stores or food marts
o Fast-food establishments
o Restaurants
o Local community gardens
o Backyard garden
o Farmers' market
o Pantry

11. How would you rate your experience in trying to get fresh fruits and vegetables from:

	Very good	Good	Neither good nor poor	Poor	Very Poor
Supermarkets such as Aldi, Kroger, Publix, Walmart	1	2	3	4	5
Dollar stores or food marts	1	2	3	4	5
Fast-food establishments	1	2	3	4	5
Restaurants	1	2	3	4	5
Local community gardens	1	2	3	4	5
Backyard garden	1	2	3	4	5
Farmers' market	1	2	3	4	5
Pantry	1	2	3	4	5

12. Which is most likely to have all the fresh fruits and vegetables your require? (Check One)

- o Supermarkets such as Aldi, Kroger, Publix, Walmart
- o Dollar Stores or food marts
- o Fast-food establishments
- o Restaurants
- o Local community gardens
- o Backyard garden
- o Farmers' market
- o Pantry

13. Which is likely to have organic fruits and vegetables? (Check all that apply)

- o Supermarket chains such as Aldi, Kroger, Lidl, Publix, Walmart
- o Dollar Stores or food marts
- o Fast-food establishments
- o Restaurants
- o Local community gardens
- o Backyard garden
- o Farmers' market
- o Pantry

14. What changes regarding food would you like to see happening in your community? (Check all that apply)

- o More places selling fresh fruits and vegetables.
- o More community and home gardens
- o Better health education
- o Healthier foods at Dollar and convenience stores
- o Workshops on gardening

15. Please indicate your level of agreement or disagreement with the following statements as they relate to your consumption of fresh fruits and vegetables

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I don't have time for fresh fruits or vegetables.	1	2	3	4	5
I don't know what to look for in fresh fruits or vegetables	1	2	3	4	5
Transportation keeps me from eating fresh fruits or vegetables.	1	2	3	4	5
The location of food places from the home prevents me from eating fresh fruits and vegetables	1	2	3	4	5
The quality of available fruits and vegetables affect consumption	1	2	3	4	5
The price of fruits or vegetables	1	2	3	4	5
Places do not accept Food stamps/Snap cards	1	2	3	4	5
Poor customer services at these places	1	2	3	4	5

16. Please indicate the degree to which you agree or disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Extension should host a farmers' market to my community.	1	2	3	4	5
Farmers markets are good source of fresh fruits and vegetables.	1	2	3	4	5
UGA extension helps people grow their own food.	1	2	3	4	5
A home garden can help to supplement the fruits and vegetables needed in the diet	1	2	3	4	5
People should cultivate some of the foods they need	1	2	3	4	5
I would consider myself good at growing my own food	1	2	3	4	5
I would you be interested in to learn more about home gardening?	1	2	3	4	5
I am confident that I can start a backyard garden.	1	2	3	4	5

A.

SECTION C will look at your understanding of agricultural and nutritional literacy.

Read each question and circle yes if you agree with the statement and think it is true, or no if you disagree with the statement or think it is wrong.

1.	**Georgia has a great climate for farming**	Yes	No
2.	**Georgia is the number one state for growing peanuts**	Yes	No
3.	**Fowl and poultry are words that might be used to talk about chickens.**	Yes	No
4.	**Grain is the seed of plants like oats, wheat, and rice.**	Yes	No
5.	**It is possible to grow food in containers like pots and buckets.**	Yes	No
6.	**Georgia was formed as a colony to produce agriculture commodities for England.**	Yes	No
7.	**Leather is made from the hides of cattle and pigs.**	Yes	No
8.	**Aquaculture is the practice of raising food in water.**	Yes	No

Read the label to answer questions 9-17.

CANNED BAKED BEANS

Nutrition Facts
Serving Size 1 cup
Can = 2 cups
Amount Per Serving
Calories 236.2 Calories from Fat 9.6

	% Daily Value
Total Fat 1.1g	**2%**
Saturated Fat 0.3g	**1%**
Polyunsaturated Fat 0.5g	
Monounsaturated Fat 0.1g	
Cholesterol 0mg	**0%**
Sodium 1,008.4mg	**42%**
Protein 12.2g	
Total Carbohydrate 52.1g	**17%**
Dietary Fiber 12.7g	**51%**
Sugars N/A	

9. How much fat is in one serving of beans? _____

10. How many of the calories are from fat? _____

11. Are there any carbohydrates in the beans? _____

12. How much sugar is in one serving? _____

13. How many calories are in 2 servings of beans? _____

14. How many servings are in this can? _____

15. Are the beans high in protein? _____

16. Would it be good to eat these beans if you are watching your cholesterol? _____

17. Are these beans a reliable source of dietary fiber? _____

18. Which type of food provides the most protein for your body?

A. grains
B. vegetables
C. fruits
D. meat or beans

19. When you drink a glass of orange juice for breakfast, the oranges most likely came from which state?

A. Nebraska
B. Washington
C. Florida
D. New York

20. Which plant produces fiber for clothing?

A. soybeans
B. rice
C. cotton
D. corn

21. Which of the following fruits does not grow in Georgia?

A. Mango
B. Peach
C. Blueberry
D. Strawberry

22. A female chicken is called a?

A. Tom
B. Hen
C. Rooster
D. Turkey

23. Citrus fruits are an excellent source of _____?

A. Vitamin C
B. Calcium
C. Fat
D. Calories

24. How many servings of vegetables do we need each day?

A. 6-11
B. 2-3
C. 3-5
D. 1-2

25. Fiber found in fruit is associated with which of the following health outcomes?

A. Strengthening bones
B. Making new blood cells
C. Building muscle
D. Maintaining proper bowel function

26. Carrots, onions, and sweet potatoes are all vegetables and are what part of a plant?

A. Seeds
B. Flower
C. Root
D. Stem

27. What important mineral is found in all foods in the Dairy Group?

A. Riboflavin
B. Calcium
C. Fiber
D. Iron

28. You are purchasing bananas that you will eat next week, which of the following is best to select.

A. Banana with split skin
B. Yellow with speckle
C. Yellow and firm
D. Yellow bananas with greener sections to the ends

29. Select all the ways that consumers can prevent food-borne illness?

A. Washing hands
B. Cooking meat thoroughly
C. Keeping most food products at room temperature
D. Using the same knife for cutting meat and vegetables
E. Thawing frozen meat on the kitchen counter

30. Which of the following food combinations best describes a balanced meal using the four basic food groups?

A. Broccoli, biscuits, peaches, & lamb
B. Eggs, milk, pancakes, & orange juice
C. Milk, granola, grapefruit, & bread
D. Steak, toast, butter, & eggs

IRB Letter

The Auburn University Institutional Review Board
Office of Research Compliance – Human Subjects
307 Samford Hall
334-844-5966, fax 334-844-4391, hsubjec@auburn.edu

Investigators: By accepting this IRB approval for this protocol, you agree to the following:

1. No participants may be recruited or involved in any study procedure prior to the IRB approval date or after the expiration date. (PIs and sponsors are responsible for initiating Continuing Review proceedings via a renewal request or submission of a final report.)
2. ***All protocol modifications*** will be approved in advance by submitting a modification request to the IRB unless they are intended to reduce immediate risk. Modifications that must be approved include adding/changing sites for data collection, adding key personnel, and altering any method of participant recruitment or data collection. Any change in your research purpose or research objectives should also be approved and noted in your IRB file. The use of any unauthorized procedures may result in notification to your sponsoring agency, suspension of your study, and/or destruction of data.
3. ***Adverse events or unexpected problems*** involving participants will be *reported within 5 days* to the IRB.
4. A ***renewal*** request, if needed, will be submitted three to four weeks before your protocol expires.
5. A ***final report*** will be submitted when you complete your study, and before expiration. Failure to submit your final report may result in delays in review and approval of subsequent protocols.
6. ***Expiration*** – If the protocol expires without contacting the IRB, the protocol will be administratively closed. The project will be *suspended,* and you will need to submit a new protocol to resume your research.
7. ***Only the stamped, IRB-approved consent document or information letter will be used*** when consenting participants. Signed consent forms will be retained at least three years after completion of the study. Copies of consents without participant signatures and information letters will be kept for submitting with the final report.
8. You will not receive a formal approval letter unless you request one. ***The e-mailed notification of approval to which this is attached serves as official notice***.