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Implementing food pantry nutrition policies: Perspectives from the field

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education in Adult Education and Lifelong Learning

by

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Abstract

The charitable food system includes food pantries and are often used by individuals and households who are food insecure (Kuhns & Norotny, 2021; Seligman & Berkowitz, 2019; Sangye, 2013). Adults with any level of food insecurity have a 43% to 53% greater risk of developing a chronic disease than those who are food secure. Those who are food secure have a 37% risk of developing a chronic disease (Gregory & Coleman-Jenson, 2017). For this reason, efforts are being made from state and federal levels to focus on nutrition security, rather than only food security, by increasing the percentage of nutrient dense foods being distributed through food pantries. These efforts are in the form of nutrition policies to establish uniform dietary guidelines, nutrition and health literacy education, and investments toward the capacities necessary to store healthy foods, such as fresh fruits and vegetables (Seligman et al., 2020). However, little attention has been given to directors and whether they have the necessary resources, support, and training to implement such nutrition policies. Research is needed to understand if implementing nutrition policies puts a strain on directors who are already limited on time and resources because they are fulfilling the leadership roles of their organization as the business manager, volunteer organizer, and social services provider (Jones & Deitrick, 2018; Precious et al., 2017). The purpose of this case study is to capture the experiences of food pantry and food bank directors while implementing nutrition policies within the Arkansas Delta Region. During a time when food pantry usage rates are on the rise (Chapman, 2017; Sangye, 2013; Wright, 2018), it is imperative research be expanded to explore the effect implementing nutrition policies are having on directors. It is the researcher's hope to bring understanding to those who are not on the front lines of charitable food distribution so future processes can be developed to make implementation easier.

Acknowledgements

I would like to extend my sincere thanks and heartfelt gratefulness to:

- My review committee and professors: Dr. Kit Kacirek, Dr. Kevin Roessger, and Dr.
 Kenda Grover for their patience and honest feedback throughout this process and my entire career as a doctoral student at the University of Arkansas.
- Dr. Bryan Mader and Dr. Lisa Washburn for their guidance and support in writing this dissertation.
- My family, especially my husband, Jim, and my doctoral cohort who have been there for
 me providing encouragement, direction, and the support needed to stay the course and not
 quit.
- The directors of the food banks and food pantries who have agreed to be a part of this study.

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Chapter 1

Introduction

This study examines the experiences food pantry and food bank directors encounter while implementing nutrition policies within the Arkansas Delta Region. It is the researcher's hope to bring understanding to policy makers who are not on the front lines of charitable food distribution so future processes can be developed to make implementation easier. A qualitative case study methodology is used to explore the phenomenon being studied. Participants were purposefully selected from food pantries and food banks the researcher has an established relationship with.

This chapter provides a background on food insecurity and nutrition security and how they relate to food pantry usage, establishes the research problem, and outlines the need and purpose for this case study. This will be followed by the researcher's perspective and assumptions. This chapter concludes with the rationale and significance of the study and definitions of the key terminology used.

Background

The U.S. Department of Agriculture (USDA) defines food insecurity as a household who are, at times, "unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food" (Coleman-Jensen et al., 2021, p. 4). While hunger and food insecurity are related, they are not synonymous. Hunger is a physical sensation and discomfort an individual feels, while food insecurity is a lack of necessary resources to obtain food (Schwartz et al., 2020). Food insecurity is complex and can stem from numerous factors including insufficient transportation, low wages, disability, poor health, and geographic isolation, such as in rural areas. According to Coleman-Jensen et al. (2021), approximately 21% of Americans had some level of food insecurity in 2020. This statistic can be broken down

further into various categories. For example, households with children were more food insecure than households without children at 14.8% and 8.8% respectively. Food insecurity is also more prevalent in rural areas and the South. Food insecurity is measured by three different levels — food insecure, low food security, and very low food security. Table 1.1 outlines the characteristics of each food insecurity level as well as the characteristics of persons who are food secure. Population estimates used the following 2019 data from the U.S. Census Bureau: a) In 2019, there were approximately 122.8 million households in the United States, and b) The average number of people per household was 2.6 persons.

Table 1.1Food security characteristics

Local	Demonito di con	U.S. Households	U.S. Population
Level	Description	Percentage	(Persons)
Food Secure	These persons have consistent, reliable access to food year-round.	79.0%	252.2 million
Food Insecure	These persons experience inadequate food		111111011
	or resources to acquire food periodically	10.5%	33.5 million
	throughout the year.		
Low Food Security	These persons use coping strategies year-		
	round to avoid being hungry. Coping		
	strategies can include eating less food at		
	meals, eating cheaper foods, participating		
	in federal food assistance programs such	6.6%	21.1 million
	as the Supplemental Nutrition Assistance		
	Program (SNAP), utilizing food pantries,		
	and using money to purchase food instead		
	of other necessities.		
Very Low Food	These persons have their food		
Security	consumption regularly disrupted		
	throughout the year because of the lack of	3.9%	12.5 million
	money and/or other food resources. These	3.770	12.5 mmon
	individuals experience hunger on a		
	regular basis.		

(Coleman-Jensen et al., 2021; U.S. Census Bureau, 2019)

Adults with any level of food insecurity have a 43% to 53% greater risk of developing chronic disease while food secure people have a 37% risk of developing a chronic disease (Gregory & Coleman-Jenson, 2017). Utilizing the previous figures from the U.S. Census Bureau (2019), 43% to 53% would equate to 37.5 million to 46.2 million people being at an increased risk for preventable chronic disease simply because they are food insecure. In response, state and federal policies have been established to increase the percentage of nutrient-dense foods distributed through food pantries. These policies include uniform dietary guidelines, nutrition education, and investments toward the capacities necessary to store healthy foods, such as fresh fruits and vegetables (Seligman et al., 2020).

The Supplemental Nutrition Assistance Program (SNAP) is a federally funded nutrition program that provides qualifying individuals and families with regulated monetary support to help supplement food budgets. The intent of SNAP is to move recipients toward self-sufficiency and reduce the prevalence of food insecurity (USDA, 2021). Feeding America (2021) states that approximately 30% of households who receive SNAP benefits also utilize a food pantry. While SNAP does help those who are food insecure by providing approximately nine meals to every one meal that a food pantry could provide, the benefits received are not enough to last an entire month; leaving recipients to utilize the charitable food system. (Kuhns & Norotny, 2021; Schwartz et al., 2020; Seligman & Berkowitz, 2019).

Charitable Food System

The charitable food system is a network of food banks, food pantries, and free meal programs, such as soup kitchens (Vollmer & Webb, 2021). Food pantries are often used by individuals and households who are food insecure, including those who participate in federally funded programs such as SNAP (Kuhns & Norotny, 2021; Seligman & Berkowitz, 2019;

Sangye, 2013). Food pantries provide food support for those with inadequate financial access to food (Wetherill et al., 2018). Emergency food systems started in the 1930s during the Great Depression. In 1933 the Agricultural Adjustment Act directed the federal government to purchase surplus commodities from farmers and distribute them through hunger relief agencies (Bacon & Baker, 2017). The food bank system began in 1967 in Phoenix, Arizona, and served as the first food storage warehouse that passed emergency foods down to local charitable agencies, such as food pantries (Crouch, 2020; Feeding America, n.d.; & O'Brien et al., 2012). While the terms "food bank" and "food pantry" are often used interchangeably, they are different. Food banks are regionally or state-wide organizations that operate under the umbrella of a federally funded agency, such as Feeding America which is the largest hunger-relief organization in the United States. These organizations are responsible for the sourcing and warehousing of foods and engage with state and federal leaders to systematically address food insecurity. Food banks distribute sourced foods to community-based food pantries, local organizations that distribute foods directly to food-insecure individuals and families at no cost. Most food pantries in the United States are under the guidance and direction of a food bank (Precious et al., 2017; Schwartz et al., 2020).

Food banks acquire foods in various ways, including donations, food drives, direct purchasing, and from the federal government. In 2020, Feeding America reported that over half (55%) of their food banks' inventories stemmed from donations, 32% from government commodities, and a small percentage (13%) from direct purchasing (Schwartz et al., 2020; Vollmer & Webb, 2021). These foods are then purchased by local food pantries that are registered in their network. However, like food banks, a large portion of the foods distributed by food pantries stems from donations. Donations are critical due, in part, to the limited financial

resources at the disposal of most food pantries. Most food pantries evenly distribute the available foods into boxes with equal amounts of the same foods to ensure distribution equity (Chapman, 2020; Schwartz, 2021).

Increased Food Pantry Use

Historically, government-led food programs, such as SNAP, assumed most of the responsibility for alleviating food insecurity. The food pantry system was intended to only supply food to people during emergencies for a limited amount of time. However, since 2014 there has been a rise of individuals and households using the food pantry system as a primary food source (Bacon & Baker, 2017; Wetherill et al., 2018). Many attribute the rise in food pantry usage to inadequate state and federal policies to address food insecurity; leaving people utilizing food pantries to supplement their food supply (Jones & Deitrick, 2018; Precious et al., 2017). Other reasons the charitable food system has emerged as a critical resource for the food insecure are unemployment, rising food costs, and stale wages (Schwartz et al., 2020; Wetherill et al., 2018).

Food Donation Nutrition

Food pantries have historically focused on quantity rather than the nutritional quality of food they distribute (Sangye, 2013; Schwartz et al., 2020; Seligman & Berkowitz, 2019; Wetherill et al., 2018; Wright, 2018). Due to the expense and perishable nature of healthier foods such as fruits and vegetables, many food pantries receive food donations that are shelf-stable and highly processed. As a result, food pantry distributions tend to be lower in nutrient-dense foods and higher in processed foods. Highly processed foods such as baked goods and canned foods contain higher amounts of saturated fat, sodium, and added sugar than healthier unprocessed foods. While many factors can contribute to chronic disease, the large amount of highly

processed foods distributed to food insecure individuals is a contributor (Sangye, 2013; Schwartz et al., 2020; Seligman & Berkowitz, 2019; USDA, 2021).

Food security focuses on calories, while nutrition security focuses on healthy calories. The USDA is currently working to establish nutrition security standards for all Americans. Collaborative efforts across governmental sectors, such as the USDA, and organizations, such as Feeding America, are updating dietary guidelines and promoting consumption of fresh fruits and vegetables, lean protein, and low-fat dairy (USDA, 2022). Feeding America is a national hunger-relief organization whose network consists of 200 food banks and 60,000 food pantries and meal programs across the United States. Feeding America secures food from farmers, manufacturers, retailers, and community members. This food serves the food insecure through food pantries, senior and summer meal programs, school food programs, and disaster response (Feeding America, 2022). Figure 1.1 outlines the relationship between the USDA, Feeding America, food banks, and food pantries (Babineaux-Fontenot, 2021).

Figure 1.1

Hierarchal relationship between the USDA and food pantries

Provides funding to Feeding America

Partners with food banks who agree to implement nutrition policies
Provides funding to food banks to purchase food and improve infrastructure necessary to implement nutrition policies

Partner with Feeding America to purchase foods for distribution down to food pantries
Provide funding to food pantries to improve infrastructure necessary to implement nutrition policies

Partner with Feeding America to purchase foods for distribution down to food pantries
Provide funding to food pantries to improve infrastructure necessary to implement nutrition policies

Partner with food banks to purchase foods for distribution to food pantry patrons
Apply for funding opportunties from food banks to improve infrastructure necessary to implement nutrition policies

Problem Statement

Increased food pantry usage, along with increased chronic disease prevalence among food pantry patrons, suggests nutrition policies for food pantries are needed (Schwartz et al., 2020). For this reason, efforts are being made from state and federal levels and organizations such as the USDA and Feeding America to increase the percentage of nutrient dense foods being distributed through the charitable food system, including food pantries. These nutrition policies expect food pantries to develop and implement their own versions of standard operating procedures that follow federally established dietary guidelines when distributing food, provide patrons with nutrition and health literacy education, invest in the storage capacity necessary to store nutrient dense foods such as fresh fruits and vegetables, and aid patrons with social services such as applying for food assistance programs (Schwartz et al., 2020). However, little is known

about directors' resources, support, and training to implement such policies. Research is needed to understand how directors from diverse regions perceive the shift to nutrition security, the changes that this shift necessitates for their operations, (Jones & Deitrick, 2018; Precious et al., 2017) and the effect on their leadership roles as a business manager, volunteer organizer, and social services provider. These roles are further explained in chapter two.

Statement of Purpose and Research Questions

This case study examines the experiences food pantry and food bank directors encounter while implementing nutrition policies within the Arkansas Delta Region; supporting the USDA's commitment to establish nutrition security for all Americans. Many food-insecure persons depend on food pantries as a regular source of food (Chapman, 2017; Sangye, 2013; Wright, 2018). However, food pantries were originally designed to serve shelf-stable food to populations during emergencies, such as natural disasters, power outages, and house fires (Sangye, 2013; Wetherill, 2019, Wright, 2018). Over time, individuals have begun to use food pantries in nonemergency situations. During a time when food pantry usage rates are on the rise (Chapman, 2017; Sangye, 2013; Wright, 2018), it is important to understand how food bank and food pantry directors navigate implementing nutrition policies and the impact on their organizations. In this qualitative case study, directors' leadership roles of business manager, volunteer organizer, and social services provider are explored. Sub questions for the study are centered around the three socio-ecological levels of individual, interpersonal, and community which are parallel with the directors' roles. To bring attention to this issue, the following research questions will guide this study:

RQ1: How do directors describe the shift to nutrition security for their organizations?

SQ1 What challenges or resources do directors perceive influenced their leadership roles while implementing nutrition policies?

SQ2 (Individual level): How did implementing the policies influence directors' roles as a business manager?

SQ3 (Interpersonal level): How did implementing the policies influence directors' roles as a volunteer organizer?

SQ4 (Community level): How did implementing the policies influence directors' roles as a social services provider?

Researcher's Perspectives and Assumptions

Based on the researcher's work with local-level coalitions in the target areas, a relationship with the participating food pantries and food banks exists. Over the past four years, the researcher has been implementing policy, system, and environmental (PSE) changes in the food pantries being studied as an effort to help them implement nutrition policies and expand their distribution of nutrient dense foods. Although working through local coalitions and directly with directors, the PSE change approach is still driven from the top-down with federal grant funds outlining expected strategies and performance measures. For example, it is the researcher's understanding implementing recommended nutrition policies is becoming a requirement to continue receiving assistance from federal and state-level food agencies, such as the USDA and Feeding America. Recognizing nutrition policies to distribute nutrient dense food are only one piece of a complex food distribution system, other factors that influence or pose a barrier directors' ability to meet nutrition policies may need to be taken into consideration. The researcher's personal feelings toward implementing nutrition policies in food pantries and food banks is mixed. Providing nutrient dense foods to patrons should be a priority, however, these

organizations must also take into consideration foods that are culturally appropriate. Another topic of concern is the level of hunger individuals are facing and if distributing nutrient dense foods will result in an inadequate amount of available food that can be provided.

Rationale and Significance

The rationale for this case study comes from the researcher's personal experience in working with the directors being studied; feeling it is important to bring awareness to some of the struggles directors face when implementing nutrition policies. It is the researcher's hope to bring understanding to those who are not on the front lines of charitable food distribution so future processes can be developed to make implementation easier. Understanding what influences the shift to nutrition security can help make distribution of nutrient-dense foods more feasible.

Definitions of Key Terminology Used in This Study

The following is a list of key terms that are used throughout this study. These are being provided for clarification and to avoid confusion or misconception.

Arkansas Delta Region – The Arkansas Delta Region is a fifteen-county region of eastern Arkansas that borders the Mississippi River ("Arkansas and Mississippi Delta Heritage," 2022). Charitable food system – The charitable food system provides temporary assistance to low-income and food insecure individuals and families through avenues such as food banks, food pantries, and free meal programs (Schwartz et al., 2020).

Chronic disease – A chronic diseases is an adverse condition that affects a person's health, lasts one year or longer, and requires on-going medical treatment (Chronic disease center (NCCDPHP) 2022).

Food access – Access to food is having the necessary resources to acquire and prepare nutrient dense foods (Coleman-Jensen et al., 2022).

Food bank – A food bank is a state or regional level organization responsible for sourcing and warehousing the food that is distributed down to food pantries (Precious et al., 2017; Schwartz et al., 2020).

Food pantry – A food pantry is a food distribution organization that provides food to community members in need, usually on specific days and times of the week or month (Precious et al., 2017; Schwartz et al., 2020).

Food security – Food security is categorized by how consistent and sufficient a person has access to food (Coleman-Jensen et al., 2022).

Policies – Policies are an effort to provide food insecure persons with healthy foods through food banks and food pantries by creating and adopting dietary guidelines, offering nutrition education, reforming relationships with food donors, and investing in the capacities necessary to store and distribute healthier food options (Schwartz et al., 2020).

Nutrient dense food – Nutrient dense foods contain high levels of nutrients such as vitamins, minerals, lean protein, and healthy fats and are low in calories (Precious et al., 2017; Schwartz et al., 2020).

Nutrition security – Nutrition security builds on food security by expanding the focus to the types of foods people have access to; focusing on foods considered essential for reducing chronic disease and improving a person's well-being (USDA, 2022).

Shelf-stable food – Shelf-stable food is food that does not have to be cooked or refrigerated to be eaten safely and that can remain on a shelf for at least one-year foods (Sangye, 2013; Schwartz et al., 2020; Seligman & Berkowitz, 2019; Wetherill et al., 2018, Wright, 2018).

Chapter 2

Introduction

This qualitative case study examines the experiences food pantry and food bank directors encounter while implementing nutrition policies within the Arkansas Delta Region. To further clarify the background and need for this study, chapter two will provide an overview of relevant literature followed by the framework guiding the study.

Literature Review

The following research databases were utilized to find journal articles, dissertations, and theses related to food pantries and the nutritional quality of foods being distributed: University of Arkansas Libraries, ScienceDirect, JSTOR, SAGE, Wiley Online Library, and Google Scholar. Key words used in the initial search included: food pantry director roles, food pantry leadership, food pantry foods, healthy food, distribution, and food insecurity. Search results were used to provide the background on food banks and food pantries as a regular food source for food insecure individuals and describe the link between the nutritional quality of food pantry foods and poor health outcomes, particularly increased chronic disease risk. The search was then narrowed to find references for nutrition policies toward improving the foods distributed by food pantries and the lived experiences of food pantry directors in implementing the policies. Studies exist examining the link between the nutritional quality of food pantry foods and health disparities. Additional studies have been completed examining the impact of nutrient dense food distribution interventions on food pantry patrons. However, literature on the lived experiences of food pantry directors is limited.

Food Pantry Patrons Food Security vs. Nutrition Security

Food pantries are a part of the charitable food system who have a goal of providing food support to food insecure individuals and families with inadequate financial access to food. (Wetherill et al., 2018) As a part of the food bank system, food pantries serve as "front-line", community-based food assistance distribution sites (An et al., 2019 & Eicher-Miller, 2020). A study comparing the dietary habits of food-secure and food-insecure persons revealed food insecure households consumed fewer vegetables and higher levels of sugary, high-fat, and ultraprocessed foods. There was not a difference in the level of fruit consumption, refined grains, and fish (de Araujo et al., 2018). The relationship between food insecurity and dietary patterns is not completely understood. However, research suggests food insecure individuals do not consume enough nutrient dense foods to sustain an active and healthy lifestyle. Such foods include fresh fruits, vegetables, beans, and lean proteins. Instead, they are over consuming heavily processed foods such as those with high concentrations of fat, sugar, and salt and low concentrations of fiber. These are the foods typically found and distributed through food pantries (An et al., 2019; Chapman, 2017; de Araujo et al., 2018; Evans, 2015; Jones & Coffey, 2019; Martin et al., 2016; Morales & Berkowitz, 2016; Wright et al., 2018). An observational cohort study with a pre-post design collected survey data from 455 participants. The survey used was the Automated Self-Administered 24-hour Dietary Recall or ASA24. This survey is used to determine single-day dietary intake patterns. It is important to note the participants surveyed were visiting food pantries who had not implemented any type of nutrition policy intervention. The results of this survey determined the participants reported eating more food after visiting the food pantry, but the dietary quality of the food was poor. There was an increase in food security, but not an increase in nutrition security (Wright et al., 2018).

A study conducted over a twelve-month period at a faith-based organization surveyed 45 participants who participated in a food pantry's nutrition policy program involving health screenings, health and nutrition education, and cooking demonstrations. Statistically significant outcomes in the participants included a 95% improvement in blood pressure readings and an average weight loss of 6.35 pounds per person (Wilkinson, 2019). A separate pilot nutrition policy intervention study was conducted involving 687 participants who had an HbA1C greater than or equal to 6.5 or who were actively taking diabetes prescription medication. Participants were provided with nutrient dense food boxes consisting of perishable and shelf-stable foods. In addition to the foods, participants were provided with recipes and cooking tips. This pilot study resulted in a significant improvement of the mean HbA1C and participants' fruit and vegetable intake (Seligman, et al., 2015). Both studies are an example of an increase in food security and an increase in nutrition security.

Nutritional Knowledge of Food Pantry Patrons

Nutritional knowledge, the ability to plan, select, and prepare foods for consumption in a way that contributes to a person's overall nutrition (Begley et al., 2019 & Taylor et al., 2019), stems from health literacy and the understanding of dietary information essential for improving health (Velardo, 2015). During the early 1900s, certain elements in foods were found to be important by a group of researchers. This eventually led to the first two decades of the 1900s begin deemed the golden age of nutrition; however, this importance diminished starting in the 1950s. By 1970, nutrition education had a resurgence, and an emphasis began on chronic disease prevention (National Research Council, 1985). This resurgence was brought to the forefront by the Senate Select Committee on Nutrition and Human Needs. By the end of the 1970s, this

Committee released the first version of the Dietary Guidelines for the United States with a focus on connecting the foods eaten with chronic disease (Dietary Guidelines for Americans, n.d.).

Positive relationships between dietary habits and nutritional knowledge have been found. According to Taylor et al. (2019), those who showed an increase in nutritional knowledge demonstrated an increase in consumption of nutrient dense foods related to a healthy diet and a decrease in heavily processed foods related to an unhealthy diet. According to a study conducted by Leung et al. (2014), 86% of participants agreed that increasing nutritional knowledge through direct nutrition education and cooking classes would help them to improve their dietary habits. Despite this widely accepted notion that nutritional knowledge has a direct influence on dietary habits, Velardo (2015) suggests nutritional knowledge alone is not enough to influence and sustain change. This is backed by Begley et al. (2019), Gregory et al. (2019), and Hartline & Dean (2017) who state research has revealed insecure households do not report being nutrition illiterate, and there are other driving factors involved in the dietary habits of food insecure food pantry patrons aside from nutritional knowledge. Some of these include food access, transportation, and food preparation limitations.

While it is understood a variety of additional factors can also contribute to chronic disease prevalence in food insecure individuals, the dietary patterns associated with food pantry food usage has developed into a public health challenge (USDA, 2021). This has led public health and anti-hunger decision makers to conclude it not enough to focus on providing calories to those in need. Instead, a shift is necessary to ensure the foods distributed to the food insecure through avenues such as food pantries are minimally processed and nutrient dense (Schwartz et al., 2020; Seligman & Berkowitz, 2019).

Nutrition Security Initiatives

Ensuring food insecure Americans have access to the nutrient dense foods needed to promote health and well-being have led to the creation of some key initiatives. Healthy Eating Research (HER) is a national program made up of advisors from across the United States with backgrounds in dietetics, nutrition, public health, sociology, epidemiology, and medicine. Working together, they have built a research base necessary to support and implement changes in access to healthy foods through PSE strategies. One of the recommended changes, and referenced throughout this study, is nutrition policies. Federal and national level food system organizations, such as the USDA and Feeding America, are highly recommending food pantries and food banks implement these policies. In March of 2020, HER released its Nutrition Guidelines for the Charitable Food System as an avenue to "improve the quality of foods in food banks and pantries in order to increase access to and promote healthier food choices." (Schwartz et al., 2020, p. 7) Since this publication was released during the onset of the COVID-19 pandemic, USDA and Feeding America thought it best to highly recommend rather than mandate the established guidelines into nutrition policies. Throughout the development process, several existing dietary guidelines were explored, including the F2E (foods to encourage) promoted by Feeding America. In addition, HER took into consideration the dietary guidelines from the USDA's Dietary Guidelines for Americans (DGA) and the Food and Drug Administration's regulations on food labeling. With long-term sustainability in mind, HER took the following key dimensions into consideration throughout the development of their dietary guidelines process:

Respect and dignity: Understanding the large number of diverse people reached,
 charitable food systems need to consider cultural food preferences and health needs to
 accommodate for and not exclude any populations.

- Capacity and cost: Recognition of possible resource challenges such as human capital, financial, structural, and environmental.
- Reliance on volunteers: Recognition of possible volunteer limitations such as time and nutrition knowledge.
- Use of weight as a metric: Understanding the history of food distribution being documented in terms of total food-pounds, switching to food-inventory documentation may take time.
- Mixed foods: Foods received by food banks and food pantries often come in bundles
 mixed with healthy and unhealthy options. This will require the time and knowledge to
 sort them accordingly.
- Donor relationships: Recognizing the abundance of food received through donations, it
 is important request healthier food items in a non-offensive way to not lose donor
 support.
- Consistent messaging: Being exposed to nutrition education from various outlets, it is
 important food banks and food pantries reinforce the messaging as other federal/state
 nutrition programs.

In addition, HER considered the various ways to categorize the foods commonly found throughout the charitable food system in a way that is understandable and easy to follow by most audiences. The dietary guidelines divide food into eleven categories: fruits and vegetables, grains, protein, dairy, non-dairy alternatives, beverages, mixed dishes, processed and packaged snacks, desserts, condiments and cooking staples, and other miscellaneous items. Along with aligning with the foods commonly found in the charitable food system, most of the categories also align with USDA's DGA. To further simplify the categorization of foods, HER recommends

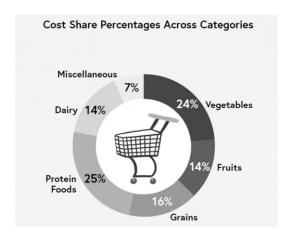
using a three-tiered system to rank how often a type of food should be consumed. These include "choose often," "choose sometimes," and "choose rarely." This is also referred to as "green," "yellow," and "red" foods (Schwartz et al. 2020). A copy of the tables from the HER publication for these categories can be found in the Appendix in Table 2.1 and Table 2.2.

It is not enough to know that the dietary habits of food insecure individuals need to change. For this change to be long-term and sustainable, financial considerations, such as the cost of a nutrient dense diet for both the individual and food distribution sites, need to be considered. The attempt to do this is in the form of the Thrifty Food Plan. The Thrifty Food Plan (TFP) is a USDA food plan that informs the amount of federally funded SNAP benefits an individual or household receives each month to supplement purchasing of groceries. The TFP establishes a cost for a "Market Basket." This cost serves as the basis for the maximum SNAP benefit. The "Market Basket" is a weekly number of foods and beverages needed to support a nutrient-dense diet and their associated costs. The first TFP was released in 1962 under the name Economy Food Plan. In 1975, it became known as the Thrifty Food Plan. The most recent revision of TFP occurred in 2021. Prior to 2021, the last revision of TFP occurred in 2006. The goal of the revision was to use current food costs, consumption patterns revealed by research, and the USDA's dietary recommendations to create the Market Basket that modeled commonly consumed nutrient dense foods that could be obtained by individuals and households operating on a limited budget. TFP is part of the nutrition security initiative to disperse the inequality of not just food access, but nutrition access to those who are food insecure. In June 2021, TFP established a reference point of \$835.57 as the monthly cost for a family of four to consume a nutrient dense diet. Taken directly from the TFP publication, Figure 2.1 depicts how these costs are distributed across food categories. Purchase of protein foods comprises 25% or \$208.89 of

the \$835.57 reference point followed by vegetables at 24% (\$200.54), grains at 16% (\$133.69), fruits at 14% (\$116.98), dairy at 14% (\$116.98), and miscellaneous items at 7% (\$58.49). It is important to keep in mind this is only a reference point. SNAP recipients are free to allocate their benefits to match their own personal preferences based on the availability of foods in their area (USDA, 2020).

Figure 2.1

Thrifty Food Plan Market Basket



Like HER, the TFP has key considerations for the Market Basket model. These key considerations include Dietary Reference Intakes for nutrients, DGA food group and subgroup recommendations, consumption patterns, total calories needed by age-sex groups with activity-level considerations, current food prices, and cost limits on the Market Baskets. Specifically, "The model's output included Modeling Categories with foods and beverages of higher nutrition quality from lower cost subcategories, and these categories were converted to the final Market Basket Categories of foods and beverages. Therefore, to achieve a healthy diet at the cost of the Thrifty Food Plan, 2021, it is assumed that food and beverage selections within the Market Basket Categories are lower priced, with comparatively lower amounts of added sugars,

saturated fat, and sodium" (USDA, 2020, p. 37) making them healthier food options than the foods often donated to food pantries.

The 2021 TFP increased SNAP benefits from \$4.25 per person per day to around \$6.87 per person per day (Kuhns & Norotny, 2021). However, it has been noted the Market Basket is still not sufficient to sustain SNAP recipients for an entire month. In a recent study by Dorman (2021), shoppers in different areas of the United States were given a shopping list based on the Market Basket's weekly food recommendations to purchase a month's worth of food for one person. Shoppers were instructed to adhere to the TFP to purchase foods listed, and they were to shop only at establishments categorized as a "full-service grocery store." Shoppers were not allowed to utilize a "convenience store" for purchases as prices at those establishments tend to be higher. Although many food-insecure individuals utilize convenience stores for food purchases because it is the only food access point in their neighborhoods, the study used full-service grocery stores as a means for cost consistency. If the maximum SNAP benefit allowable per day is approximately \$6.87, this would equate to \$208.89 as a monthly benefit for one person. Dorman revealed the average cost of the foods purchased to be around \$214.89, which is \$6.00 higher per person than the established reference. For a family of four, \$214.89 would equate to \$859.56 which is \$23.99 higher than the TFP reference point. For food insecure individuals and households who have other financial obligations, such as monthly prescription medicines, the gap between SNAP benefits and actual food costs leave them to utilize the charitable food system, such as food pantries This continuing trend of food pantry dependency for approximately 12.9 million households further justifies the need for charitable food distribution system reform to combat the chronic disease prevalence in food insecure individuals.

Roles of Food Pantry and Food Bank Directors

While national level organizations and governments have created nutrition policies to address the increasing rates of chronic disease in food insecure individuals, it is local level and state level directors that must make these changes. From the review of the literature depicting the tasks taken on by directors, three prominent leadership roles have been established: business manager, volunteer organizer, and social services provider. Historically being established as a temporary food provider during emergency situations, food pantries and food banks were set up to house and distribute shelf-stable, non-perishable foods (Wetherill et al., 2018). To convert to a nutrient dense food distribution approach which includes perishable foods, many of these organizations must incorporate standards such as temperature-controlled storage, safe food handling, and health department inspections. Directors must have the knowledge and support to implement such standards, including proper training, space, and financial resources (An, 2019).

Directors serve as the organization's business manager, overseeing operations and employees. Directors are also responsible for managing the budget, acquiring and allocating resources, building capacity through external relationships, working within a set of operating procedures established by the organization's governing board, and within the rules and regulations of the organization's local, state, and federal hierarchy. They are responsible for managing and administering all the components of service delivery to fulfill the organization's mission of providing food to those in need (Madajewski, 2016; Paynter & Berner, 2014). Most food banks and some food pantries are organized tax-exempt organizations, such as a 501c3, while others exist under the umbrella of a larger organization. Regardless of how they are organized, directors build relationships with community members and stakeholders to secure funding, donations, and other resources such as human capital (Paynter & Berner 2014).

Directors are seen as "the gatekeepers" of food pantry and food bank services, including accepting foods, storing foods, distributing foods, and other services such as nutrition education, health screenings, and referrals along with setting up the schedules for all these services (Chapman, 2020).

Human capital is an important aspect of the organization's work, which is why directors also fulfill the leadership role of volunteer organizer. According to the Corporate Finance Institute (2021), a volunteer organizer is one who creates and maintains a system for recruiting, training, engaging, and coordinating volunteers. Volunteers are people who donate their time to help carry out the mission of another's work. One study revealed that out of 204 food pantries surveyed, 61.1% did not have any paid staff. Of those who did have paid staff, 43.1% only had one paid staff member, the director. With many food pantries having little to no paid staff, volunteer recruitment and retention is crucial to fulfilling the organization's mission (Chapman, 2020). Volunteers provide a type of instrumental support to both the director and the food recipients. Utilizing volunteers and focusing on where their skillsets will be most beneficial is an important responsibility of directors (Madajewski, 2016; Paynter & Berner, 2014).

The last leadership role of directors is that of a social services provider, or someone who provides a service to a disadvantaged person to promote social change and empowerment. Directors fulfill this role by accepting the social responsibility of combatting hunger and providing food to the food insecure; enabling the food insecure to feel valued (Madajewski, 2016). Food pantry directors interviewed in one study stated their motivation came from their desire to serve the disadvantaged by meeting their needs and upholding their dignity (Precious et al., 2017). A study conducted by Robinson (2021), concluded food pantry directors and

personnel have found their roles have changed and now include providing social services that were once provided by other organizations in the community.

Most directors agree implementing policies to increase the number of nutrient dense foods is needed. However, it is also noted that directors acknowledge "bending the rules" of nutrition policies to ensure the people they serve are getting enough food; making sure the food insecure are fed, regardless of the type of food, is most important (Chapman, 2020; Precious et al. 2017). In addition, many stated their organizations were not equipped to handle the standards that must be met to implement the policies, lacking resources such as money, temperature-controlled storage, ample storage space, proper training, and having a large enough volunteer base to handle the extra work load (Chapman, 2020; Jones & Deitrick, 2018; Precious et al., 2017; Wetherill et al., 2018).

Theoretical and Conceptual Framework

When choosing a framework to conduct public and community health research, there are a few characteristics to take into consideration: the type of theory, the theory's change level, and the theory's reasoning. Two theory types often used are explanatory and change. Explanatory theories offer a description and explain the factors for why an issue exists. Change theories are used to identify assumptions, best practices, and theoretical knowledge that can help with understanding how change occurs, then using that information to contribute to change in similar contexts (Rimer & Glanz, 2005). This qualitative study will be guided by change theory regarding directors' implementation of nutrition policies.

With more information needed on the lived experiences of directors, this section will explain how Street-Level Bureaucracy (SLB) theory and the Socio-Ecological Model (SEM) align with that focus and are suited for the theoretical and conceptual frameworks for this study.

SLB and SEM will be used to offer an explanation on how nutrition policy implementation impacts directors at the individual, interpersonal, and community levels.

Street-Level Bureaucracy theory was introduced by Michael Lipsky in 1969 to understand that how policies are implemented comes down to the public service workers on the front lines who are doing the implementation. These people have regular interaction with the people they are there to serve and represent. He coined these people as streel-level bureaucrats (Brodkin, 2012; Cooper, et al., 2015; Erasmus, 2014.; Hill, 2003). For this case study, the streetlevel bureaucrats are the directors. A key element of SLB theory is its ability to discern why policies may not always be implemented as intended. Despite the scarce application of SLB theory, it is believed it can be used to understand processes of implementing policies related to health, such as the nutrition policies discussed in this study. At times, there is a conflict between what a policy states should be carried out and what street-level bureaucrats see as the needs of the people they serve (Brodkin, 2012; Cooper et al., 2015; Erasmus, 2014). Lipsky saw streetlevel bureaucrats as people who often worked in situations where resources were often lacking. This lack of resources can lead street-level bureaucrats to be viewed as opposers of policy implementation. SLB theory provides the opportunity to understand this is not always the case. According to Brodkin (2012), "If one could identify what made street-level organizations tick, it seemed to follow that one could do a better job of managing them, and, in the process, build the capacity of the state to deliver on its policy promises." For this case study, SLB theory will be used to identify the perspectives of the directors being studied, perspectives that may be hard to measure and are not quantifiable. This is a means to bring attention to ways nutrition policy implementation should be adapted to meet the needs of the directors who are trying to meet the

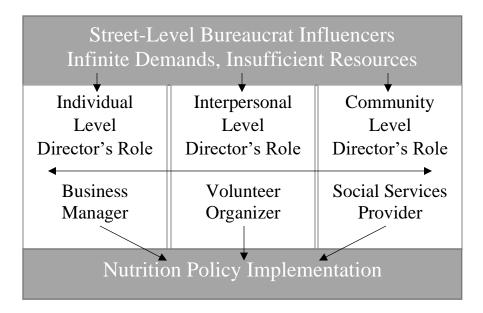
needs of the communities they serve, while also trying to fulfil their leadership roles as the business manager, volunteer organizer, and social services provider of their organization.

The Socio-Ecological Model was developed by Urie Bronfenbrenner in the late 1970s as a conceptual framework designed to help bring understanding to the multiple levels a person is influenced by the surrounding environment. Throughout the years, SEM has been adapted to address public health issues by using all or part of five levels of influence: individual, interpersonal, organizational, community, and policy (Garvey & Jones, 2021; Kilanowski, 2017). For this case study, the individual, interpersonal, and community levels will be intertwined with the SLB theory to provide the navigation necessary to understand the experiences directors face when implementing nutrition policies. The individual level focuses on a person's individual characteristics. These individual characteristics include personal beliefs, existing knowledge, attitudes, and personality traits. The director's leadership role of business manager aligns with the SEM's individual level. To fulfill the goals of nutrition policies, the business manager must be equipped with the knowledge and aptitude to secure the necessary resources to implement nutrition policies in a way that satisfies state and local food safety protocols and the food bank/food pantry's standard operating procedures. The interpersonal level consists of people that contribute to a person's social identity such as family, friends, and acquaintances. The director's leadership role of volunteer organizer aligns with this level. As a volunteer organizer, the director must be able to establish a relationship base to recruit people willing to serve. Finally, there is the community level. The community level encompasses a broad range of attributes such as formal and informal social norms that exist among people and groups of people (Rimer & Glanz, 2005). As one who promotes social change through anti-hunger initiatives, the director's

role as a social service provider aligns with the community level. Figure 2.2 represents the framework designed by the researcher for this process.

Figure 2.2

Theoretical and Conceptual Framework



Chapter 3

Introduction

This qualitative case study examines the experiences food pantry and food bank directors encounter while implementing nutrition policies within the Arkansas Delta Region. This chapter discusses the context of the study, identifies the research sample and the research design, data collection methods, and data analysis methods. The ethical considerations, the issues of trustworthiness and the limitations/delimitations of the study are also presented.

Methodology

Qualitative Research Design

Qualitative case studies allow researchers an opportunity to examine a real-life situation personally, holistically, and interactively. The first-hand perspective also allows researchers to develop theories and interventions to explain or understand a social phenomenon at a specific time. A social phenomenon is relative, meaning the "truth" can vary depending on the perspective of those involved, influenced, and affected by the social phenomenon. This relativity allows participants to tell their stories and help researchers understand why certain actions/reactions or outputs/outcomes take place (Baxter, 2008). According to Terrell (2016), qualitative approaches allow researchers to collect "text-based data to answer the 'who?', 'what?', 'when?', 'where?', and 'why?'" (p. 146).

Case Study

According to Bloomberg and Volpe (2019), case studies provide an opportunity to see multiple perspectives of a social phenomenon that can influence policy development and social action. For this case study, those perspectives are in the form of a system change within a community. Terrell (2016) describes a case study as "reporting on events that actually happened

to a person or group of people in a single unit or bounded system" (p. 158). Yin (2018) describes case study research as a foundational trilogy having three parts: mode of inquiry, method of inquiry, and unit or case of inquiry. This study's mode of inquiry is interview research. The method of inquiry is case study, and the units/cases of inquiry are the directors who will be interviewed. The central part of this foundational trilogy is the case studies method, seeking to understand the how or what of a social phenomenon. Yin also considers case studies to have three categories – exploratory, descriptive, or explanatory/causal. The category a case study falls under depends on the form of the research question. Exploratory case studies form research questions to determine to what extent a phenomenon has on the population being studied and allows the researcher to track outcomes. Descriptive case studies form research questions that quantify a phenomenon, such as how many and how much. Explanatory or causal case studies form research questions that answer how and why (Yin, 2018). This case study is exploratory. It investigates the extent of circumstances directors face when implementing nutrition policies, and these circumstances may not have clear or individualized sets of outcomes (Yin, 2018). Additionally, this is a collective case study because more than one case or director is involved in the study (Baxter, 2008). Each case will be analyzed individually and then collectively to understand similarities, differences, and to determine the common thread among the cases.

Research Setting

Arkansas is a predominantly rural state and had the second highest food insecurity rate in 2019 – 16.6% with 21.4% of those being children. This ranking includes all fifty states and Washington D.C. The highest food insecurity rate belonged to Mississippi – 18.5%, and the lowest belonged to North Dakota – 6.7%. The national food insecurity average in 2019 was 11.7% (Gunderson et al., 2021). Arkansas food banks and food pantries serve diverse

communities that share a common need for food access. The demographic information and socioeconomic status of the two communities being studied are outlined in Table 3.1. To protect identity, the two communities will be named Community A and Community B. Both communities are classified as rural.

Table 3.1

Community demographics

	Total Population	White Persons	Black Persons	Hispanic Persons	Other Races	Median Household Income	Persons in Poverty	*SNAP Recipients	*Food Insecurity
Community A	16,568	33.44%	62.2%	1.59%	2.77%	\$33,724	31.35%	34.19%	22.7%
Community B	3,682	91.8%	0.57%	0.00%	7.63%	\$53,308	20.71%	20.52%	19.6%

^{*}This data is county-wide data; (PolicyMap, 2022)

Sampling

Participants in case study research are not chosen randomly. "Qualitative sampling is generally purposive; we know the group we want to work with, and we'll simply select members of that group to interview" (Terrell, 2016, p. 161). For this case study, the criteria for inclusion are being a director at a food bank or food pantry that serves the Arkansas Delta Region, is participating in a Centers for Disease Control and Prevention (CDC) grant funded program managed by the researcher, and who has implemented a nutrition policy. The CDC cooperative funding agreement specified six eligible counties in Arkansas that met predetermined benchmarks. Those benchmarks were based on the county's adult obesity prevalence of 40% or higher and low socioeconomic status. Of the directors in eligible areas, two food bank directors and three food pantry directors are participating in this case study. Others were given the opportunity to participate, but they declined.

Data Collection Methods

The data collection method for this study includes individual, in-depth interviews using the same interview protocol with each participant. Interviewing with predetermined and structured questions allows for comparability across participant responses and enables the researcher to conduct a more straight-forward analysis (Tolley et al., 2016; Mack et al., 2005). The interview protocol questions are designed to be unbiased and not lead the participant. According to Creswell and Poth (2018), during the interview process researchers should "avoid leading questions, withhold sharing personal impressions, and avoid disclosing sensitive information" in order to "avoid deceiving participants and respect potential power imbalances and exploitation of participants" (p.55). Interview protocol has been piloted with individuals who are not a part of the research project to address feasibility and clarity. Direct probes are used when needed to encourage participants to expand on their answers. Sites where participants work have already been implementing nutrition policies, so questions are designed to capture the challenges and/or resources faced by directors when implementing these policies. Questions are categorized according to the directors' leadership roles of business manager, volunteer organizer, and social services provider. These categories are not disclosed to the directors at any time before, during, or after the interview process. A sample of the interview questions is in Table 3.2. For the complete interview protocol, refer to Appendix A.

Table 3.2Abbreviated interview protocol

Context	Question	Probe
Business	How would you describe your role?	In other words, what are
Manager /		some of the responsibilities
Individual		as the (title they gave you)?
Level	How would you define healthy food?	

	How would you define or describe a food pantry	
	/ food bank that follows a healthy pantry model?	
	What has it been like to make these changes?	Can you elaborate? What
		has made it difficult or
		easier?
Volunteer	Does your food pantry / food bank use	
Organizer /	volunteers? If so, do you rely on these	
Interpersonal	volunteers to complete the food pantry / food	
Level	bank's mission?	
	How many volunteers does your food pantry /	
	food bank have?	
	Can you tell me about your role as the (the title	Can you tell me more? Do
	they gave you) in working with your food pantry	you have anyone that helps
	/ food bank's volunteers?	you with the volunteers?
Social	Do you feel your food pantry / food bank	
Services	provides enough food to your patrons?	
Provider /	Do you feel your food pantry / food bank	
Community	provides enough healthy foods to your patrons?	
Level	I am going to describe a couple of scenarios to	Can you tell me more about
	you, let me know how you feel about each of	why you feel this way?
	these:	
	A) Patrons receive a smaller quantity of	
	food, but it is mostly healthy foods	
	B) Patrons receive a larger quantity of food,	
	but it may not be mostly healthy food	

Methods for Data Analysis

The software MAXQDA 2022 will be used to analyze the data. MAXQDA is a computer-assisted qualitative and mixed-methods data analysis software that can analyze data imported from texts, audio/video files, websites, focus groups, and survey responses (Creswell & Poth, 2018). The structural data analysis process of coding the data according to the topics being explored has been organized according to Bloomberg & Volpe (2019), Creswell & Poth (2018), and Patel (2014) and includes the following:

• Transcription: Each interview is recorded and transcribed verbatim using transcription software. Participant answers are divided into separate tables, one table for each

- participant. Participant tables are structured into the topics reflecting the director roles of business manager, volunteer organizer, and social services provider.
- Coding: In Vivo coding is used to pull out the participants language into codes. In Vivo is
 using the exact words from the participant to summarize responses into shorter phrases.
 In Vivo coding is then simplified using pattern coding. Pattern coding groups the
 previous coding into recurring phrases or themes.
- Cross Analysis: Patterns are reviewed to see if they occur across research participants or
 if they are individualized and specific to a certain case.
- Interpretation: Based on all the previous findings, the researcher interprets the results and produces an overarching theme for the results.

Data Management

The dignity and well-being of the research participants should be paramount in any research. This research study follows the ethical data management considerations outlined by Bloomberg & Volpe (2019) and Creswell & Poth (2018). At the start of the study and during data collection, the purpose of the study will be disclosed including how the data will be collected and used. Respect will be given to all participants and the answers given. The values and interests of the communities represented will be respected, minimizing any risks that may be associated with participating in this case study. Written consent will be obtained from each participating director before the interview begins. During the data analysis and reporting phases, participants' privacy and identity will be respected by assigning composite or fictitious profiles. All perspectives, including those that contradict, will be reported to avoid results that appear to be one-sided. Before publishing or disseminating the results, the results will be discussed with each participating director. Data storage and security will be upheld by storing electronic data on

a password protected computer that is linked to a secure server. Paper and pencil data and interview recordings will be stored in a locked filing cabinet in the researcher's office, which also remains locked. Securely stored data includes all written data collected including interviews, interview transcripts, and interview recordings.

Trustworthiness

The trustworthiness of this study is established through the researcher's credibility, dependability, confirmability, and transferability of findings. Consistent data collection, data analysis, and thoroughly detailed explanations of the data analysis process are used.

Credibility

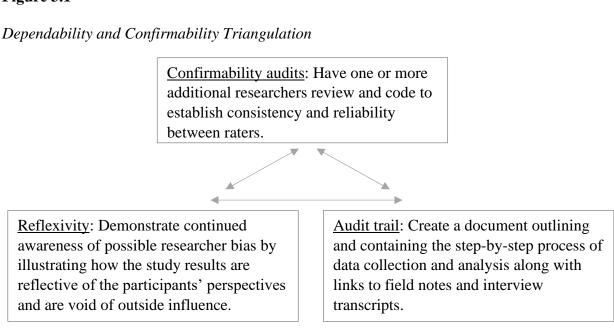
Credibility is established through correctly portraying the participants' perspectives throughout the study results. This is accomplished by addressing the following strategies recommended by Bloomberg & Volpe (2019) and Creswell & Poth (2018):

- Prolonged engagement: Relationships are established with the participants, providing the researcher with a deeper understanding of culture surrounding the phenomenon being studied.
- Member checks: Participants review the researcher's conclusions to ensure the
 participants' perspectives are portrayed and the findings are free of any biases the
 researcher may hold.
- Peer debriefing: Impartial colleagues question the results after reviewing the study's methodology, transcripts, and data, allowing the researcher to examine assumptions and alternative viewpoints of the data.

Dependability and Confirmability

According to Bloomberg and Volpe (2019), dependability is achieved when "the research process is clearly documented, logical, and traceable" (p. 204). Clear explanations of the research process and its findings will be left as an audit trail for an opportunity to assess this case study's findings. This process will be confirmed through triangulation as represented in Figure 3.1 developed through strategies recommended by Bloomberg & Volpe (2019) and Terrell (2016).

Figure 3.1



Transferability

Finally, readers will determine how and to what extent they will apply this case study's process and findings to their own situation. This study produces "descriptive context-relevant findings that can be applicable to broader contexts while still maintaining content-specific richness" (Bloomberg & Volpe, 2019, p. 205). This is accomplished through purposeful sampling and data saturation. Data saturation occurs when enough interviews are conducted to

allow for the repetition of themes or patterns and when new themes or patterns stop emerging. This is a necessary to replicate the study (Fusch & Ness, 2015).

Limitations and Delimitations

A perceived limitation is interviewees may be reluctant to share or not be completely honest when answering questions. This could result in an unintentional misrepresentation of the phenomenon. Also, participants are from food banks and food pantries willing to implement nutrition policies. This may result in bias answers if participants have a pre-conceived value of nutrition policies implementation. Additional limitations are the voluntary participation and limited number participants who may not be representative of the entire population. In general, qualitative research involving interviews is a time-consuming process. Participants who may be limited on time may feel rushed to answer questions. This could also result in an unintentional misrepresentation of the phenomenon. A delimitation for this study is participants must be currently participating in work being conducted under the cooperative CDC agreement previously mentioned.

Summary

This qualitative case study examines the experiences food pantry and food bank directors encounter while implementing nutrition policies within the Arkansas Delta Region. Focusing on the roles directors as business manager, volunteer organizer, and social services provider, it is imperative a respectful and trusting rapport be established with the participants prior to the start of the study. Individual, in-depth interviews using the same interview protocol with each participant enables the researcher to compare participant responses, conduct a more straightforward analysis, and create of themes or implementation experiences that can be transferred to other food pantry and food bank sites that are implementing nutrition policies. This

transferability will continue to evolve the understanding necessary to make the shift from food security to nutrition more feasible for those who are on the frontline.

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Appendix

Table 2.1Healthy Eating Research Nutrition Guidelines for the Charitable Food System, p.11

Food Category*	Example Products	Choose Often			Choose Sometimes		Choose Rarely			
		Saturated Fat	Sodium	Added Sugar**	Saturated Fat	Sodium	Added Sugar**	Saturated Fat	Sodium	Added Sugar**
					All 100% juice and plain dried fruit					
Fruits and Vegetables		≤2 g	≤230 mg	0 g	≥2.5 g***	231-479 mg	1-11 g	≥2.5 g***	≥480 mg	≥12 g
Grains	Bread, rice, pasta, grains with seasoning mixes	First ingredient must be whole grain AND meet following thresholds:		≥2.5 g***	231-479 mg	7-11 g	≥2.5 g***	≥480 ma	≥12 q	
		≤2g	≤230 mg	≤6 g						
Protein	Animal (beef, pork, poultry, sausage, deli meats, hot dogs, eggs) and plant proteins (nuts, seeds, veggie burgers, soy, beans, peanut butter)	≤2 g	≤230 mg	≤6g	2.5-4.5 g	231-479 mg	7-11 g	≥5 g	≥480 mg	≥12 g
Dairy	Milk, cheese, yogurt	≤3 g	≤230 mg	0 g	3,5-6 g	231-479 mg	1-11 g	≥6.5 g	≥480 mg	≥12 g
Non-Dairy Alternatives	All plant-based milks, yogurts and cheeses	≤2 g	≤230 mg	≤6g	≥2.5 g	231-479 mg	7-11 g	≥2.5 g	≥480 mg	≥12 g
Beverages	Water, soda, coffee, tea, sports drinks, non-100% juice products	0 g	0 mg	0 g	0 g	1-140 mg	1-11 g	≥1 g	≥141 mg	≥12 g
Mixed Dishes	Frozen meals, soups, stews, macaroni and cheese	≤3 g	≤ 480 mg	≤6g	3.5-6 g	481-599 mg	7-11 g	≥6.5 g	≥600 mg	≥12 g
Processed and Packaged Snacks	Chips (including potato, corn, and other vegetable chips), crackers, granola and other bars, popcorn	None		If a grain is the first ingredient, it must be a whole grain AND meet following thresholds:		≥2.5 g	.5g ≥141mg	≥7 g		
				0-2 g	0-140 mg	0-6 g				
Desserts	Ice cream, frozen yogurt, chocolate, cookies, cakes, pastries, snack cakes, baked goods, cake mixes	None		None		All desserts				
Condiments and Cooking Staples	Spices, oil, butter, plant- based spreads, flour, salad dressing, jarred sauces (except tomato sauce), seasoning, salt, sugar	Not ranked								
Miscellaneous Products	Nutritional supplements, baby food	Not ranked								

 $[\]ensuremath{^*}$ Definitions of food product categories are included in the text.

^{**}Use the added sugar value when available on the Nutrition Facts Label. If it is not available, use the total sugar value. The thresholds are the same for all categories except fruits and vegetables and dairy. For both fruits and vegetables and dairy, total sugar thresholds are ≤ 12 grams for the "choose often" tier, 13 to 23 grams for the "choose sometimes tier," and ≥ 24 grams for the "choose rarely" tier.

^{***} The threshold for saturated fat is the same for the "choose sometimes" and "choose rarely" categories. All saturated fat values \geq 2.5 grams should be ranked as "choose sometimes." The overall ranking is based on the lowest tier of any nutrient. Thus, a grain with 3 grams of saturated fat ("choose sometimes"), 300 milligrams of sodium ("choose sometimes"), and 13 grams of added sugar ("choose rarely") would fall into the "choose rarely" tier, while a grain with 3 grams of saturated fat ("choose sometimes"), 300 milligrams of sodium ("choose sometimes"), and 10 grams of added sugar ("choose sometimes") would fall into the "choose sometimes" tier.

Table 2.2Healthy Eating Research Nutrtion Guidelines for the Charitable Food System, p. 16

Table 2 depicts how common items typically rank using these guidelines. It is important to note that there will be variation in the ranking of individual products depending on their specific brand formulation. As such, this table does not provide an exact depiction of how all products rank.

Category	Choose Often	Choose Sometimes	Choose Rarely	
Fruits and Vegetables	Fresh, frozen and canned fruits and vegetables with no added sugar or sodium; low sodium vegetables; fruit canned in 100% juice or in water	100% juice; fruit canned in light syrup; canned vegetables; plain dried fruit	Dried fruit with sugar added; fruit canned in heavy syrup; tomato sauce with added sugar; vegetables canned with high sodium	
Grains	Whole grains (quinoa, brown rice, barley); whole wheat pasta; whole grain breads; whole grain cereal with ≤6 grams added sugar; plain oatmeal	Refined grain products (white breads, pasta, rice); oatmeal with added sugar; whole or non-whole grain cereal with 7-11 g of total or added sugar	Rice and pasta with salt-based seasoning mixes; whole or non- whole grain cereal with ≥12 g of sugar	
Protein	Dried beans; low-sodium canned beans; some nut butters; nuts; fresh poultry; fish; eggs; tofu; low-sodium canned tuna; canned salmon	Canned beans; baked beans; some nut butters; regular canned fish; pork	Refried beans; deli meat; sausage; bacon; most red meat; breaded chicken	
Dairy	Fat-free or low-fat unsweetened yogurt; skim, 1% and 2% milk; fat- free and reduced fat cheeses; light sour cream	Some reduced fat or whole milk cheeses; cottage cheese; whipped cream cheese; whole milk; full-fat sour cream; some low-fat flavored milks; low-fat flavored yogurts	Full-fat cheese and cream cheese; some low-fat and full-fat flavored milks; some flavored yogurts	
Non-Dairy Alternatives	Unsweetened almond, rice, cashew, oat and pea milk; unsweetened soy, almond, rice, cashew and oat milk yogurts; some plain non-dairy alternative products with ≤ 6 g of added sugar	Plant-based cheeses; some flavored soymilks; plain and flavored soy, almond, rice, cashew and oat milk yogurts	Plant-based cream cheese; flavored soy, almond, rice, cashew and oat milk yogurts; plain and flavored coconut milk; flavored soy, almond, rice, cashew, and oat milk	
Beverages	Plain water; flavored and unflavored sparkling water; plain coffee; unsweetened tea	Diet soft drinks; diet iced teas; sugar free energy drinks; sparkling water with sodium or added sugar; coconut water	Sweetened energy drinks; sports drinks; regular sodas; non-100% juice drinks with added sugar	
Mixed Dishes*	Variability by product formulation is more substantial than other categories	Variability by product formulation is more substantial than other categories	Variability by product formulation is more substantial than other categories	
Processed/ Packaged Snacks	None	Plain popcorn; whole wheat crackers; green pea snack crisps; rice cakes; unsalted whole grain pretzels; some snack bars	Pretzels; cheese crackers; potato chips; granola and other snack bars; flavored popcorn	
Desserts	None	None	All desserts	
Condiments and Cooking Staples	Not ranked			
Miscellaneous products	Not ranked			

Appendix A

Interview Protocol

Content	Questions	Probes
Opening	 Thank you for agreeing to be a part of my study on food pantry/food bank directors and the influence implementing a healthy pantry model may have on your role as a leader. Participating in this study is completely voluntary and your personal information and the name, location, or any specific identifying information about your food pantry/food bank will not be disclosed. The geographic location of participants will be described as the Arkansas Delta Region. I am now going to go over the informed consent with you before I have you sign it. You will be given a copy to keep. 	
	I am going to record our interview as well as take a few notes on my computer.	
General	How long has this food pantry/food bank been in operation?	
Information	• Including yourself, how many paid staff members does your food pantry/food bank have?	

Business Manager / Individual Level

How long have your worked for the food pantry/food bank?	
What is your title/role?	
Did you have another role within the food pantry/food bank before moving into your current position?	
How would you describe your role?	In other words, what are some of your responsibilities as the (title they gave you)?
Was there any education or prior work experience required for you to obtain your position?	
How would you define healthy food?	

	How would you define or describe a food pantry/food bank that follows a healthy pantry model?	
_	When thinking about your food pantry/food bank, what makes it a healthy pantry?	Can you elaborate or give me an example of any guidelines, processes, or policies that you use or have in place?
	In thinking about changing your food pantry/food bank into a healthy pantry model:	
	How long have you been making efforts to move your food pantry/food bank toward a healthy pantry model?	
	• What has it been like to make these changes?	Can you elaborate on what has made it difficult or easy?
	• Do you have a tool or a system that tracks the changes you have made? If so, can you describe the tool or system?	
	• What additional resources, if any, have you needed to completely change your food pantry/food bank into a healthy pantry?	
	What are your personal feelings about the changes you have made?	For example, how do you feel about restructuring your food pantry/food bank into a healthy pantry model where most of the foods distributed meet certain nutritional policies?
	What about the changes that still need to be made, if any?	
	Do you feel you need training on healthy pantry initiatives?	
	I've heard some food pantries/food banks have had a hard time getting fresh produce. • Have you experienced this?	If so, can you elaborate? If not, can you elaborate?

	Do you have any partnerships outside of the food pantry/food bank that provides you with fresh produce?	For example, grocery stores, farmers, home growers, donors, businesses, etc.
	 Do you receive a lot of food donations from the community? What types of foods do you normally receive? Have you done any marketing or promotion to raise awareness that you need healthier foods donated? 	
	Are there any additional changes that we have not discussed you feel need to be implemented into your food pantry/food bank?	
Volunteer Organizer / Interpersonal	Does your food pantry/food bank use volunteers? If so, do you rely on these volunteers to compete the food pantry/food bank mission? About how many volunteers do you have?	
Level	Can you tell me about your role as the (the title they gave you) in working with your pantry's/bank's volunteers?	Can you tell me more? Do you have anyone that helps you with this role?
	Do your volunteers undergo any type of training? If they do not receive training, do you think they need training?	Can you elaborate? For example, can you describe the type of training they receive/ need to receive? Who provides/would provide the training?
Social Services Provider / Community Level	What is your food pantry/food bank's mission?	the training.
	Do you feel your food pantry/food bank provides enough food to your patrons?	
	Do you feel your food pantry/food bank provides a sufficient amount of healthy foods to your patrons?	
	What is your definition of culturally appropriate foods?	
	Do you feel your food pantry/food bank provides enough culturally relevant healthy foods to your patrons?	
	I'm going to describe a couple of scenarios to you. Let me know how you feel about each of these:	Can you tell me more about why you feel this way?

	A) Patrons receive a smaller quantity of food, but it is mostly healthy foods.B) Patrons receive a larger quantity of food, but it may not be mostly healthy foods.	
	Is there anything your food pantry/food bank needs to better serve the needs of your patrons?	Can you describe some of these needs?
Closing	 I want to thank you again for taking the time to speak with me. If I have any follow up questions, is it okay for me to reach back out and schedule another time to meet? If you have any questions or concerns about this interview and the story I am going to write, please do not hesitate to call or email me. Here is my business card with my contact information. My contact information is also on the copy of the informed consent that you received earlier. 	