FOOD AND NUTRITION EDUCATION NEEDS AND INTERESTS OF FOOD PANTRY GUESTS, 18 TO 49 YEARS OF AGE, WITH AND WITHOUT CHILDREN IN THE HOUSEHOLD

By

LYDIA WEI

Bachelor of Science in Nutrition and Dietetics

The University of Texas at Austin

Austin, Texas

2017

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
May, 2019

FOOD AND NUTRITION EDUCATION NEEDS AND INTERESTS OF FOOD PANTRY GUESTS, 18 TO 49 YEARS OF AGE, WITH AND WITHOUT CHILDREN IN THE HOUSEHOLD

Thesis Approved:

Dr. Janice Hermann

Thesis Adviser

Dr. Gail Gates

Dr. Barbara Stoecker

ACKNOWLEDGEMENTS

I am grateful that I was given the opportunity to perform research on food insecurity in Payne County. I am even more grateful for my fellow classmates and professors in the program including Dr. Janice Hermann. Dr. Hermann had always been kind and generous with me through the process. She treats those around her including her students and her food pantry guests with the upmost respect and compassion for them. Through seeing her daily actions with the food pantry and her students, I can see God using her to His goals. God is using her for His work and the evidence is displayed through the maturation of the fruits of the spirit in her life. These fruits displayed include joy, patience, kindness, love, peace and gentleness. She serves as a public servant to the community and I am extremely joyful *Our Daily Bread* is open to serve the local community in the Payne County area because this opens up doors for the residents of Payne County to hear the good news of what Jesus Christ has done on the cross for us.

Name: LYDIA WEI

Date of Degree: MAY, 2019

Title of Study: FOOD AND NUTRITION EDUCATION NEEDS AND INTERESTS OF FOOD PANTRY GUESTS, 18 TO 49 YEARS OF AGE, WITH AND WITHOUT CHILDREN IN THE HOUSEHOLD

Major Field: NUTRITIONAL SCIENCES

Abstract: Payne Country has the second highest food insecurity rate in Oklahoman counties. This study surveyed food pantry guests, 18 to 49 years of age, with and without children in the home at *Our Daily Bread Food and Resource Center* about food security, pantry views, demographics, food and health indicators and food and nutrition education interests. One hundred and fourteen participants completed the survey with 56 having children in the home and 58 not having children in the home. Most were White, but a higher percentage were Native American and African American compared to Payne County's racial breakdown. The majority were female, had a high school education, were unemployed and had an annual income below $12,000. Food assistance programs mostly utilized were food pantries and SNAP. Only 4.4% of the participants reported they were college students. Most had low fruit, vegetable and dairy consumption. Participants reported seldom or only some days consuming breakfast, lunch and snacks and having food to create healthy meals. Only 19.5% reported they were interested in food and nutrition education classes, but 45.1% were possibly interested. Education interests included "healthy eating at home," "meal planning," "adult nutrition," and "stretching your food dollar." There were significant differences in participants' interest in classes on "childhood nutrition" and "teen nutrition" and "classes for children in the family," with more participants with children being interested compared to those without children. Barriers to attending education were work, transportation, children and childcare. Most participants perceived themselves as having good, very good or excellent health. Few participants reported chronic disease conditions except for high blood pressure. Half were classified as obese, a fourth were classified as overweight while another fourth were classified as normal weight. Over half had anxiety and depression and a fourth had fatigue. Lack of social support appeared to be problematic. Most were comfortable with food-related activities. The combination of weight status, poor diet, lack of social support and emotional stress may increase participants' risk of future chronic disease. Beyond interest in child and family educational topics, there were few differences between those with and without children.

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CHAPTER I

INTRODUCTION

Food insecurity is a major problem in the United States (U.S.) (Feeding America, 2018d). The U.S. Department of Agriculture (USDA) defines food insecurity as the lack of "access by all people at all times to enough food for an active, healthy life" (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2017b, p. 2). In 2015, one in eight Americans (42 million) were considered food insecure (Coleman-Jensen *et al.*, 2017b). Hunger and food insecurity are different concepts in that hunger is the "personal, physical sensation of discomfort" while food insecurity is "a lack of available financial resources for food at the level of the household" (Feeding America, 2018d). Food insecurity is often a difficult problem with many contributing factors. Poverty and food insecurity are closely related topics (Feeding America, 2018d.).

Household food insecurity can have deleterious effects such as changes in food budget, adjustments and alterations in types of food consumed, being at a disadvantage for selecting and obtaining healthy foods and susceptibility to psychological health problems (Seligman, Laraia, & Kushel, 2010). These adjustments can result in less consumption of vegetables, fruits, dairy and micronutrients. Poor diet quality can lead to the development of several chronic diseases such as heart disease, diabetes, and high

blood pressure (Seligman *et al.*, 2010). Low-income households may have difficulty accessing food due to transportation costs and limited access to grocery stores, consume poor-quality foods and have higher exposure to low nutrient dense foods and fast food restaurants (Food Research and Action Center, n.d.). Parents may sacrifice their own food for the needs of their children (Food Research and Action Center, n.d.). Higher stress, anxiety and depression may exist in food-insecure households (Davey-Rothwell, Flamm, Kassa, & Latkin, 2014). Mental health problems (depression, suicidal ideation and substance abuse) may be caused by food insecurity (Weissman, 2017). Through solving food insecurity and emotional issues, the cycle of poor psychological health and low socioeconomic status may be inhibited (Pryor *et al.*, 2016).

Childhood food insecurity can result in adverse academic, social, behavioral, dietary, health, and emotional consequences. For children, the consequences include behavioral problems, repetition of a grade in school, and developmental delays in language, motor skills and social interactions (Feeding America, 2018b). Academic consequences may be lower achievements in reading and math; tardiness; increased risk of not graduating; and delays in emotional, physical and cognitive development. As a result, behavioral and social difficulties may occur such as "truancy, school tardiness, fighting, hyperactivity, aggression, anxiety, mood swings and bullying" (Slack & Yoo, 2005; Whitaker, Phillips, & Orzol, 2006; Slopen, Fitzmaurice, Williams, & Gilman, 2010; Huang, Matta Oshima, & Kim, 2010). Food-insecure children are at risk of greater consumption of inexpensive and unhealthy foods (Feeding America, 2018b). Health consequences of childhood food insecurity have been linked to anemia, chronic illness, infections, delays in development and mental health (Seligman *et al.*, 2010). In addition,

children who are food insecure are at risk for increased hospitalizations, oral health problems and poor quality of life (Cook, Frank, Levenson, Neault, Heeren, Black, & Chilton, 2006; Kirkpatrick, McIntyre, & Potestio, 2010; Eicher-Miller, Mason, Weaver, McCabe, & Boushey, 2009; Skalicky *et al.*, 2006; Muirhead, Quiñonez, Figueiredo, & Locker, 2009; Casey, Szeto, & Robbins, 2005). Psychological consequences may include anxiety, depression, and other behavioral problems (Black, 2012). Children who dwell in food-insecure households also have difficulty with and are also less likely to engage in social relationships (Deeds, 2015).

Food and nutrition education could help food insecure households improve diets which could lower health consequences. However, food and nutrition educational needs may differ between households with children and households without children.

Purpose

The purpose of this study was to survey food pantry guests, 18 to 49 years of age, with and without children younger than 18 years of age in the home, at the Payne *County Our Daily Bread Food and Resource Center* regarding demographics, food security, food pantry views, dietary and health indicators, and food and nutrition education interests. By identifying differences in the educational needs and desires of households with and without children in the home, educational material can be tailored to target families' individual needs.

Implications

The data collected from this project will aid the development of an Oklahoma Cooperative Extension food and nutrition curriculum for food pantry guests.

Assumptions

An assumption was that the participants would honestly answer the survey questions.

Limitations

Limitations include the small sample of Oklahoma food pantry guests and biases in communication and issues due to different backgrounds of participants.

Definitions

Food security levels are either high or marginal (Coleman-Jensen, Gregory, & Rabbitt, 2017a). High food security exists in households without issues or anxiety regarding access to adequate food. Marginal food security applies to households that sometimes have obstacles or anxiety about accessing adequate food sometimes. However, these households still have food with quality, variety and quantity that are not appreciably compromised. Food insecurity levels are low or very low. Low food insecurity includes households with diets of reduced quality, variety and desirability due a lack of resources. Additionally, eating patterns are not markedly disrupted. Very low food security stems from the lack of household money and resources for food. This leads to disrupted eating patterns of one or more household members and reduced food intake (Coleman-Jensen *et al.*, 2017a).

CHAPTER II

REVIEW OF LITERATURE

Incidence of Food Insecurity

Food insecurity is a major concern in the United States (Melina, Craig, & Levin, 2017). The USDA defines food insecurity as the lack of "access by all people at all times to enough food for an active, healthy life" (Coleman-Jensen *et al.*, 2017b, p. 2). Food insecurity is "when there is (1) uncertainty about future food availability and access, (2) insufficiency in the amount and kind of food required for a healthy lifestyle, or (3) the need to use socially unacceptable ways to acquire food" (National Research Council, 2006, p. 43). In 2016, one in eight Americans were reported to be food insecure, which represents 42 million people including 13 million children (Coleman-Jensen *et al.*, 2017b).

In contrast to the national average, Oklahoma has a significantly higher food insecurity rate and currently ranks tenth in the nation for food insecurity (Kelley, 2016). According to a Gallup poll, 21.2% of Oklahomans in the past 12 months were not able to purchase sufficient food (Wolfe, 2014). These Oklahomans struggled to afford food. In the poll, many of the Oklahoman families who were unable to purchase sufficient food

had family members who were employed and were considered the working poor (Oklahoma Farming and Ranching Foundation, 2018). More than 656,000 Oklahomans struggle with food insecurity every day and one in four Oklahoman children go hungry to bed (Kelley, 2016).

This project was focused on the population in Payne County, Oklahoma and Stillwater, Oklahoma. Payne County has the second highest food insecurity rate in Oklahoma with 20% of the population being food insecure; however, only 11.2% of Payne County residents received SNAP benefits or Food Stamps (Simmons, 2016). Stillwater, Oklahoma is the largest town in Payne County, Oklahoma. Thirty-three percent of the Stillwater residents are considered below poverty line in contrast to the national average of 15% (Mintmire, 2016). In addition, 45% of Stillwater children qualify for free or reduced school meals (Oklahoma State Department of Education, n.d.).

Populations at Risk for Food Insecurity, 18 to 49 Years of Age

College students.

Higher education is now more accessible to those in lower socioeconomic levels who may face, with the transition to college, new independence and stressors such as financial burdens. Ultimately, this can result in greater food insecurity (Bruening, Brennhofer, Woerden, Todd, & Laska, 2016). For black and Hispanic students, the rate of food insecurity is 1.5 times higher in contrast to White or Asian students. Food insecure students were more likely to be on financial aid, not reside with family, take on jobs and receive lower grades. College freshman in the residence halls may be protected from food insecurity by access to institutional supports, programs for assistance for the transition to

university, high-quality and safe housing and university meal plans. A study demonstrated that one-third of college freshmen did not have adequate access to food. This statistic is higher in comparison to the national average for adults and children (Bruening *et al.*, 2016).

Four campus organizations conducted a survey on college food insecurity during March to May 2016 (Dubick, Mathews, & Cady, 2016). The sample included 3,765 students from 12 states, and included 26 four-year colleges and universities and 8 community colleges. The sample represented 0.5% of the students at 34 institutions. The survey found 48% of the respondents were food insecure the past month including 22 % that were classified as very low food security. The prevalence of food insecurity was higher at two-year community colleges. Twenty-five percent of community college students had very low food security while 20% of four-year college students had very low food insecurity. Among minorities, food insecurity was more widespread among African American students, with 57% being food insecure compared to 40% of non-Hispanic students. In addition, food insecurity was higher among first generation students. Fifty-six percent of first generation students were considered food-insecure while 45% of students who had at least one parent who went to college were food-insecure (Dubick *et al.*, 2016).

Similar to children and adolescents, food insecurity among college students is connected to poor academic progress (Bruening *et al.*, 2016). In addition, food insecurity is correlated with poor diet quality, chronic disease, binge eating and low work productivity in contrast to food security. Among food-insecure freshman, anxiety and depression are almost three times as high. Food insecurity and poor mental health impact

student education and performance. Student mental health issues can prompt higher levels of stress eating, can result in weight gain. Food insecure students may not be aware of resources to assist them with food insecurity and may need more assistance navigating the transition to college life (Bruening *et al.*, 2016).

Colleges have creative ways of mediating food insecurity, which include campus food pantries and community gardens, coordinated benefits access programs and food recovery programs (Dubick *et al.*, 2016). Policymakers can improve student access to federal programs like the expansion of SNAP eligibility requirements for students, simplification of the FAFSA process for homeless students and the addition of food security measures to National Postsecondary Student Aid Study (Dubick *et al*., 2016).

Families.

Families are at risk of food insecurity; within families are mothers and young children. One in four children in Oklahoma are food insecure (Kelley, 2016). During pregnancy, food insecurity contributes to stress, anxiety, depression, over twice the risk for the development of gestational diabetes and gestational weight gain (Ivers & Cullen, 2011). As a result, studies have indicated food insecurity in pregnancy may directly influence the development of chronic diseases in adults and the second generation (Ivers & Cullen, 2011).

Minorities.

Hispanic American households are represented disproportionally among those who receive food assistance (Feeding America, 2017b). Hispanic American households are more than twice as likely to have charitable nutrition assistance in contrast to their

White counterparts (Rabbitt, Smith, & Coleman-Johnson, 2016). However, among the SNAP-receiving households, 39% identified as non-Hispanic, white compared to the 11% that identified as Hispanic (Gray, Fisher, & Lauffer, 2016). In 2014, 22.4% of Hispanic households in the U.S. were food insecure while 14% of the U.S. population lived in food insecurity (Rabbitt *et al.*, 2016). Economic situations vary appreciably across Hispanic groups, due to factors such as the amount of time spent in the U.S. and immigration status. Hispanics from Mexico, Guatemala and Puerto Rico had a 25% rate of poverty. From 2011 to 2014, food insecurity among Hispanic adults living in the United States was more prevalent among those who were not citizens (24.4 %) compared to those who were U.S. citizens (18.9%). Naturalized Hispanic citizens had lower rates of food insecurity compared to other Hispanic noncitizens (Rabbitt *et al.*, 2016).

Similar to the Hispanic community, the prevalence of food insecurity among African-Americans is more than twice the percentage of the non-Hispanic, white population (Feeding America, 2017a). In 2014, 22.5 % of African-American families were food insecure while 9% of non-Hispanic, white households and 12% of general households were also food-insecure. Among African-American children, one out of four reside in households with food insecurity while one in eight non-Hispanic, White children are situated in these households (Feeding America, 2017a).

Sixty percent of counties with a majority of Native Americans face high food insecurity rates (Zielinski, 2015). Twenty-three percent of indigenous populations have little access to “adequate food”, which is double the national average. Native American communities are in need of improved food systems (Zielinski, 2015).

Factors Contributing to Food Insecurity

Poverty.

Although there are numerous factors influencing food insecurity, poverty is a leading contributing factor (Bread for the World, n.d.). Low family income is a determinant of food insecurity because families cannot purchase necessary food (Food Research and Action Center, n.d.). According to Bellisari (2016, p. 262), poverty is defined as "estimates of the portion of an average household's income required to purchase a 'minimally nutritious diet'". Decreasing poverty is an international concern, but no international consensus on the measurement of poverty is agreed upon. Economically, poverty occurs when the income of a family does not meet a threshold established by the government (Smelser & Baltes, 2001). Often, poverty is categorized into relative or absolute terms. Absolute poverty is relevant to meeting the basic needs, such as clothing, food and shelter. The concept of absolute poverty is not concerned with quality of life problems or inequality social levels. There has been criticism against the concept of absolute poverty because it failed to acknowledge individual social and cultural needs. Because of this criticism, the concept of relative poverty developed because it further defined poverty compared to the economic status of other members in the community (Sane, 2010). Both concepts are concerned with income and consumption solely (United Nations, n.d.). Households in poverty have limited financial resources (Cook & Frank, 2008). Financial resources include household income, additional sources from public assistance and private safety-net and food programs, energy assistance and housing subsidies (Cook & Frank, 2008).

The poverty rate in Oklahoma (16.8%) is higher than the average U.S. poverty rate (15.8%) (Casteel, 2011). However, the poverty rate among Oklahoma children is 23% (The Henry J. Kaiser Family Foundation, 2017). Female-headed households are more susceptible to food insecurity and poverty compared to other U.S. households (Bread for the World, 2016). Female-headed households are more than twice as likely to be poor in comparison to all U.S. households (30.6% compared to 14.8%). One in three single mothers has difficulty providing for herself and her children (Bread for the World, 2016). The thresholds of poverty are set at statistical levels for families of different sizes and compositions and do not differ geographically (Institute for Research on Poverty, n.d.). The 2017 U.S. poverty threshold for a family of four was $24,600 annually (United States Department of Health and Human Services, 2018). One in six Oklahoman families had incomes less than $24,000 annually for families of four (Oklahoma Policy Institute, n.d.).

Education.

Low education is another determinant of food insecurity because it contributes to poor work options and decreased income, which increases the risk of food insecurity (Cuesta, 2015). Not only is education itself a factor that affects food insecurity, the reverse is true in that food insecurity can also impact education (Bruening *et al.*, 2016). According to the Post-2015 Consensus, education is phenomenally advantageous for its high returns on security (Cuesta, 2015). In fact, children with educated parents, especially those with educated mothers, have the advantage of improved feeding practices and prenatal care and are less likely to suffer from malnutrition. Education may increase work income, which can lead to more resources for food purchases, wider availability of

nutritious foods and more options to manage food shortages and price shocks. Additionally, well-nourished adults and children have greater performance in the labor markets and schools (Cuesta, 2015).

Disability.

Food insecurity can also occur when food is available and accessible but not consumed due to physical constraints from a disability (Wunderlich & Norwood, 2006). Disability refers to health or physical impairments which limit an individual's ability to activities of daily living (Coleman-Jensen & Nord, 2013). Households with disabled people are vulnerable to food insecurity (Coleman-Jensen & Nord, 2013). Twenty-one percent of the American population aged 15 or older reported having a disability in 2010. From 2009 to 2010, one out of three U.S. households with a member who could not work due to disability were food insecure. In comparison, food insecurity existed in only 12% of households with working adults without disabilities. Current food and nutrition assistance programs and disability assistance programs do not compensate for reduced earnings and high costs associated with disabilities. When faced with unemployment and disability, those who were unemployed due to their disability may have poorer health and more severe disabilities than those who were simply unemployed for other reasons. Disabilities lead to earning reductions for the disabled person and other household members who care for the disabled family member. People with disabilities may also have increased monetary expenses, such as adaptive equipment like special telephones and wheelchairs, health care and other expenses (Coleman-Jensen & Nord, 2013). Thus, having a disability increases the risk of food insecurity due to diminished income from unemployment and additional expenses of care and adaptive equipment.

Limited access.

Limited access to food also causes food insecurity. Four dimensions of food insecurity encompass the physical availability of food, economic and physical access to food, food utilization and stability of the other three dimensions over time (Food and Agriculture Organization, 2008). One of these factors, economic and physical access, is related to limited access to food. At a national or international level, an abundance of food does not promise household-level food security because, not only does the food have to be produced, it needs to be accessible and affordable (Food and Agriculture Organization, 2008).

Food deserts are places where individuals do not have access to affordable or nutritious food (Mustufa, 2011). Food deserts are determined by calculating the number of grocery stores in a certain area and may also take into account affordability, accessibility and quality of food available in an area (Rex, 2016). Another definition comes from the USDA. According to the USDA (2017), a food desert is an impoverished census tract where a considerable number of residents cannot access a large supermarket. Within these tracts, at least 20% of the population has an income for the family size that is at or below the federal poverty levels. Another determinant for classification for a food desert is a median family income in the tract below or at 80% of the surrounding area's median family income. A "low access" tract contains at least 500 people or 33% of the population living more than a mile from a large grocery store or supermarket. Of the 65,000 census tracts that exist in the U.S., about 10% fit the criterion of a food desert (USDA, 2017).

Food deserts develop in several ways. Those in the inner city may have limited access because high construction costs and limited access to land push supermarkets to the fringes of urban areas or suburbs. In rural areas, low number of residents may make it difficult to maintain or open grocery stores. Supermarkets provide higher quality food options than small grocery stores (Rex, 2016).

Food deserts can have significant health consequences (Rex, 2016). In fact, a study with Massachusetts adults found the risk of obesity decreased by 10.7% in zip codes that had one or more supermarkets (Lopez, 2007). Residents in food deserts turn to foods with high fat and sugar, "empty calorie" foods because unhealthy foods were easier to access compared to healthier food choices (Rex, 2016). Diets high in fat and sugar may lead to the issues of obesity and diabetes (Rex, 2016).

There is conflicting information regarding the location of rural and urban food deserts in Oklahoma. According to Rex (2016), rural food desserts were more frequent in southeastern Oklahoma while urban food deserts exist in most of north Tulsa and south and east Oklahoma City. The Oklahoma Health Equity Campaign (2015) indicated urban food deserts were mostly in north and west Tulsa and northeast Oklahoma City. Reports have indicated there are 32 or 33 counties in Oklahoma that meet the conditions for being a food desert (Rex, 2016; Oklahoma Health Equity Campaign, 2015).

Food options in Oklahoma have been put into effect to resolve food deserts (Rex, 2016). These options include mobile food truck programs providing affordable healthy food, healthy food choices in convenience stores, and alleviation of start-up costs for non-profit or small businesses such as Community Development Block Grants and Fresh

Food Financing. The implementation of programs such as these may grant access to grocery stores for food deserts in Oklahoma (Rex, 2016).

Natural disasters.

During emergency disasters, both limited food supply and reduced access lead to poor nutrition (Golem & Byrd-Bredbenner, 2015). Factors related to disasters such as lack of proper storage and cooking and water facilities decrease the ability for consumption of food. This can decrease the nutritional and caloric adequacy for food supply in the household. According to the study, a deficit of water and energy for cooking was associated with decreased household calories consumed. If the loss of power extended for 5 days or more, household calories consumed decreased by 27% (Golem & Byrd-Bredbenner, 2015). A host of challenges including fallen power lines and trees and damage to property prompt closures of road and evacuation in areas (Weber, 2017). These evacuations cause displacement of people who eventually have little access to food and groceries. Those areas that have been hit by severe weather may meet their food needs by visiting food banks such as Feeding America food banks (Weber, 2017).

Oklahoma has a history of natural disasters, particularly ice storms and tornadoes. One recent incident was the 2013 Moore tornado, which resulted in increased food insecurity and a great need to meet food necessities. In addition to assistance by local food banks and pantries, a Salt Lake City-based manufacturing company of emergency food storage products, Wise Company Inc., made a shipment of more than 90,000 meals to those impacted by the Moore tornado (Wise Company Inc., 2013). Furthermore, more than 2,500 Red Cross workers delivered food, shelter, supplies for relief and other items.

Consequences of Food Insecurity

Food insecurity can result in many consequences and happens more often in at-risk populations (Black, 2012). The cost of hunger in the United States is estimated to be $167.5 billion (Shepard, Setren, & Cooper, 2011). These costs are due to poor educational outcomes, lost annual economic productivity, health care and charity costs for maintaining that families are fed. This statistic does not take into account the cost of key government nutrition programs (Shepard *et al.*, 2011).

Consequences on households and children.

Food insecure families may resort to low-quality diets to avoid hunger, which can result in low-quality diets. These diets increase the likelihood of micronutrient deficiencies and obesity (Skalicky *et al.*, 2006). In poor households with food insecurity, children eat fewer carbohydrates, calories and fruits and have higher cholesterol values in contrast to their higher-income peers who are food secure (Casey, Szeto, Lensing, Bogle, & Weber, 2001). However, another study reported food-insecure children also eat fewer vegetables, fruits, yogurt, grains, seeds, nuts, peas and beans but more sugar and egg (Black, 2012).

Food insecurity also has a severe impact on children including increased hospitalization, iron deficiency, poor health and behavioral problems and developmental risks (anxiety, depression, attention deficit disorder and aggression) (Cook & Frank, 2008; Whitaker, Phillips, & Orzol, 2006). These physical issues can lead to risk of poor academic performance (Black, 2012). Research on school-aged children demonstrates an association between food insecurity and low scores on behavioral, health and academic

performance and function (Black, 2012). Food insecure children can also exhibit eating disorders and behaviors such as food hoarding and binge eating (Holben & Marshall, 2017). Furthermore, food insecurity can lead to childhood hyperactivity, reduced physical exercise, asthma, anemia, dental caries and risk of fracture among boys (Holben & Marshall, 2017).

Food insecurity can result in parental emotional distress, which may be manifested in depression and anxiety, may interfere with caregiving practices (Bradley & Corwyn, 2002). This ultimately influences the well-being of the child (Bradley & Corwyn, 2002). Frustration and emotional distress may originate from difficult choices between basic needs such as energy, healthcare, food and housing (Wickrama, Conger, Lorenz, & Jung, 2008). In 2010, almost half of households searching for emergency food assistance chose between paying for heating fuel or utilities and food (Shepard *et al.*, 2011). Nearly 40% of households chose between paying for a mortgage or rent and food. In addition, more than one-third had to choose between medical bills and food (Shepard *et al.*, 2011).

Consequences of food insecurity on adults.

On a short-term level, tiredness, stress and reduced capacity to work may be caused by poor nutrition from food insecurity (Government of South Australia, n.d.). Both stress and poor nutrition combined make disease management more difficult. As a response to worsening health crises, time and money spent on these crises drain the budget of the family further, leaving less financial resources for nutritional and medical care. The cycle continues and these families experiencing food insecurity often have

several factors compounding, which makes health maintenance difficult (Feeding America, 2018a).

Short-term consequences may also include poor diet quality. Food insecurity may lead to inadequate intake of fruits, vegetables and dairy (Holben & Marshall, 2017). Along with the inadequate consumption of nutritious foods, individuals may have inadequate micronutrient intakes, such as vitamin A and vitamin B6 (Holben & Marshall, 2017). Food-insecure adults consume more infrequent, bigger meals and more snacks which can result in higher calorie intake (Holben & Marshall, 2017).

Food insecurity can also result in short-term emotional distress (National Research Council, 2006). Worry and anxiety can accompany food insecurity in the beginning (Ballard, Kepple, & Cafiero, 2013). Anxiety and worry often originate from uncertainty. Distress, alienation, deprivation, and negative changes in social and familial interactions may occur (Wunderlich & Norwood, 2006).

Tiredness, capacity to work and employment in the short-term are also included as short-term consequences (Government of South Australia, n.d.). According to a study, 82% of educators reported that student hunger leads to tiredness, 88% of the educators said that student hunger causes inability to concentrate and 84% claim that student hunger led to poor academic performance (Hayes, 2015). Food insecurity may diminish cognitive ability and work performance and productivity (Upadhyah & Palanivel, 2011).

Food insecurity can be a high-stress circumstance because people do not know if they are going to eat their next meal and finding the next meal is often the greatest

priority and can take priority over things of less urgency but still of importance such as medication, doctor appointments and insurance (Feeding America, 2018a.).

Food insecurity can result in poor diet quality and disrupted eating patterns which can lead to poor nutritional status (Holben & Marshall, 2017). In fact, 80% of charitable food programs recipients purchased less-expensive, unhealthy food to stretch their food budget (Weinfield *et al.,* 2014). The most desirable food items, such as vegetables, fruits, dairy and lean proteins, are not as accessible for those dealing with food insecurity (Holben & Marshall, 2017). Over time, poor nutritional status can lead to malnutrition, poor health, increased risk of disease, and negative mental outcomes (Hanson & Connor, 2014; Dixon, Winkleby, & Radimer, 2001; Holben & Marshall, 2017).

Short-term consequences accumulate over time and create greater long-term consequences. Long-term consequences are the risk of developing illnesses and greater health complications including high blood pressure, high cholesterol, eating disorders, depression, tooth decay, type 2 diabetes, obesity, heart disease or stroke, osteoporosis and cancer (Government of South Australia, n.d.). Food insecurity can begin a cycle of chronic disease when an individual lacks the money to purchase nutritious food (Feeding America, 2018a).

Adult food insecurity is associated with poor physical status. Health conditions include inflammation (which has an association with several chronic conditions), kidney disease, sleep disorders, diabetes, HIV infection and depression (in women) (Holben & Marshall, 2017). According to a nationally representative sample, for working-age individuals at or below 200% of the federal poverty level, lower food security is

associated with a higher likelihood for developing ten types of chronic diseases (coronary heart disease, hypertension, hepatitis, cancer, stroke, diabetes, asthma, chronic obstructive pulmonary disease, arthritis and chronic kidney disease) (Gregory & Coleman-Jensen, 2017). Hyperlipidemia, diabetes and hypertension are related to food insecurity (Seligman *et al.*, 2010). Food insecurity is linked to obesity among women who experience marginal or low food security and the overindulgence of poor-quality foods may cause this issue (Darmon & Drewnowski, 2015; Drewnowski, 2009; Drewnowski & Specter, 2004). Individuals with food insecurity have a greater chance of developing type 2 diabetes and may face difficulties managing their type 2 diabetes (Gucciardi, Vahabi, Norris, Monte, & Farnum, 2014). According to a study by Berkowitz and colleagues (2013), which was a U.S. representative sample of adults with diabetes, there was an association of food insecurity with poor cholesterol and glycemic control.

Food Pantries and Their Benefits

A food pantry is "a public or private non-profit organization that distributes food to low-income and unemployed households, including food sources other than the USDA, to relieve situations of emergency and distress" according to 7 USCS § 7501 (Title 7, Agriculture; Chapter 102, Emergency Food Assistance) (Wyoming Food Bank of the Rockies, 2018). Food pantries provide food directly to those in need. They do this by receiving, purchasing, storing and distributing food to low-income individuals. Many food pantries receive food from food banks and then distribute the food to individuals and families in need (Wyoming Food Bank of the Rockies, 2018). By improving food pantry guests' ability to access healthy nutritious food, food pantries may negate poor health

outcomes. Food pantries can raise very low or low food insecurity households to marginal or high food insecurity households (Farrell, 2013).

Food pantries may also provide nutrition education programs. Emergency food from food banks and pantries supply momentary solutions, but long-term benefits such as education on budgeting and meal planning are needed and should be developed (Bruening *et al.*, 2016). Nutrition education programs can teach guests how to stretch their food budget (Farrell, 2013). According to one study, the educational topic of most interest to food pantry users was food money management (Hoisington, Shultz, & Butkus, 2002). In the survey, from a list of food and cooking topics, the topic that was most selected was "stretching your food dollar". In addition, education on childhood nutrition may be valuable because food-insecure children are more susceptible to developmental risk and later school readiness (Rose-Jacobs *et al.*, 2008). If parents are aware of how to feed their child, they can stem the developmental growth risk for their children (Rose-Jacobs *et al.*, 2008). Furthermore, education on adult nutrition may be an important need. Food-insufficient families have poorer nutritional status (Dixon *et al.*, 2001). Compared to adults from food-sufficient families, adults from food-insufficient families had deficiencies in calcium, vitamin E, total cholesterol, vitamin A, and serum albumin. In addition, adults from food-insecure families did not consume sufficient milk/milk products, fruits/fruit juice and vegetables (Dixon *et al.*, 2001). Education on adult nutrition may help promote health and wellness among food pantry guests.

Food pantries may link individuals to social support services. One study found higher social support provided a buffering effect on the risk of depression among poor Latinos with type 2 diabetes (Kollannoor-Samuel *et al.*, 2011). The negative effects of

functional impairments among older adults can be rectified somewhat by social support systems (Pierce, Sheehan, & Ferris, 2008). One study reported those experiencing food insufficiency utilized individual or network-level coping mechanisms (Ahluwalia, Dodds, & Baligh, 1998). Participants reported they would initially seek aid from family, friends and then neighbors. Participants who were parents, however, reported reliance on others as aggravating and threatening (Ahluwalia *et al.*, 1998). According to another study, social capital is a "measure of trust, reciprocity and social networks," which enhances food security (Martin, Rogers, Cook, & Joseph, 2004). Higher social capital indicates less hunger. Households that participate in civil organizations have increased social capital (Martin *et al.*, 2004).

Food pantries may be able to link individuals to other health care resources in the community (Hoisington, Shultz, & Butkus, 2002). Often, food insecurity is coupled with a vast array of other issues like health problems. Because food-insecure families are already at a vulnerable situation, they may need medical attention also (Spees *et al.*, 2013). Spees *et al.* (2013) highlighted the lack of health access for the food-insecure families. If a food pantry were to create a class on utilizing other tools like medical assistance, families may be able to alleviate their situation further. If the families with children knew about health resources, they could treat their child earlier (Alaimo, Olson, Frongillo, & Briefel, 2001). This can prevent a greater host of potential problems and creates a healthier future for the children due to early treatment (Alaimo, Olson, Frongillo, & Briefel, 2001).

Food banks provide an environmental benefit in that the food pantries collect surplus food, which would have gone to waste if not used (United States Environmental

Protection Agency, 2017a). There is a link between the recovery of the surplus food and the reduction of water and carbon dioxide emissions because wasted food increases carbon dioxide in the landfill and wastes energy transporting food to the supermarket, which is not consumed (United States Environmental Protection Agency, 2017b). Food pantries can help preserve the natural resources on the planet by recovering the surpluses of food (United States Environmental Protection Agency, 2017b).

Summary

Food insecurity is a significant issue in Payne County, demonstrated by the fact that Payne County, Oklahoma has the second highest rate of food insecurity in Oklahoma (Simmons, 2016). One-third of the people in Stillwater are impoverished (Mintmire, 2016) and 45% of Stillwater children qualify for free or reduced lunches (Oklahoma State Department of Education, n.d.).

Beyond the immediate assistance in providing food, there is also a need for food pantries to provide food and nutrition education to food pantry guests to help them better utilize their food resources for the health and wellbeing of their family (Bruening *et al.*, 2016). Having a better understand of food insecurity and the issues facing food insecure individuals can help organizations, such as food pantries, better meet their needs (Kaiser *et al.*, 2002, Webb *et al.*, 2006). Because having children in the home may affect an individuals' nutrition education interests, it is important to evaluate nutrition education desires of food pantry guests who do and do not have children in the home.

Therefore, the purpose of this study was to survey food pantry guests, 18 to 49 years of age, with and without children younger than 18 years of age in the home, at the

Payne County *Our Daily Bread Food and Resource Center* regarding demographics, food security, food pantry views, dietary and health indicators, and food and nutrition education interests. By identifying differences in the educational needs and desires of households with and without children in the home, educational material can be tailored to target families' individual needs.

CHAPTER III

METHODS

Survey Development

The purpose of this study was to survey food pantry guests, 18 to 49 years of age, with and without children younger than 18 years of age in the home, at the Payne *County Our Daily Bread Food and Resource Center* regarding demographics, food security, food pantry views, dietary and health indicators, and food and nutrition education interests. By identifying differences in the educational needs and desires of households with and without children in the home, educational material can be tailored to target families' individual needs.

Researchers developed a survey that included segments on food pantries, food and nutrition education interest, dietary intake, health status, food security and demographics (Appendix A). A previous survey created by Robinson (2018) was used to inform the survey development. Since the survey created by Robinson (2018) targeted adults 65 years of age and above, the previous survey was modified for the purpose of this study.

Additional questions were included to target adults 18 to 49 years of age, with and without children in the home. Because the survey was going to be used at the Our Daily Bread in Stillwater, Oklahoma where the main Oklahoma State University campus is located additional questions were added such as "Are you a college student," "Is English your first language," and "Do you feel you have time to cook." Related to educational class format additional questions were included to gather interest in classes for children in the family and family classes (adults and children together), as well as interest in having childcare available for education classes. Related to food and nutrition educational topics, additional topics were added that may be of interest to adults 18 to 49 years of age, with and without children in the home, including pregnancy nutrition, infant nutrition, childhood nutrition, teen nutrition, mindful eating, sports nutrition, childhood weight management, healthy resources available in the community, breakfast, healthy snacks, fast meals and cooking classes for children and teens.

The modified food pantry segment included questions on the number of people who ate the food received from the food pantry, what they liked best about the food pantry and what could make the food pantry better. The food and nutrition education segment included questions on topics of interest and structure of educational classes. The dietary segment included questions on fruit, vegetable and dairy intake, special dietary needs, eating patterns, food resource management skills, food preparation facilities, and coping mechanisms. The health status segment included questions on height, weight, changes in food intake and weight, healthy status, physical activity, and prior health conditions. The food security segment included the USDA Economic Research Service six item food security instrument (USDA ERS, 2016). The demographic segment

included questions on age, gender, ethnicity/race, education, marital status, employment/school, current living situation, household size, food assistance program use, and income.

Expert and Indigenous Face Validity

Expert face validity of the survey content was conducted with a panel of three experts in the Department of Nutritional Sciences. Based on the input from the expert panel the survey was revised. Indigenous face validity on the revised survey comprehension was conducted with six food pantry participants, 18 to 49 years of age, who had children in the home and six food pantry participants, 18 to 49 years of age, who did not have children in the home. No revisions to the survey were recommended as a result of the indigenous face validity.

Oklahoma State University Institutional Review Board for Human Subjects

Prior to data collection, approval was obtained from the Oklahoma State University Institutional Review Board for Human Subjects (Appendix A) for the survey (Appendix B), solicitation script (Appendix C), participant information form (Appendix D), and the study procedure.

Participants

The participants were a convenience sample of adults, 18 to 49 years and who obtained food from the *Our Daily Bread* food and resource center in Stillwater, Oklahoma. The goal was to collect data from 50 adults, 18 to 49 years of age, who had

children under 18 years of age in the home and 50 adults, 18 to 49 years of age, who did not have children under 18 years of age in the home.

Procedures

In summer 2018, as food pantry guests entered the *Our Daily Bread* food and resource center, they were asked if they were 18 to 49 years of age and if they did or did not have children less than 18 years residing in the household. Adults who meet the study criteria were read the solicitation script (Appendix C) describing the study purpose and asked if they were interested in completing the survey. Adults who were willing to participate were provided with the survey (Appendix B). The first page of the survey was the participant information form (Appendix D) that they were instructed to tear off and keep for their reference. Adults were informed that completing the survey was voluntary. Researchers were available to assist any individual who needed help completing the survey. Adults who completed the survey were provided with $20.00 cash.

Data Analysis

Participants' food security status was analyzed using the USDA Economic Research Service six-item food security instrument coding and scoring. A score of 0 to 1 is classified as high or marginal food security; a score of 2 to 4 is classified as low food security; and a score of 5 to 6 is classified as very low food security (USDA ERS, 2016).

Participants' BMI was calculated using their self-reported height and weight. BMI is weight in kilograms divided by height in meters squared. A BMI below 18.5 is classified as underweight, a BMI between 18.5 to 24.9 is considered normal or healthy

weight, a BMI between 25.0 to 29.9 is defined as overweight and finally a BMI 30 or above is obese (Centers for Disease Control and Prevention, 2017).

Data were analyzed using the frequency procedure with PC SAS for Windows, Version 9.4 (SAS Institute, Cary, NC). In addition, data from adults with children under 18 years of age in the home were compared to data from adults who did not have children in the home using Chi-square procedure with PC SAS for Windows, Version 9.4 (SAS Institute, Cary, NC).

CHAPTER IV

RESULTS

A total of 114 participants completed the survey, 58 participants did not have children in the home and 56 participants did have children in the home. The following presents participants' demographic information.

Table 1 presents participants' first language. Among all participants, almost all reported English was their first language (98.2%). There was no significant difference in English being participants' first language by whether they did or did not have children in the home.

Table 1. Reported first language for all participants and by presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Is English your first language? (n=114)							(0.0006) p = 0.9800***
Yes	112	(98.2)	57	(98.3)	55	(98.2)	
No	2	(1.8)	1	(1.7)	1	(1.8)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 2 presents the number of participants by age group. Among all participants, there was a fairly even distribution in each age group; 31.6% were 19 to 29 years of age, 29.8% were 30 to 39 years of age, and 38.6% were 40 to 49 years of age. There was no significant difference in the percentage of participants in age groups by whether they did or did not have children in the home. However, although not significant (p=0.0801), a larger percentage of participants who did not have children in the home tended to be 19 to 29 years of age (37.9%) compared to participants who did have children in the home (25.0%) and a smaller percentage of participants who did not have children in the home tended to be 30 to 39 years of age (20.7%) compared to participants who did have children in the home (39.3%).

Table 2. Ages for all participants and by children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
What is your age? (n=114)							(5.0491) p = 0.0801
19-29 years of age	36	(31.6)	22	(37.9)	14	(25.0)	
30-39 years of age	34	(29.8)	12	(20.7)	22	(39.3)	
40-49 years of age	44	(38.6)	24	(41.4)	20	(35.7)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 3 presents participants' gender. Among all participants, 64.9% were female and 35.1% were male. There was no significant difference in the distribution of participants' gender by whether they had children in the home.

Table 3. Gender for all participants and by children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
What is your gender? (n=114)							(2.0520) p = 0.1520
Male	40	(35.1)	24	(41.4)	16	(28.6)	
Female	74	(64.9)	34	(58.6)	40	(71.4)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 4 presents participants' ethnicity. Among all participants, almost all (93.0%) reported they were not Hispanic. There was no significant difference in participants' ethnicity by whether they did or did not have children in the home.

Table 4. Ethnicity for all participants and by children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Ethnicity	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Hispanic (n=114)							(0.4651) p = 0.4953***
Yes	8	(7.0)	5	(8.6)	3	(5.4)	
No	106	(93.0)	53	(91.4)	53	(94.6)	
Prefer not to answer	0	(0.0)	0	(0.0)	0	(0.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 5 presents participants' race. Among all participants, the majority were White (79.8%), followed by Native American (11.4%), African American (9.6%) and Asian (1.8%). In addition, 6.1% reported their race as "other". There were no significant differences in distribution of participants who reported their race as White, Native American, African American or Asian by whether they did or did not have children in the

home. There was a significant difference (p=0.0456) in the distribution of participants who reported their race as "other" by the presence of children in the home with a larger percentage of participants who did have children in the home reporting their race as "other" (10.7%) compared to participants who did not have children in the home (1.7%).

Table 5. Race for all participants and by presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
Race (check all that apply)	**n**	**(%)**	**n**	**(%)**	**N**	**(%)**	
African American (n=114)							(0.7930) p = 0.3732
Yes	11	(9.6)	7	(12.1)	4	(7.1)	
No	103	(90.4)	51	(87.9)	52	(92.9)	
Asian (n=114)							(2.1084) p = 0.1465***
Yes	2	(1.8)	0	(0.0)	2	(3.6)	
No	112	(98.2)	58	(100.0)	54	(96.4)	
White (n=114)							(1.5908) p = 0.2072
Yes	91	(79.8)	49	(84.5)	42	(75.0)	
No	23	(20.2)	9	(15.5)	14	(25.0)	
Native American (n=114)							(0.0518) p = 0.8200
Yes	13	(11.4)	7	(12.1)	6	(10.7)	
No	101	(88.6)	51	(87.9)	50	(89.3)	
Other[1] (n=114)							(3.9955) p = 0.0456
Yes	7	(6.1)	1	(1.7)	6	(10.7)	
No	107	(93.9)	57	(98.3)	50	(89.3)	

[1]Responses to other included multicultural, Spanish, and Italian.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.

Table 6 presents participants' highest education level. Among all participants, most reported their highest education level was high school (51.8%), followed by some college/associate's degree (27.7%), some high school (14.3%), some graduate school or

higher (3.6%) and bachelor's degree (2.7%). There was no significant difference in participants' highest education level by whether they did or did not have children in the home.

Table 6. Highest education level for all participants and by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**N**	**(%)**	
Highest education level (n=112)							(5.3037) p = 0.2575***
Some high school	16	(14.3)	11	(19.0)	5	(9.3)	
High school graduate	58	(51.8)	31	(53.4)	27	(50.0)	
Some college/ associate's degree	31	(27.7)	12	(20.7)	19	(35.2)	
Bachelor's degree	3	(2.7)	1	(1.7)	2	(3.7)	
Some graduate school or higher	4	(3.6)	3	(5.2)	1	(1.8)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 7 presents the number of participants who reported they were currently attending college. Almost all participants (95.6%) reported they were not currently attending college. There was no significant difference in participants who were currently attending college by whether they did or did not have children in the home.

Table 7. Attending college for all participants and by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**N**	**(%)**	
Are you a college student? (n=114)							(0.1741) p = 0.6765***
Yes	5	(4.4)	3	(5.2)	2	(3.6)	
No	109	(95.6)	55	(94.8)	54	(96.4)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 8 presents participants' marital status. Among all participants there was a fairly even distribution between those who reported they were never married (35.4%), married (28.3%) and divorced, separated or widowed (36.3%). There was a significant difference in the distribution of participants' marital status by the presence of children in the home (p=0.0004), with a larger percentage of participants who did not have children reporting they were never married (52.6%) compared to participants who did have children in the home (17.9%). In addition, a larger percentage of participants who did have children in the home reported they were married (39.3%) or divorced, separated, or widowed (42.9%) compared to participants who did not have children in the home (17.5% and 29.8%, respectively).

Table 8. Marital status for all participants and by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
What is your marital status? (n=113)							(15.6875) p = 0.0004
Never married	40	(35.4)	30	(52.6)	10	(17.9)	
Married	32	(28.3)	10	(17.5)	22	(39.3)	
Divorced, separated or Widowed	41	(36.3)	17	(29.8)	24	(42.9)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 9 presents participants' employment status. Among all participants, 54.0% were not employed, followed by 31.8% who were employed full-time and 14.2% who were employed part-time. There was no significant difference in the distribution of participants' employment status by whether they did or did not have children in the home. Although not significant, (p=0.0929), participants who had children in the home tended to be employed full time (41.1%) more often compared to participants who did not have children in the home (22.8%). In addition, a larger percentage of participants who did not have children in the home tended to be unemployed (63.2%) compared to participants who did have children in the home (44.6%).

Table 9. Employment for all participants and by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Are you currently employed? (n=113)							(4.7529) p = 0.0929
Yes, full time	36	(31.9)	13	(22.8)	23	(41.1)	
Yes, part time	16	(14.2)	8	(14.0)	8	(14.3)	
No	61	(54.0)	36	(63.2)	25	(44.6)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 10 presents participants' living situation. Almost all participants (95.5%) reported living in an apartment, house or mobile home. Only a small percentage reported being homeless (1.8%). There was no significant difference in participants' living situation by whether they did or did not have children in the home.

Table 10. Living situation for all participants and by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Living situation? (n=112)							(2.5321) p = 0.2819****
Apartment, house, mobile home	107	(95.5)	56	(98.2)	51	(92.7)	
Homeless	2	(1.8)	0	(0.00)	2	(3.6)	
Local shelter	0	(0.0)	0	(0.00)	0	(0.0)	
Other[1]	3	(2.7)	1	(1.8)	2	(3.6)	

[1]Responses to other included hotel, living with others and trailer.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 11 presents the number of adults and children who lived with participants. Among all participants, 40.4% did not have any other adults living with them while 30.7% had one adult and 29.0% had two or more adults living with them. There was no significant difference in the number of adults living with participants by whether they did or did not have children in the home. As expected, there was a significant difference ($p<0.0001$) in the number of children living with participants. Among the participant group who had children living with them, 45.4% reported having one child and 54.6% reported having two or more children living with them.

Table 11. Number of adults and children living with all participants and participants by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	N	**(%)**	**n**	**(%)**	**n**	**(%)**	
Not including yourself, how many adults (18 years or older) live with you? (n=114)							(1.8867) p = 0.3893
Zero	46	(40.4)	27	(46.6)	19	(33.9)	
One	35	(30.7)	16	(27.6)	19	(33.9)	
Two or more	33	(29.0)	15	(25.9)	18	(32.1)	
Do any children (younger than 18 years) live with you? (n=114)							(112.0000) p < 0.0001
Zero	59	(51.8)	58	(100.0)	0	(0.0)	
One	25	(21.9)	0	(0.0)	25	(45.4)	
Two or more	30	(26.3)	0	(0.0)	30	(54.6)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 12 presents the number of adults 65 years of age or older living with participants. Among all participants, almost all participants (91.2%) reported they did not have any adults 65 years of age or older living with them; however, 8.8% reported they had one or more adults 65 years of age or older living with them. There was no

significant difference in the number of adults 65 years of age or older living with participants by whether they did or did not have children in the home.

Table 12. Number of adults 65 years of age or older living with all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	N	**(%)**	**n**	**(%)**	**n**	**(%)**	
How many adults over 65 years of age live with you? (n=114)							(1.9117) p = 0.1668***
Zero	104	(91.2)	55	(94.8)	49	(87.5)	
One or more	10	(8.8)	3	(5.2)	7	(12.5)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 13 presents participants' social support. Among all participants, 62.2% reported they had very few family or friends nearby who could help them. This was followed by 24.3% who reported they had no family or friends, 11.7% who reported they had some family or friends and 1.8% who had many family and friends nearby who could help them. There was no significant difference in participants' social support by whether they did or did not have children in the home.

Table 13. Number of family or friends nearby who can help all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	N	**(%)**	**n**	**(%)**	**n**	**(%)**	
How many family or friends do you have nearby who can help you? (n=111)							(0.5317) p = 0.9119***
None (0)	27	(24.3)	12	(21.4)	15	(27.3)	
Very few (1-3)	69	(62.2)	36	(64.3)	33	(60.0)	
Some (3-6)	13	(11.7)	7	(12.5)	6	(10.9)	
Many (7 or more)	2	(1.8)	1	(1.8)	1	(1.8)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 14 presents participants' awareness of food assistance programs. Among all participants, food pantries (75.0%) and SNAP (73.2%) were the leading food assistance programs participants reported they were aware of. There was a significant difference in participants' awareness of food pantries by whether they had children in the home, with a larger percentage of participants who did not have children in the home reporting they were aware of food pantries (86.0%) compared to participants who did have children in the home (63.6%). There was no significant difference in participants' awareness of SNAP by whether they did or did not have children in the home. In addition, the majority of participants reported they were not aware of community/faith based meals (66.1%), the Food Distribution Program on Indian Reservations (86.6%), home delivered meals (92.0%), or the Women, Infant and Children program (68.8%). There was no significant difference in participants' awareness of these food assistance programs by whether they did or did not have children in the home.

Table 14. Awareness of food assistance programs among all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Which food assistance programs are you aware of?	**N**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Community/Faith Based Meals (n=112)							(0.0696) p = 0.7920
Yes	38	(33.9)	20	(35.1)	18	(32.7)	
No	74	(66.1)	37	(64.9)	37	(67.3)	
Food Distribution Program on Indian Reservations (n=112)							(0.5748) p = 0.4484
Yes	15	(13.4)	9	(15.8)	6	(10.9)	
No	97	(86.6)	48	(84.2)	49	(89.1)	
Food Pantries (n=112)							(7.4428) p = 0.0064
Yes	84	(75.0)	49	(86.0)	35	(63.6)	
No	28	(25.0)	8	(14.0)	20	(36.4)	
Home delivered meals (n=112)							(0.9743) p = 0.3236*
Yes	9	(8.0)	6	(10.5)	3	(5.4)	
No	103	(92.0)	51	(89.5)	52	(94.6)	
SNAP/Food Stamps (n=112)							(0.0977) p = 0.7547
Yes	82	(73.2)	41	(71.9)	41	(74.6)	
No	30	(26.8)	16	(28.1)	14	(25.4)	
Women, Infant and Children (WIC) (n=112)							(0.5463) p = 0.4598
Yes	35	(31.2)	16	(28.1)	19	(34.6)	
No	77	(68.8)	41	(71.9)	36	(65.4)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 15 presents participants' use of food assistance programs. Among all participants, the leading food assistance programs used were food pantries (74.8%) and SNAP (38.7%). Almost all participants reported they did not use community/faith based meals (83.8%), the Food Distribution Program on Indian Reservations (96.4%), home delivered meals (99.1%), or the Women, Infant and Children program (91.0%). There

was no significant difference in participants' use of these food assistance programs by whether they did or did not have children in the home.

Table 15. Use of food assistance programs for all participants and by presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Which food assistance programs do you use?	**N**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Community/Faith Based Meals (n=111)							(0.2240) p = 0.6360
Yes	18	(16.2)	10	(17.9)	8	(14.6)	
No	93	(83.8)	46	(82.1)	47	(85.4)	
Food Distribution Program on Indian Reservations (n=111)							(1.0004) p = 0.3172***
Yes	4	(3.6)	3	(5.4)	1	(1.8)	
No	107	(96.4)	53	(94.6)	54	(98.2)	
Food Pantries (n=111)							(1.8672) p = 0.1718
Yes	83	(74.8)	45	(80.4)	38	(69.1)	
No	28	(25.2)	11	(19.6)	17	(30.9)	
Home delivered meals (n=111)							(1.0274) p = 0.3108***
Yes	1	(0.9)	0	(0.0)	1	(1.8)	
No	110	(99.1)	56	(100.0)	54	(98.2)	
SNAP/Food Stamps (n=111)							(2.0719) p = 0.1500
Yes	43	(38.7)	18	(32.1)	25	(45.4)	
No	68	(61.3)	38	(67.9)	30	(54.6)	
Women, Infant and Children (WIC) (n=111)							(0.4801) p = 0.4884***
Yes	10	(9.0)	4	(7.1)	6	(10.9)	
No	101	(91.0)	52	(92.9)	49	(89.1)	
Other[1] (n=111)							(0.1339) p = 0.7145***
Yes	7	(6.3)	4	(7.1)	3	(5.4)	
No	104	(93.7)	52	(92.9)	52	(94.6)	

[1]Participant responses to other included Salvation Army and Our Daily Bread.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.

Table 16 presents participants' annual income. Among all participants, 56.0% reported annual incomes less than $12,000 followed by 16.5% with annual incomes from $16,001 to $21,000, 12.8% with annual incomes between $12,000 to $16,000, 7.3% who reported annual incomes from $21,001 to $25,000, 6.4% with annual incomes over $29,000 and 0.9% who reported annual incomes between $25,001 to $29,000. There was no significant difference in participants' annual income by whether they did or did not have children in the home.

Table 16. Annual household income for all participants and by the presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
What range is your annual household income? (n=109)							(8.5466) p = 0.1286***
Less than $12,000	61	(56.0)	36	(65.4)	25	(46.3)	
$12,000 - $16,000	14	(12.8)	7	(12.7)	7	(13.0)	
$16,001 - $21,000	18	(16.5)	9	(16.4)	9	(16.7)	
$21,001 - $25,000	8	(7.3)	2	(3.6)	6	(11.1)	
$25,001 - $29,000	1	(0.9)	0	(0.0)	1	(1.9)	
Over $29,000	7	(6.4)	1	(1.8)	6	(11.1)	
Prefer not to answer	0	(0.0)	0	(0.0)	0	(0.00)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

The following presents information regarding participants' food security status. Table 17 presents participants' responses to the USDA Economic Research Service six-item food security short form questions. Among all participants, 84.7% reported, over the past 12 months, it was often or sometimes true that the food they bought did not last and they did not have money to buy more. The majority (86.2%) also reported, over the past

12 months, they often or sometimes could not afford to eat balanced meals. In addition, 65.4% reported, over the past 12 months, they had cut the size of their meals or skipped meals because there was not enough money for food, with 46.7% reporting this happened almost every month. Furthermore, 70.0% reported, over the past 12 months, they ate less than they felt they should because there was not enough money for food and 62.4% reported they were hungry but did not eat because there was not enough money for food. There was no significant difference in participants' responses by whether they did or did not have children in the home. However, although not significant (p=0.0561), 55.0% of participants who did not have children in the home tended to report that almost every month they cut the size of the meals or skipped meals because there was not enough money for food compared to participants who did have children in the home (37.1%).

Table 17. USDA Economic Research Service six-item food security short form questions for all participants and by presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
In the last 12 months…	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
The food I/we bought just did not last, and I/we did not have money to buy more (n=111)							(0.4540) p = 0.9289***
Often true	42	(37.8)	23	(40.4)	19	(35.2)	
Sometimes true	52	(46.8)	25	(43.9)	27	(50.0)	
Never true	13	(11.7)	7	(12.3)	6	(11.1)	
Do not know	4	(3.6)	2	(3.5)	2	(3.7)	
I/we could not afford to eat balanced meals. (n=109)							(0.4715) p = 0.9251***
Often true	49	(45.0)	25	(44.6)	24	(45.3)	
Sometimes true	45	(41.3)	24	(42.9)	21	(39.6)	
Never true	12	(11.0)	6	(10.7)	6	(11.3)	
Do not know	3	(2.8)	1	(1.8)	2	(3.8)	

Table 17. USDA Economic Research Service six-item food security short form questions for all participants and by presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
In the last 12 months…	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Did you ever cut the size of your meals or skip meals because there was not enough money for food? (n=107)							(0.1716) p = 0.6787
Yes	70	(65.4)	37	(67.3)	33	(63.5)	
No	37	(34.6)	18	(32.7)	19	(36.5)	
If the previous question was answered "yes"…							
How often did this happen? (n=75)							(7.5580) p = 0.0561***
Almost every month	35	(46.7)	22	(55.0)	13	(37.1)	
Some months, but not every month	23	(30.7)	11	(27.5)	12	(34.3)	
Only 1 or 2 months	8	(10.7)	1	(2.5)	7	(20.0)	
Do not know	9	(12.0)	6	(15.0)	3	(8.6)	
Did you ever eat less than you felt you should because there was not enough money for food? (n=110)							(0.2806) p = 0.8691***
Yes	77	(70.0)	40	(71.4)	37	(68.5)	
No	28	(25.4)	14	(25.0)	14	(25.9)	
Do not know	5	(4.6)	2	(3.6)	3	(5.6)	
Were you ever hungry but did not eat because there was not enough money for food? (n=109)							(0.6861) p = 0.7096***
Yes	68	(62.4)	34	(61.8)	34	(63.0)	
No	35	(32.1)	17	(30.9)	18	(33.3)	
Do not know	6	(5.5)	4	(7.3)	2	(3.7)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 18 presents participants' food security status, determined using the six-item U.S. Household Food Security survey. Among all participants, 86.0% were classified as food insecure. There was no significant difference in food security status between participants who did or did not have children under 18 years of age in the home.

Table 18. Food security status for all participants and by the presence of children in the home.[1]

	All Participants		Participants Without children*		Participants With Children**		(Chi-square) p value
Food Security Status (n=114)	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	(0.0057) p = 0.9397
Food Secure	16	(14.0)	8	(13.8)	8	(14.3)	
Food Insecure	98	(86.0)	50	(86.2)	48	(85.7)	

[1]Determined using the U.S. household food security survey: six-item short form.
*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 19 presents the number of people who ate the food received from the food pantry. Among all participants, there was a fairly even distribution between one, two, three, four and five or more eating the food received from the food pantry. A significant difference was observed in the number of people who ate the food received ($p<0.0001$) by the presence of children in the home. A higher percentage of participants who did not have children in the home had one (36.2%) or two (32.8%) people eating the food received compared to participants who did have children in the home (5.4% and 12.5%), respectively; and a higher percentage of participants who had children in the home had four (33.9%) or five or more (30.4%) people eating the food received compared to participants who did not have children in the home (5.2% and 3.4%, respectively).

Table 19. Number of people who eat the food received from the food pantry for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
How many people eat the food you get from the food pantry? (n=114)	**n**	**(%)**	**N**	**(%)**	**n**	**(%)**	(42.8863) p <0.0001
One	24	(21.1)	21	(36.2)	3	(5.4)	
Two	26	(22.8)	19	(32.8)	7	(12.5)	
Three	23	(20.2)	13	(22.4)	10	(17.9)	
Four	22	(19.3)	3	(5.2)	19	(33.9)	
Five or more	19	(16.7)	2	(3.4)	17	(30.4)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 20 presents participants' perception of how they were treated at the food pantry. Almost all the participants (98.3%) felt respected and well treated at the food pantry. There was no significant difference in participants' perception of how they were treated by whether they did or did not have children in the home.

Table 20. Perception of respect and treatment receive at the food pantry for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Did you feel respected and treated well at the food pantry? (n=114)	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	(1.9655) p = 0.1609***
Yes	112	(98.2)	56	(96.6)	56	(100.0)	
Sometimes	2	(1.8)	2	(3.4)	0	(0.0)	
No	0	(0.0)	0	(0.0)	0	(0.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 21 presents what participants liked best about the Our Daily Bread Food and Resource Center and what they felt could make Our Daily Bread better. In terms of what participants liked best about the food pantry, many responses (44.1%) were about how nice, friendly, kind, caring and welcoming the people (staff and volunteers) were. In particular, many participants commented on how the staff and volunteers treated guests with respect and without judgment. The second most common area was about the food received (22.8%). Participants commented on how they liked the quantity, quality, and variety of food offered. In particular, many participants expressed appreciation for healthy food choices and fresh produce. Many participants also made positive comments about the facility (21.2%) including the location, multiple shopping times, cleanliness, organization, and efficiency. In particular, many participants commented on how much they enjoyed the shopping experience and "client choice" (being able to pick the food items they wanted). Lastly, several participants (11.8%) commented on the importance of the support and service Our Daily Bread and its staff and volunteers provided to people in need in the community.

In terms of what participants felt could make Our Daily Bread better, 25 responses were related to food improvements such as checking for expired or spoiled food (particularly bread and produce) and offering more food including fresh produce, dairy (especially milk), and particularly fresh meat. The second most common area of responses were related to the facility (n=18) including more parking (particularly handicap parking), providing shade outside for participants while they wait for the shopping times or allowing participants to wait inside, allowing guests to visit more than once a month, more shopping times per week, longer shopping times, and more

promotion. Five participants commented on expanding some current resources including diapers and clothes. Lastly, three participants reported they felt more people helping could speed up shopping.

Table 21. What participants like best about Our Daily Bread Food and Resource Center and what could make Our Daily Bread better.

	Number Responses
What do you like best about Our Daily Bread? (n=136)	**n**
People	60
Food	31
Facility	29
Community support and service	16
What could make Our Daily Bread better? (n=51)	**n**
Food	25
Facility	18
Other resources	5
People	3

*Numbers may not sum to 100 due to rounding.

The following presents information about participants' interests and desires for food and nutrition education programs. Table 22 presents participants' interest in attending food and nutrition education classes and desired timing of educational classes. Among all participants, only 19.5% of participants indicated they were interested in attending food and nutrition education classes. Although a large percentage of participants (45.1%) reported they may be interested in attending education classes; a large percentage of participants (35.4%) also indicated they were not interested in attending education classes. There was no significant difference in participants' interest in attending education classes by whether they did or did not have children in the home.

Among all participants, 52.0% were interested in education classes lasting 30 minutes. There was no significant difference in participants' desired length of education

classes by whether they did or did not have children in the home. Among all participants, the majority were not interested in attending education classes in the morning, early afternoon, and late afternoon (68.0%, 75.7%, and 68.9%, respectively); however, approximately half indicated they would be interested in evening education classes (49.5%). There was no significant difference in the time of day participants would like to attend education classes by whether they did or did not have children in the home.

Among all participants, 48.0%, 46.1%, 43.1% and 42.2% indicated they were interested in attending classes on Monday, Tuesday, Wednesday and Thursday, respectively. However, a lower percentage indicated they were interested in attending classes on Friday or Saturday, 36.3% and 38.2%, respectively. There was no significant difference in the day of the week participants were interested in education classes by whether they did or did not have children in the home. Among all participants, only 24.3% indicated they would be interested in coming to a series of classes. However, 47.8% reported they might be interested in coming to a series of classes and 27.9% indicated they would not be interested in attending a series of classes. There was no significant difference in participants' interests in attending a series of classes by whether they did or did not have children in the home.

Table 22. Interest in food and nutrition education classes and series and desired timing of educational classes for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Are you interested in attending any food/nutrition education classes? (n=113)							(0.1219) p = 0.9409
Yes	22	(19.5)	12	(20.7)	10	(18.2)	
Maybe	51	(45.1)	26	(44.8)	25	(45.4)	
No	40	(35.4)	20	(34.5)	20	(36.4)	
How long would you like an education class to last? (n=98)							(0.9431) p = 0.8150
30 minutes	51	(52.0)	24	(48.0)	27	(56.2)	
45 minutes	16	(16.3)	8	(16.0)	8	(16.7)	
1 hour	19	(19.4)	11	(22.0)	8	(16.7)	
Other[1]	12	(12.2)	7	(14.0)	5	(10.4)	
Which time would be best for an educational class to be offered?							
Morning (n=103)							(0.0206) p = 0.8859
Yes	33	(32.0)	17	(32.7)	16	(31.4)	
No	70	(68.0)	35	(67.3)	35	(68.6)	
Early afternoon (n=103)							(0.0816) p = 0.7752
Yes	25	(24.3)	12	(23.1)	13	(25.5)	
No	78	(75.7)	40	(76.9)	38	(74.5)	
Late afternoon (n=103)							(0.1294) p = 0.7191
Yes	32	(31.1)	17	(32.7)	15	(29.4)	
No	71	(68.9)	35	(67.3)	36	(70.6)	
Evening (n=103)							(0.4745) p = 0.4909
Yes	51	(49.5)	24	(46.1)	27	(52.9)	
No	52	(50.5)	28	(53.9)	24	(47.1)	

*Participants without children in the home.

**Participants with children in the home.

***Numbers may not sum to 100 due to rounding.

Table 22. Interest in food and nutrition education classes and desired timing of educational classes for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	(%)	n	(%)	n	(%)	
What day(s) would be best for you (check all that apply)?							
Monday (n=102)							(0.0334) p = 0.8550
Yes	49	(48.0)	25	(47.2)	24	(49.0)	
No	53	(52.0)	28	(52.8)	25	(51.0)	
Tuesday (n=102)							(0.3938) p = 0.5303
Yes	47	(46.1)	26	(49.1)	21	(42.9)	
No	55	(53.9)	27	(50.9)	28	(57.1)	
Wednesday (n=102)							(0.7314) p = 0.3924
Yes	44	(43.1)	25	(47.2)	19	(38.8)	
No	58	(56.9)	28	(52.8)	30	(61.2)	
Thursday (n=102)							(0.0695) p = 0.7921
Yes	43	(42.2)	23	(43.4)	20	(40.8)	
No	59	(57.8)	30	(56.6)	29	(59.2)	
Friday (n=102)							(1.3079) p = 0.2528
Yes	37	(36.3)	22	(41.5)	15	(30.6)	
No	65	(63.7)	31	(58.5)	34	(69.4)	
Saturday (n=102)							(0.0117) p = 0.9140
Yes	39	(38.2)	20	(37.7)	19	(38.8)	
No	63	(61.8)	33	(62.3)	30	(61.2)	
Would you like to come to a series of classes on a topic? (n=111)							(0.7818) p = 0.6764
Yes	27	(24.3)	13	(22.8)	14	(25.9)	
Maybe	53	(47.8)	26	(45.6)	27	(50.0)	
No	31	(27.9)	18	(31.6)	13	(24.1)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 23 presents educational class aspects preferred by participants. Among all participants, 41.9% reported they sometimes would like classes for themselves or other

adults in their family followed by 34.3% who would not like classes for themselves and others and 23.8% who would like classes for themselves and others often. There was no significant difference in participants' desire for education classes for themselves or other adults by whether they did or did not have children in the home.

Among all participants, 45.1% reported they would not like classes for children in the family followed by 31.4% who would sometimes like classes for children and 23.5% who would often like classes for children in the family. There was no significant difference in participants' desire for classes for children in the family by whether they did or did not have children in the home. Although not significant (p=0.0527), participants with children (32.0%) tended to report they would "often" like classes for children compared to participants without children (15.4%), and participants without children (55.8%) tended to report they would not like classes for children compared to participants with children (34.0%).

Of all participants, 39.4% reported they would not like family classes followed by 37.5% who would "sometimes" like family classes and 23.1% who would "often" like family classes. There was no significant difference in participants' interest for family education classes by whether they did or did not have children in the home.

Among all the participants, 36.5% reported they would "often" like food demonstration classes followed by 31.7% who reported they would "sometimes" like food demonstration classes and 31.7% who reported they would not like food demonstration classes. There was no significant difference in participants' interest for food demonstration classes by whether they did or did not have children in the home.

Among all participants, 38.8% reported they would “often” like hands on food preparation classes followed by 33.0% who would “sometimes” like hands on food preparation classes and 28.2% who did not prefer hands on food preparation classes. There was no significant difference in participants’ interest in hands on food preparation classes by whether they did or did not have children in the home.

Among all participants, there was a fairly even distribution in participants’ interest in class handouts with 32.0% reporting they would “often” like handouts, 33.0% reported they would “sometimes” like handouts and 35.0% reporting they would not like handouts. There was no significant difference between participants’ desire for class handouts based on whether they did or did not have children in the home.

Of all participants, 45.1% reported they did not want group discussion followed 34.3% who indicated they would “sometimes” like group discussion and 20.6% who reported they would “often” like group discussion. There was no significant difference in participants’ desire for group discussions based on whether they did or did not have children in the home.

Among all participants, 40.0% reported they would “sometimes” like videos followed by 34.3% who reported they would not like videos and 25.7% who reported they would “often” like videos. There was not a significant difference in participants’ preference for videos by whether they did or did not have children in the home.

Of all participants, 54.2% reported they would “often” like recipes followed by 31.8% who reported they would “sometimes” like recipes and 14.0% who reported they

would not like recipes. There was no significant difference in participants' desire for recipes based on whether they did or did not have children in the home.

Among all participants, there was a fairly even distribution of participants' who would "often" like class activities (39.1%) and those who would "sometimes" like classes activities (36.2%). However, 24.8% of participants did report that they would not like class activities. There was no significant difference in participants' interest in class activities by whether they did or did not have children in the home.

Of all the participants, 42.3% reported they would not like grocery store tours followed by 32.7% who reported they would "sometimes" like grocery store tours and 25.0% who indicated they would "often" like grocery store tours. There was no significant difference in participants' interest in grocery store tours by whether they did or did not have children in the home.

Among all participants, there was a fairly even distribution in participants' interest in "often" (32.0%), "sometimes" (29.1%), or not (38.8%) having childcare available. However, there is a significant difference in participants' interest in having childcare available by whether or not they had children in the home ($p=0.0499$). A larger percentage of participants who did not have children in the home were not interested in having childcare available (50.0%) compared to participants who did have children in the home (27.4%). Furthermore, a higher percentage of participants who had children in the home were interested in "often" or "sometimes" having childcare available (72.5%) compared to participants who did not have children in the home (50%).

Table 23. Educational class aspects preferred by all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
In terms of education classes would you like …							
Classes for you or other adults in your family? (n=105)							(2.3206) p = 0.3134
Yes, often	25	(23.8)	16	(29.6)	9	(17.7)	
Yes, sometimes	44	(41.9)	22	(40.7)	22	(43.1)	
No	36	(34.3)	16	(29.6)	20	(39.2)	
Classes for children in your family? (n=102)							(5.8851) p = 0.0527
Yes, often	24	(23.5)	8	(15.4)	16	(32.0)	
Yes, sometimes	32	(31.4)	15	(28.9)	17	(34.0)	
No	46	(45.1)	29	(55.8)	17	(34.0)	
Family classes (adults and children together)? (n=104)							(0.4118) p = 0.8139
Yes, often	24	(23.1)	11	(21.2)	13	(25.0)	
Yes, sometimes	39	(37.5)	19	(36.5)	20	(38.5)	
No	41	(39.4)	22	(42.3)	19	(36.5)	
Food demonstrations? (n=104)							(3.2417) p = 0.1977
Yes, often	38	(36.5)	21	(38.9)	17	(34.0)	
Yes, sometimes	33	(31.7)	13	(24.1)	20	(40.0)	
No	33	(31.7)	20	(37.0)	13	(26.0)	
Hands on food preparation? (n=103)							(2.7329) p = 0.2550
Yes, often	40	(38.8)	24	(44.4)	16	(32.6)	
Yes, sometimes	34	(33.0)	14	(25.9)	20	(40.8)	
No	29	(28.2)	16	(29.6)	13	(26.5)	
Handouts? (n=100)							(1.5124) p = 0.4694
Yes, often	32	(32.0)	17	(32.1)	15	(31.9)	
Yes, sometimes	33	(33.0)	20	(37.7)	13	(27.7)	
No	35	(35.0)	16	(30.2)	19	(40.4)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 23. Educational class aspects preferred by all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children		Participants With Children		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
In terms of education classes would you like …							
Group discussions? (n=102)							(2.4374) p = 0.2956
Yes, often	21	(20.6)	14	(26.4)	7	(14.3)	
Yes, sometimes	35	(34.3)	16	(30.2)	19	(38.8)	
No	46	(45.1)	23	(43.4)	23	(46.9)	
Videos? (n=105)							(3.4568) p = 0.1776
Yes, often	27	(25.7)	18	(33.3)	9	(17.6)	
Yes, sometimes	42	(40.0)	20	(37.0)	22	(43.1)	
No	36	(34.3)	16	(29.6)	20	(39.2)	
Recipes? (n=107)							(1.0613) p = 0.5882
Yes, often	58	(54.2)	29	(54.7)	29	(53.7)	
Yes, sometimes	34	(31.8)	15	(28.3)	19	(35.2)	
No	15	(14.0)	9	(17.0)	6	(11.1)	
Activities? (n=105)							(1.5317) p = 0.4649
Yes, often	41	(39.1)	24	(44.4)	17	(33.3)	
Yes, sometimes	38	(36.2)	17	(31.5)	21	(41.2)	
No	26	(24.8)	13	(24.1)	13	(25.5)	
Grocery store tours? (n=104)							(4.5172) p = 0.1045
Yes, often	26	(25.0)	18	(33.3)	8	(16.0)	
Yes, sometimes	34	(32.7)	17	(31.5)	17	(34.0)	
No	44	(42.3)	19	(35.2)	25	(50.0)	
Childcare available? (n=103)							(5.9969) p = 0.0499
Yes, often	33	(32.0)	15	(28.8)	18	(35.3)	
Yes, sometimes	30	(29.1)	11	(21.2)	19	(37.2)	
No	40	(38.8)	26	(50.0)	14	(27.4)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 24 presents participants' interest in nutrition and health educational topics. Among all participants, the majority indicated they were interested in "healthy eating at home" (66.7%) and "adult nutrition" (53.7%). There was no significant difference in participants' interest in these topics by whether they did or did not have children in the home.

However, the majority of participants indicated they were not interested in "healthy eating when eating out" (56.5%), "dietary supplements" (70.4%), "pregnancy nutrition" (81.5%), "infant nutrition" (84.3%), "childhood nutrition" (62.0%), "teen nutrition" (68.5%), "older adult nutrition" (75.0%), "mindful eating" (62.0%), "sports nutrition" (76.8%), "health promotion,"(69.4%), "diabetes management" (73.2%), "adult weight management" (63.0%), "childhood weight management" (79.6%), "lowering blood pressure" (63.9%), "heart health" (54.6%), "food and medication interactions" (69.4%), "physical activity" (59.3%), and "health resources available in the community" (74.1%). A significant difference was observed in participants' interest in "childhood nutrition" ($p=0.0002$) and "teen nutrition" ($p=0.0002$) by whether they did or did not have children in the home. A higher percentage of participants who had children in the home were interested in these topics (55.6% and 48.2%, respectively) than participants who did not have children in the home (20.4% and 14.8%, respectively).

Table 24. Interests in nutrition and health education topics at the food pantry for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Nutrition and Health Topics at the Food Pantry	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Healthy eating at home (n=108)							(0.1667) p = 0.6831
Yes	72	(66.7)	37	(68.5)	35	(64.8)	
No	36	(33.3)	17	(31.5)	19	(35.2)	
Healthy eating when eating out (n=108)							(0.9418) p = 0.3318
Yes	47	(43.5)	26	(48.2)	21	(38.9)	
No	61	(56.5)	28	(51.8)	33	(61.1)	
Dietary supplements (n=108)							(1.5987) p = 0.2061
Yes	32	(29.6)	19	(35.2)	13	(24.1)	
No	76	(70.4)	35	(64.8)	41	(75.9)	
Pregnancy nutrition (n=108)							(0.2455) p = 0.6203
Yes	20	(18.5)	11	(20.4)	9	(16.7)	
No	88	(81.5)	43	(79.6)	45	(83.3)	
Infant nutrition (n=108)							(0.0698) p = 0.7916
Yes	17	(15.7)	8	(14.8)	9	(16.7)	
No	91	(84.3)	46	(85.2)	45	(83.3)	
Childhood nutrition (n=108)							(14.1929) p = 0.0002
Yes	41	(38.0)	11	(20.4)	30	(55.6)	
No	67	(62.0)	43	(79.6)	24	(44.4)	
Teen nutrition (n=108)							(13.9078) p = 0.0002
Yes	34	(31.5)	8	(14.8)	26	(48.2)	
No	74	(68.5)	46	(85.2)	28	(51.8)	
Adult nutrition (n=108)							(0.1490) p = 0.6995
Yes	58	(53.7)	30	(55.6)	28	(51.8)	
No	50	(46.3)	24	(44.4)	26	(48.2)	
Older adult nutrition (n=108)							(0.0494) p = 0.8241
Yes	27	(25.0)	13	(24.1)	14	(25.9)	
No	81	(75.0)	41	(75.9)	40	(74.1)	

Table 24. Interests in nutrition and health education topics at the food pantry for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Nutrition and Health Topics at the Food Pantry	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Mindful eating (n=108)							(0.0393) p = 0.8428
Yes	41	(38.0)	20	(37.0)	21	(38.9)	
No	67	(62.0)	34	(63.0)	33	(61.1)	
Sports nutrition (n=108)							(0.4684) p = 0.4937
Yes	25	(23.2)	14	(25.9)	11	(20.4)	
No	83	(76.8)	40	(74.1)	43	(79.6)	
Health promotion (n=108)							(0.3927) p = 0.5309
Yes	33	(30.6)	15	(27.8)	18	(33.3)	
No	75	(69.4)	39	(72.2)	36	(66.7)	
Diabetes management (n=108)							(2.3099) p = 0.1286
Yes	29	(26.8)	18	(33.3)	11	(20.4)	
No	79	(73.2)	36	(66.7)	43	(79.6)	
Adult weight management (n=108)							(0.6353) p = 0.4254
Yes	40	(37.0)	22	(40.7)	18	(33.3)	
No	68	(63.0)	32	(59.3)	36	(66.7)	
Childhood weight management (n=108)							(0.2283) p = 0.6328
Yes	22	(20.3)	10	(18.5)	12	(22.2)	
No	86	(79.6)	44	(81.5)	42	(77.8)	
Lowering blood pressure (n=108)							(1.0033) p = 0.3165
Yes	39	(36.1)	22	(40.7)	17	(31.5)	
No	69	(63.9)	32	(59.3)	37	(68.5)	
Heart health (n=108)							(0.0374) p = 0.8467
Yes	49	(45.4)	24	(44.4)	25	(46.3)	
No	59	(54.6)	30	(55.6)	29	(53.7)	
Food and medication interactions (n=108)							(0.0436) p = 0.8345
Yes	33	(30.6)	16	(29.6)	17	(31.5)	
No	75	(69.4)	38	(70.4)	37	(68.5)	

Table 24. Interests in nutrition and health education topics at the food pantry for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Nutrition and Health Topics at the Food Pantry	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Physical activity (n=108)							(0.6136) p = 0.4334
Yes	44	(40.7)	24	(44.4)	20	(37.0)	
No	64	(59.3)	30	(55.6)	34	(63.0)	
Health resources available in the community (n=108)							(0.7714) p = 0.3798
Yes	28	(25.9)	16	(29.6)	12	(22.2)	
No	80	(74.1)	38	(70.4)	42	(77.8)	
Other topics[1] (n=108)							(2.8235) p = 0.0929***
Yes	6	(5.6)	5	(9.3)	1	(1.8)	
No	102	(94.4)	49	(90.7)	53	(98.2)	

[1]Participant responses to other topics included diabetes, whole food supplements, culinary arts and cooking.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
***Numbers may not sum to 100 due to rounding.

After participants indicated the nutrition and health educational topics they were interested in, participants were asked to select their top two choices (Table 25). The top two nutrition and health educational topics selected were "healthy eating at home" (n=14) and "adult nutrition" (n=11).

Table 25. Participants' leading interest in nutrition and health education topics.

	Number of Responses
What are your top nutrition and health topics? (n=86)	**n**
Healthy eating at home	14
Adult nutrition	11
Teen nutrition	9
Adult weight management	7
Dietary supplements	**7**

Table 25. Participants' leading interests in nutrition and health education topics. (continued)

	Number of Responses
What are your top nutrition and health topics? (n=86)	**n**
Heart health	6
Healthy eating when eating out	5
Food and medication interactions	4
Lowering blood pressure	4
Physical activity	4
Diabetes management	3
Pregnancy nutrition	3
Health resources in the community	3
Childhood nutrition	2
Childhood weight management	1
Infant nutrition	1
Health promotion	1
Mindful eating	1
Sports nutrition	1

*Numbers may not sum to 100 due to rounding.

Table 26 presents participants' interest in food and cooking topics. Among all participants, the majority were interested in "stretching your food dollar" (70.1%), "meal planning" (70.1%), and "fast meals" (52.3%). In addition, 49.5% of participants reported interest in "healthy snacks". There was no significant difference in participants' interest in these topics by whether they did or did not have children in the home. However, the majority of participants indicated they were not interested in "breakfast" (58.9%), "cooking with less fat" (65.4%), "cooking with less salt" (72.0%), "cooking with less sugar" (72.0%), "how to cook foods received from the food pantry" (57.0%), "how to reduce food waste" (60.8%), "how to use leftovers to make other meals" (56.1%), "how to prepare and store foods safely" (67.3%), "reading food labels" (74.8%), "food expiration dates" (75.7%), and "cooking classes for children and teens" (59.8%). There

was no significant difference in participants' interest in these topics by whether they did or did not have children in the home.

Table 26. Interest in food and cooking education topics for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Food and Cooking Topics at the Food Pantry	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Stretching your food dollar (n=107)							(0.1290) p = 0.7195
Yes	75	(70.1)	38	(71.7)	37	(68.5)	
No	32	(29.9)	15	(28.3)	17	(31.5)	
Meal planning (n=107)							(0.0040) p = 0.9496
Yes	75	(70.1)	37	(69.8)	38	(70.4)	
No	32	(29.9)	16	(30.2)	16	(29.6)	
Breakfast (n=107)							(1.5868) p = 0.2078
Yes	44	(41.1)	25	(47.2)	19	(35.2)	
No	63	(58.9)	28	(52.8)	35	(64.8)	
Healthy snacks (n=107)							(1.5820) p = 0.2085
Yes	53	(49.5)	23	(43.4)	30	(55.6)	
No	54	(50.5)	30	(56.6)	24	(44.4)	
Fast meals (n=107)							(0.7666) p = 0.3813
Yes	56	(52.3)	30	(56.6)	26	(48.2)	
No	51	(47.7)	23	(43.4)	28	(51.8)	
Healthy cooking (n=107)							(0.0103) p = 0.9193
Yes	51	(47.7)	25	(47.2)	26	(48.2)	
No	56	(52.3)	28	(52.8)	28	(51.8)	
Cooking with less fat (n=107)							(2.2295) p = 0.1354
Yes	37	(34.6)	22	(41.5)	15	(27.8)	
No	70	(65.4)	31	(58.5)	39	(72.2)	
Cooking with less salt (n=107)							(0.8487) p = 0.3569
Yes	30	(28.0)	17	(32.1)	13	(24.1)	
No	77	(72.0)	36	(67.9)	41	(75.9)	

Table 26. Interest in food and cooking education topics for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Food and Cooking Topics at the Food Pantry	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Cooking with less sugar (n=107)							(0.8487) p = 0.3569
Yes	30	(28.0)	17	(32.1)	13	(24.1)	
No	77	(72.0)	36	(67.9)	41	(75.9)	
How to cook foods you get from the food pantry (n=107)							(0.4861) p = 0.4857
Yes	46	(43.0)	21	(39.6)	25	(46.3)	
No	61	(57.0)	32	(60.4)	29	(53.7)	
How to reduce food waste (n=107)							(0.1013) p = 0.7503
Yes	42	(39.2)	20	(37.7)	22	(40.7)	
No	65	(60.8)	33	(62.3)	32	(59.3)	
How to use leftovers to make other meals (n=107)							(0.0119) p = 0.9130
Yes	47	(43.9)	23	(43.4)	24	(44.4)	
No	60	(56.1)	30	(56.6)	30	(55.6)	
How to prepare and store foods safely (n=107)							(2.2797) p = 0.1311
Yes	35	(32.7)	21	(39.6)	14	(25.9)	
No	72	(67.3)	32	(60.4)	40	(74.1)	
Reading food labels (n=107)							(0.5240) p = 0.4691
Yes	27	(25.2)	15	(28.3)	12	(22.2)	
No	80	(74.8)	38	(71.7)	42	(77.8)	
Food expiration dates (n=107)							(0.9148) p = 0.3389
Yes	26	(24.3)	15	(28.3)	11	(20.4)	
No	81	(75.7)	38	(71.7)	43	(79.6)	
Cooking classes for children and teens (n=107)							(0.8221) p = 0.3646
Yes	43	(40.2)	19	(35.8)	24	(44.4)	
No	64	(59.8)	34	(64.2)	30	(55.6)	

Table 26. Interest in food and cooking education topics for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Food and Cooking Topics at the Food Pantry	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Other topics[1] (n=107)							(1.1540) p = 0.2827***
Yes	9	(8.4)	6	(11.3)	3	(5.6)	
No	98	(91.6)	47	(88.7)	51	(94.4)	

[1]Participant responses to other topics included exercise, swimming, fasting, adult cooking classes, healthy vegetable cooking, and healthy filling snacks.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

After participants selected food and cooking educational topics they were interested in, participants were asked to select their top two choices (Table 27). The top two food and cooking educational topics selected were "stretching your food dollar" (n=24) and "healthy snacks" (n=11).

Table 27. Participants' leading interests in food and cooking education topics.

What are the top food and cooking topics? (n=90)	**Number of Responses**
Stretching your food dollar	24
Healthy snacks	11
Meal planning	9
Cooking classes for children and teens	9
How to use leftovers to make other meals	**7**
How to cook foods you get from the food pantry	6
Fast meals	6
Healthy cooking	6
Cooking with less salt	4
How to reduce food waste	3
Breakfast	2
Cooking with less fat	1
How to prepare and store foods safely	1
Reading food labels	1

*Numbers may not sum to 100 due to rounding.

Table 28 presents factors that participants indicated would make it difficult for them to come to education classes. The leading factor participants indicated would make it difficult for them was work (n=27), followed by transportation issues (n=20), their children and the need for childcare (n=10), lack of time (n=9), and distance for those who lived outside of Stillwater (n=4). Some other factors mentioned included disability and social anxiety.

Table 28. What participants felt would make it hard to come to an education class.

	Number of Responses
What would make it hard for you to come to an education class? (n=72)	**n**
Work	27
Transportation	20
Children/Childcare	10
Time	9
Distance	4
Other	2

*Numbers may not sum to 100 due to rounding.

The following presents participants' dietary information. Table 29 presents male participants' self-reported daily fruit, vegetable and dairy intake. The majority of males reported they consumed less than 2 cups of fruits (80.0%) and less than 3 cups of vegetables daily (80.0%); however, only 50% consumed less than 3 cups of dairy daily. There was no significant different in male participants' reported fruit, vegetable and dairy intake by whether they did or did not have children in the home.

Table 29. Male participants' self-reported daily fruit, vegetable and dairy intake.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
How many cups of…	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Fruits do you eat in a normal day? (n=40)							(2.1094) p = 0.1464*
< 2 cups daily	32	(80.0)	21	(87.5)	11	(68.8)	
≥ 2 cups daily	8	(20.0)	3	(12.5)	5	(31.2)	
Vegetables do you eat in a normal day? (n=40)							(2.1094) p = 0.1464***
< 3 cups daily	32	(80.0)	21	(87.5)	11	(68.8)	
≥ 3 cups daily	8	(20.0)	3	(12.5)	5	(31.2)	
Dairy do you eat in a normal day? (n=40)							(1.6667) p = 0.1967
< 3 cups daily	20	(50.0)	14	(58.3)	6	(37.5)	
≥ 3 cups daily	20	(50.0)	10	(41.7)	10	(62.5)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 30 presents female participants' self-reported daily fruit, vegetable and dairy intake. The majority of females reported they consumed less than 1.5 cups of fruits (64.9%), less than 2.5 cups of vegetables (79.7%), and less than 3 cups of dairy (58.1%) daily. There was no significant difference in female participants' reported fruit, vegetable and dairy intake by whether they did or did not have children in the home.

Table 30. Female participants' self-reported daily fruit, vegetable and dairy intake.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
How many cups of …	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Fruits do you eat in a normal day? (n=74)							(2.0720) p = 0.1500
< 1.5 cups daily	48	(64.9)	25	(73.5)	23	(57.5)	
≥ 1.5 cups daily	26	(35.1)	9	(26.5)	17	(42.5)	

Table 30. Female participants' self-reported daily fruit, vegetable and dairy intake. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
How many cups of …	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Vegetables do you eat in a normal day? (n=74)							(0.0039) p = 0.9500
< 2.5 cups daily	59	(79.7)	27	(79.4)	32	(80.0)	
≥ 2.5 cups daily	15	(20.3)	7	(20.6)	8	(20.0)	
Dairy do you eat in a normal day? (n=74)							(0.3455) p = 0.5567
< 3 cups daily	43	(58.1)	21	(61.8)	22	(55.0)	
≥ 3 cups daily	31	(41.9)	13	(38.2)	18	(45.0)	

*Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 31 presents participants' special dietary needs. Among all participants, the majority of participants' reported they did not have special dietary needs such as low fat (85.6%), low sodium (85.6%), low sugar (85.6%), and food allergies (91.9%). There was no significant difference in participants having special dietary needs by whether they did or did not have children in the home.

Table 31. Special dietary needs for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Special dietary needs	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Low fat (n=111)							(0.1796) p = 0.6717
Yes	16	(14.4)	9	(15.8)	7	(13.0)	
No	95	(85.6)	48	(84.2)	47	(87.0)	

Table 31. Special dietary needs for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Special dietary needs	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Low sodium (salt) (n=111)							(0.4324) p = 0.5108
Yes	16	(14.4)	7	(12.3)	9	(16.7)	
No	95	(85.6)	50	(87.7)	45	(83.3)	
Low sugar (n=111)							(0.1796) p = 0.6717
Yes	16	(14.4)	9	(15.8)	7	(13.0)	
No	95	(85.6)	48	(84.2)	47	(87.0)	
Food allergy[1] (n=111)							(1.2728) p = 0.2592***
Yes	9	(8.1)	3	(5.3)	6	(11.1)	
No	102	(91.9)	54	(94.7)	48	(88.9)	
Other[2] (n=110)							(0.1639) p = 0.6856***
Yes	9	(8.2)	4	(7.1)	5	(9.3)	
No	101	(91.8)	52	(92.9)	49	(90.7)	

[1]Participant responses to food allergies included nuts, dairy, eggs, seafood, lactose intolerance, avocado, eggplant.
[2]Participants responses to other included pork, no pork, high protein, lap band diet restrictions, no fatty foods.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 32 presents participant responses to eating when worried or sad. Participants' responses were fairly evenly distributed between "yes" (28.1%), "sometimes" (33.3%), and "no" (38.6%). There was no significant difference in participant responses to eating when worried whether they had children in the home.

Table 32. Reported eating when worried or sad for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Do you eat when you are worried or sad? (n=114)							(2.0140) p = 0.3653
Yes	32	(28.1)	19	(32.8)	13	(23.2)	
Sometimes	38	(33.3)	20	(34.5)	18	(32.1)	
No	44	(38.6)	19	(32.8)	25	(44.6)	

**Participants without children in the home.
**Participants with children in the home.
***Numbers may not sum to 100 due to rounding.

Table 33 presents participants' responses to having time to cook. Among all participants, 56.6% felt they had time to cook, followed by 37.2% who felt they "sometimes" had time to cook and by 6.2% who did not feel they had time to cook. There was no significant difference in participant responses by whether they did or did not have children in the home.

Table 33. Participants' responses to having time to cook for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Do you feel you have time to cook? (n=113)							(2.3029) p = 0.3162***
Yes	64	(56.6)	36	(62.1)	28	(50.9)	
Sometimes	42	(37.2)	20	(34.5)	22	(40.0)	
No	7	(6.2)	2	(3.4)	5	(9.1)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 34 presents participants' food restrictions due to their culture or faith. Among all the participants, almost all (95.6%) reported they did not have any foods they did not eat because of their culture or faith. There was no significant difference in participants having any food restrictions due to culture or faith by whether they did or did not have children in the home.

Table 34. Food restrictions due to culture or faith for all participants and by the presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Are there any foods you do not eat because of your culture or faith? (n=113)							(0.1575) p = 0.6915***
Yes[1]	5	(4.4)	3	(5.2)	2	(3.6)	
No	108	(95.6)	55	(94.8)	53	(96.4)	

[1]Participant responses to food they avoid due to culture or faith included lamb and pork.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 35 shows participants' dietary pattern, including the frequency of breakfast, lunch, dinner, snacks, food preparation at home, food preparation of healthy meals and fast food. Among all participants, many reported on most days they ate breakfast (45.4%), lunch (58.7%), dinner (85.4%) and snacks (47.6%), and prepared meals at home (68.5%). In addition, many participants reported on some days they had the food they needed to make healthy meals (47.2%) and ate fast food (48.6%). There was no significant difference in participants' dietary pattern by whether they did or did not have children in the home.

Although not significant (p=0.0770), participants who had children in the home tended to report that on most days they prepared meals at home (77.8%) compared to participants who did not have children in the home (59.3%). In addition, those who did not have children in the home tended to report they seldom or on some days prepared meals at home (13.0% and 27.8%, respectively) compared those who did have children in the home (3.7% and 18.5%, respectively). Furthermore, although not significant (0.0746), participants who did not have children in the home tended to report that on most days they had the food they needed to make healthy meals (46.3%) compared to participants who did have children in the home (40.4%). Participants who had children in the home tended to report that on somedays they had the food they needed to prepare healthy meals at home (55.8%) compared to those who did not have children in the home (38.9%).

Table 35. Dietary patterns for all participants and by the presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
How often do you …?							
Eat breakfast? (n=110)							(4.5182) p = 0.1044
Seldom, If Ever	29	(26.4)	14	(24.6)	15	(28.3)	
Some Days	31	(28.2)	21	(36.8)	10	(18.9)	
Most Days	50	(45.4)	22	(38.6)	28	(52.8)	
Eat lunch? (n=109)							(2.2202) p = 0.3295
Seldom, If Ever	15	(13.8)	5	(9.1)	10	(18.5)	
Some Days	30	(27.5)	15	(27.3)	15	(27.8)	
Most Days	64	(58.7)	35	(63.6)	29	(53.7)	

Table 35. Dietary patterns for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
How often do you …?							
Eat dinner? (n=110)							(2.4718) p = 0.2906***
Seldom, If Ever	2	(1.8)	1	(1.8)	1	(1.9)	
Some Days	14	(12.7)	10	(17.5)	4	(7.6)	
Most Days	94	(85.5)	46	(80.7)	48	(90.6)	
Eat snacks? (n=103)							(1.0570) p = 0.5895
Seldom, If Ever	17	(16.5)	7	(13.5)	10	(19.6)	
Some Days	37	(35.9)	18	(34.6)	19	(37.2)	
Most Days	49	(47.6)	27	(51.9)	22	(43.1)	
Prepare meals at home? (n=108)							(5.1291) p = 0.0770***
Seldom, If Ever	9	(8.3)	7	(13.0)	2	(3.7)	
Some Days	25	(23.2)	15	(27.8)	10	(18.5)	
Most Days	74	(68.5)	32	(59.3)	42	(77.8)	
Have the food you need to make healthy meals? (n=106)							(5.1919) p = 0.0746
Seldom, If Ever	10	(9.4)	8	(14.8)	2	(3.8)	
Some Days	50	(47.2)	21	(38.9)	29	(55.8)	
Most Days	46	(43.4)	25	(46.3)	21	(40.4)	
Eat fast food? (n=105)							(0.7015) p = 0.7042
Seldom, If Ever	41	(39.1)	19	(35.2)	22	(43.1)	
Some Days	51	(48.6)	28	(51.8)	23	(45.1)	
Most Days	13	(12.4)	7	(13.0)	6	(11.8)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 36 presents participants' reported comfort performing food related activities. Among all participants, most reported they were "often" comfortable reading and understanding food labels (72.3%), planning menus (58.4%), writing a shopping list

(71.2%), selecting healthy foods at the grocery store (63.4%), preparing meals (71.4%), and preparing the food they received from the food pantry (72.3%). A significant difference was observed in participants' comfort planning menus (p=0.0459) by participant groups, with a larger percentage of those who did not have children in the home being "often" comfortable (69.0%) compared to those who did have children in the home (47.3%) and a larger percentage of those who had children in the home reporting they were "sometimes" comfortable (43.6%) compared to those who did not have children in the home (22.4%). Although a larger percentage of participants who did not have children in the home were "often" comfortable understanding food labels (82.5%) compared to those who did not have children in the home (61.8%) and a larger percentage of participants who had children in the home reported they were "sometimes" comfortable (32.7%) compared to participants who did not have children in the home (15.8%), the chi-square may not be valid due to an expected cell count warning. Although not significant (p=0.0682), participants who did not have children in the home tended to report they were "often" comfortable writing a shopping list (80.4%) compared to those who did have children in the home (61.8%) and participants who had children in the home tended to report they were "sometimes" comfortable writing a shopping list (32.7%) compared to participants who did not have children in the home (14.3%).

Table 36. Comfort performing food-related activities for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Do you…	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Feel comfortable reading and understanding food labels? (n=112)							(6.0526) p = 0.0485***
Yes, often	81	(72.3)	47	(82.5)	34	(61.8)	
Yes, sometimes	27	(24.1)	9	(15.8)	18	(32.7)	
No	4	(3.6)	1	(1.8)	3	(5.4)	
Feel comfortable planning menus? (n=113)							(6.1647) p = 0.0459
Yes, often	66	(58.4)	40	(69.0)	26	(47.3)	
Yes, sometimes	37	(32.7)	13	(22.4)	24	(43.6)	
No	10	(8.8)	5	(8.6)	5	(9.1)	
Feel comfortable writing a shopping list? (n=111)							(5.3692) p = 0.0682***
Yes, often	79	(71.2)	45	(80.4)	34	(61.8)	
Yes, sometimes	26	(23.4)	8	(14.3)	18	(32.7)	
No	6	(5.4)	3	(5.4)	3	(5.4)	
Feel comfortable selecting healthy foods at the grocery store? (n=112)							(1.4093) p = 0.4943***
Yes, often	71	(63.4)	39	(68.4)	32	(58.2)	
Yes, sometimes	38	(33.9)	17	(29.8)	21	(38.2)	
No	3	(2.7)	1	(1.8)	2	(3.6)	
Feel comfortable preparing meals? (n=112)							(3.3460) p = 0.1877***
Yes, often	80	(71.4)	44	(77.2)	36	(65.4)	
Yes, sometimes	31	(27.7)	12	(21.1)	19	(34.6)	
No	1	(0.9)	1	(1.8)	0	(0.0)	
Feel comfortable preparing the food you get from the food pantry? (n=112)							(1.3761) p = 0.2408
Yes, often	81	(72.3)	44	(77.2)	37	(67.3)	
Yes, sometimes	31	(27.7)	13	(22.8)	18	(32.7)	
No	0	(0.0)	0	(0.0)	0	(0.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 37 presents participants' access to electricity. Among all participants, 92.3% reported they "often" had electricity and 7.7% reported they "sometimes" had

access to electricity. There was no significant difference in participants' access to electricity by whether they did or did not have children in the home.

Table 37. Access to electricity for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Do you…	**n**	**(%)**	**N**	**(%)**	**n**	**(%)**	
Have electricity? (n=104)							(2.1667) p = 0.1410***
Yes, often	96	(92.3)	46	(88.5)	50	(96.2)	
Yes, sometimes	8	(7.7)	6	(11.5)	2	(3.8)	
No	0	(0.0)	0	(0.0)	0	(0.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 38 presents participants' access to food preparation equipment and resources. The majority of participants had running water (99.1%), a refrigerator (100.0%), a freezer (96.4%), an oven (97.3%), a microwave (89.3%), a crock pot (76.6%), an electric skillet (55.4%), tools to prepare meals at home (94.6%), space to store frozen food (94.6%), space to store refrigerated food (98.2%), space to store dry food (96.4%), the skills to prepare meals at home (95.5%), and a smart phone (84.7%). There was no significant difference in participants' food preparation equipment and resources by whether they did or did not have children in the home. Although not significant (p=0.0846), participants who had children in the home tended to report having an oven (100%) compared those who did not have children in the home (94.7%); however, the Chi-square test may not be valid due to an expected cell count warning.

Table 38. Access to food preparation equipment and resources for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
On a daily basis, do you have access to…	**n**	**(%)**	**N**	**(%)**	**n**	**(%)**	
Running water? (n=113)							(0.9567) p = 0.3280***
Yes	112	(99.1)	57	(98.3)	55	(100.0)	
No	1	(0.9)	1	(1.7)	0	(0.0)	
A refrigerator? (n=113)							No Statistic
Yes	113	(100.0)	58	(100.0)	55	(100.0)	
No	0	(0.0)	0	(0.00)	0	(0.0)	
A freezer? (n=112)							(0.8953) p = 0.3440***
Yes	108	(96.4)	55	(94.8)	53	(98.2)	
No	4	(3.6)	3	(5.2)	1	(1.8)	
An oven? (n=112)							(2.9744) p = 0.0846***
Yes	109	(97.3)	54	(94.7)	55	(100.0)	
No	3	(2.7)	3	(5.3)	0	(0.0)	
A microwave? (n=112)							(0.2308) p = 0.6310
Yes	100	(89.3)	51	(87.9)	49	(90.7)	
No	12	(10.7)	7	(12.1)	5	(9.3)	
A crock pot? (n=111)							(0.4027) p = 0.5257
Yes	85	(76.6)	43	(74.1)	42	(79.2)	
No	26	(23.4)	15	(25.9)	11	(20.8)	
An electric skillet? (n=112)							(0.6425) p = 0.4228
Yes	62	(55.4)	30	(51.7)	32	(59.3)	
No	50	(44.6)	28	(48.3)	22	(40.7)	
The right tools to prepare meals at home? (n=112)							(0.6312) p = 0.4269***
Yes	106	(94.6)	53	(93.0)	53	(96.4)	
No	6	(5.4)	4	(7.0)	2	(3.6)	

Table 38. Access to food preparation equipment and resources for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
On a daily basis, do you have access to…	**n**	**(%)**	**N**	**(%)**	**n**	**(%)**	
Enough space to store frozen food? (n=111)							(0.5955) p = 0.4403***
Yes	105	(94.6)	53	(93.0)	52	(96.3)	
No	6	(5.4)	4	(7.0)	2	(3.7)	
Enough space to store dry food? (n=111)							(0.0003) p = 0.9854***
Yes	107	(96.4)	54	(96.4)	53	(96.4)	
No	4	(3.6)	2	(3.6)	2	(3.6)	
Cooking skills to prepare meals at home? (n=112)							(0.2485) p = 0.6181***
Yes	107	(95.5)	55	(96.5)	52	(94.6)	
No	5	(4.5)	2	(3.5)	3	(5.4)	
A smart phone? (n=111)							(0.4487) p = 0.5030
Yes	94	(84.7)	47	(82.5)	47	(87.0)	
No	17	(15.3)	10	(17.5)	7	(13.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 39 presents food coping strategies participants reported using when they did not have enough food. Among all participants, many reported when they did not have enough food they "often" stretched meals (51.4%), and "sometimes" ate smaller meals (54.1%), skipped meals (41.4%), and received help with food from family or friends (43.8%). However, when there was not enough food, many participants reported they did not eat foods that may have been stored too long (45.9%) and did not eat community meals (46.3%). There was a significant difference in participants reporting they ate community meals when they did not have enough food by whether they did or did not

have children in the home (p=0.0250), with a greater percentage of participants who did not have children in the home reporting "often" eating community meals (31.6%) compared to participants who did not have children in the home (15.7%) a greater percentage of participants who had children in the home reporting they "sometimes" ate community meals (41.2%) compared to participants who did not have children in the home (19.3%). There was no significant difference in the other coping strategies by whether participants did or did not have children in the home.

Table 39. Food coping strategies and behaviors for all participants and by the presence of children in the home.

If you do not have enough food, do you ever…	**All Participants**		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
	n	**(%)**	**N**	**(%)**	**n**	**(%)**	
Eat smaller meals? (n=111)							(0.4166) p = 0.8119
Yes, often	39	(35.1)	22	(37.9)	17	(32.1)	
Yes, sometimes	60	(54.1)	30	(51.7)	30	(56.6)	
No	12	(10.8)	6	(10.3)	6	(11.3)	
Skip meals? (n=111)							(1.1338) p = 0.5673
Yes, often	39	(35.1)	17	(30.4)	22	(40.0)	
Yes, sometimes	46	(41.4)	25	(44.6)	21	(38.2)	
No	26	(23.4)	14	(25.0)	12	(21.8)	
Stretch meals (make soups or casseroles; add rice or noodles)? (n=111)							(3.3816) p = 0.1844***
Yes, often	57	(51.4)	34	(58.6)	23	(43.4)	
Yes, sometimes	47	(42.3)	22	(37.9)	25	(47.2)	
No	7	(6.3)	2	(3.4)	5	(9.4)	
Eat foods that may have been stored too long? (n=109)							(0.4622) p = 0.7937
Yes, often	23	(21.1)	13	(23.6)	10	(18.5)	
Yes, sometimes	36	(33.0)	18	(32.7)	18	(33.3)	
No	50	(45.9)	24	(43.6)	26	(48.2)	
Eat community meals provided by local organizations? (n=108)							(7.3806) p = 0.0250
Yes, often	26	(24.1)	18	(31.6)	8	(15.7)	
Yes, sometimes	32	(29.6)	11	(19.3)	21	(41.2)	
No	50	(46.3)	28	(49.1)	22	(43.1)	

Table 39. Food coping strategies and behaviors for all participants and by the presence of children in the home. (continued)

If you do not have enough food, do you ever…	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Get help with food from family or friends? (n=105)							(1.9354) p = 0.3800
Yes, often	36	(34.3)	22	(40.0)	14	(28.0)	
Yes, sometimes	46	(43.8)	23	(41.8)	23	(46.0)	
No	23	(21.9)	10	(18.2)	13	(26.0)	

[1]Participants responses to other included receiving help from daughter in the military.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

The following presents information regarding participants' health. Table 40 presents participants' body mass index calculated from self-reported height and weight. Among all participants, 45.6% were classified as obese, 23.7% were overweight, 22.8% were normal weight and 7.9% were underweight. There was no significant difference in participants' body mass index by whether they did or did not have children in the home.

Table 40. Body mass index from self-reported height and weight for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	N	**(%)**	**N**	**(%)**	**n**	**(%)**	
Body mass index category (n=114)							(3.5415) p = 0.3154***
Underweight	9	(7.9)	5	(8.6)	4	(7.1)	
Normal weight	26	(22.8)	11	(19.0)	15	(26.8)	
Overweight	27	(23.7)	11	(19.0)	16	(28.6)	
Obese	52	(45.6)	31	(53.4)	21	(37.5)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 41 presents participants' self-reported changes in food intake and weight over the past three months. Among all participants, 53.1% reported their food intake had not changed, followed by 39.8% who reported their food intake had decreased and 7.1% who reported their food intake had increased. There was no significant difference in participants' self-reported changes in food intake by whether they did or did not have children in the home.

Among all participants, 44.4% reported their weight had not changed followed by 35.4% who reported their weight had decreased, and 20.2% who reported their weight had increased. There was a significant difference (p=0.0425) in participants' self-reported weight change by whether they did or did not have children in the home. A larger percentage of participants who did have children in the home reported their weight had decreased (43.8%) compared to participants who did not have children in the home (36.0%). In addition, a smaller percentage of participants who did have children in the home reported their weight had increased (10.4%) compared to participants who did not have children in the home (29.4%).

Table 41. Self-reported changes in food intake and weight for all participants and by the presence of children in the home.

	All Participants		**Participants Without Children***		**Participants With Children****		**(Chi-square) p value**
Without wanting to…	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Has your food intake changed over the past 3 months? (n=98)							(3.7629) p = 0.1524***
No	52	(53.1)	26	(52.0)	26	(54.2)	
Yes, decreased	39	(39.8)	18	(36.0)	21	(43.8)	
Yes, increased	7	(7.1)	6	(12.0)	1	(2.1)	
Do not know	0	(0.0)	0	(0.0)	0	(0.0)	

Table 41. Self-reported changes in food intake and weight for all participants and by the presence of children in the home. (continued)

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
Without wanting to…	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**	
Has your weight changed over the past 3 months? (n=99)							(6.3149) p = 0.0425
No	44	(44.4)	22	(43.1)	22	(45.8)	
Yes, decreased	35	(35.4)	14	(27.4)	21	(43.8)	
Yes, increased	20	(20.2)	15	(29.4)	5	(10.4)	
Do not know	0	(0.0)	0	(0.0)	0	(0.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 42 presents participants' self-reported perception of their general health status. Among all participants, 45.5% reported their health was good, 28.6% reported their health was fair, 15.2% reported their health was very good, 7.1% reported their health was excellent, and 3.6% reported their health as poor. There was no significant difference between participants' self-reported health status by whether they did or did not have children in the home.

Table 42. Perception of general health status for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	N	**(%)**	**N**	**(%)**	**n**	**(%)**	
Would you say your general health is… (n=112)							(4.8678) p = 0.3011***
Excellent	8	(7.1)	5	(8.8)	3	(5.4)	
Very good	17	(15.2)	5	(8.8)	12	(21.8)	
Good	51	(45.5)	26	(45.6)	25	(45.4)	
Fair	32	(28.6)	18	(31.6)	14	(25.4)	
Poor	4	(3.6)	3	(5.3)	1	(1.8)	
Do not know	0	(0.0)	0	(0.0)	0	(0.0)	

*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

Table 43 presents participants' self-reported activity level. Among all participants, 50.9% reported in a normal week they were often active enough to work up a sweat, 39.3% reported they were sometimes active enough to work up a sweat and 9.8% reported they were rarely or never active enough to work up a sweat. There was no significant difference in participants' self-reported physical activity level by whether they did or did not have children in the home. However, although not significant (p=0.0655), participants who did have children in the home tended to report they were often active enough to work up a sweat (61.8%) compared to participants who did not have children in the home (40.4%). In addition, participants who had children in the home tended to report they were sometimes active enough to work up a sweat (29.1%) less often than participants who did not have children in the home (49.1%).

Table 43. Self-reported activity level for all participants and by the presence of children in the home.

	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**N**	**(%)**	**n**	**(%)**	
In a normal week (7 days), how often are you active enough to work up a sweat (heart beats rapidly)? (n=112)							(5.4525) p = 0.0655
Often	57	(50.9)	23	(40.4)	34	(61.8)	
Sometimes	44	(39.3)	28	(49.1)	16	(29.1)	
Rarely or Never	11	(9.8)	6	(10.5)	5	(9.1)	

*Participants without children in the home.
**Participants with children in the home.
******* Numbers may not sum to 100 due to rounding.

Table 44 presents participants' self-reported health conditions. Among all participants, the leading health conditions reported were anxiety (59.5%), depression (51.4%), high blood pressure (29.7%), fatigue (27.9%) and conditions that made it difficult to grocery shop (13.5%). Less than 10% of participants reported they had diabetes (8.1%), food allergies (7.2%), heart disease (0.9%) and conditions that made it difficult to eat (7.2%). There was no significant difference in participants' self-reported health conditions by whether they did or did not have children in the home.

Table 44. Self-reported health conditions for all participants and by the presence of children in the home.

Do you have any of the following health conditions…	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	**(%)**	**N**	**(%)**	**n**	**(%)**	
Anxiety (n=111)							(0.7890) p = 0.3744
Yes	66	(59.5)	31	(55.4)	35	(63.6)	
No	45	(40.5)	25	(44.6)	20	(36.4)	
Depression (n=111)							(0.0826) p = 0.7738
Yes	57	(51.4)	28	(50.0)	29	(52.7)	
No	54	(48.6)	28	(50.0)	26	(47.3)	

Table 44. Self-reported health conditions for all participants and by the presence of children in the home. (continued)

Do you have any of the following health conditions…	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	(%)	N	(%)	n	(%)	
Fatigue (n=111)							(0.0733) p = 0.7867
Yes	31	(27.9)	15	(26.8)	16	(29.1)	
No	80	(72.1)	41	(73.2)	39	(70.9)	
Diabetes (n=111)							(1.0303) p = 0.3101***
Yes	9	(8.1)	6	(10.7)	3	(5.4)	
No	102	(91.9)	50	(89.3)	52	(94.6)	
Food allergies[1] (n=111)							(0.0007) p = 0.9789***
Yes	8	(7.2)	4	(7.1)	4	(7.3)	
No	103	(92.8)	52	(92.9)	51	(92.7)	
Heart disease (n=111)							(0.9911) p = 0.3195***
Yes	1	(0.9)	1	(1.8)	0	(0.0)	
No	110	(99.1)	55	(98.2)	55	(100.0)	
High blood pressure (n=111)							(0.9538) p = 0.3288
Yes	33	(29.7)	19	(33.9)	14	(25.4)	
No	78	(70.3)	37	(66.1)	41	(74.6)	
Conditions that make it difficult for you to grocery shop? (n=111)							(0.7577) p = 0.3840
Yes	15	(13.5)	6	(10.7)	9	(16.4)	
No	96	(86.5)	50	(89.3)	46	(83.6)	
Conditions that make it difficult for you to prepare food? (n=111)							(0.0007) p = 0.9789***
Yes	8	(7.2)	4	(7.1)	4	(7.3)	
No	103	(92.8)	52	(92.9)	51	(92.7)	
Conditions that make it difficult for you to eat? (n=111)							(0.0005) p = 0.9819***
Yes	6	(5.4)	3	(5.4)	3	(5.4)	
No	105	(94.6)	53	(94.6)	52	(94.6)	

Table 44. Self-reported health conditions for all participants and by the presence of children in the home. (continued)

Do you have any of the following health conditions…	All Participants		Participants Without Children*		Participants With Children**		(Chi-square) p value
	n	(%)	N	(%)	n	(%)	
Other[2] (n=111)							(0.3614) p = 0.5477***
Yes	3	(2.7)	1	(1.8)	2	(3.6)	
No	108	(97.3)	55	(98.2)	53	(96.4)	

[1]Participant responses to food allergies included nuts, eggs, seafood, dairy, fruit, tomatoes, avocado, and eggplant.
[2]Responses to other included being pregnant, rheumatoid arthritis, lupus, and asthma.
*Participants without children in the home.
**Participants with children in the home.
***Chi-square test may not be valid due to an expected cell count warning.
****Numbers may not sum to 100 due to rounding.

CHAPTER V

DISCUSSION

Demographics

Because the focus of this study was food pantry guests 18 to 49 years of age who did and did not have children in the home, it is understandable that 49.1% of participants had children in the home and 50.9% of participants did not have children in the home. It is also understandable that participants' ages were fairly evenly distributed. This study used deliberate sampling in that those who were in the age group were asked to participate in the survey.

Furthermore, the majority of participants in this study were non-Hispanic and White. However, a higher percentage of participants in this study were Native American and African American compared to the racial breakdown of Payne County, Oklahoma. These results are in agreement with literature that reported minorities (Native Americans and African Americans) are at higher risk of food insecurity (Hernandez, Reesor, & Murillo, 2017; Tomayko *et al.*, 2017; USDA ERS, 2018).

In addition, the majority of participants were female. The USDA ERS (2018) reported among households with children, those headed by a single woman had a higher rate of food insecurity (30.3%) compared to those headed by a single man (19.7%). In addition, it is possible that the higher percentage of females visiting the food pantry is related to that fact that women typically are responsible for food related activities (Ivers & Cullen, 2011). Moreover, many participants in this study had a high school education level, were unemployed, and had annual incomes less than $12,000. Low education, unemployment or underemployment and low income are interrelated factors which can increase the risk of food insecurity (Biggerstaff, Morris, & Nichols-Casebolt, 2002; Goldberg & Mawn, 2014; Marconi *et al.*, 2018; Feeding America, 2018a; USDA ERS, 2018).

Furthermore, among all participants there was no significant difference in marital status; however, there was a significant difference in marital status between those with children and those without children in the home. A lower percentage of participants who did not have children in the home reported they were never married compared to participants without children in the home. A higher percentage of participants with children in the home reported they were married or divorced, separated or widowed compared to participants who did not have children in the home. These data indicate there is a wide variation in households utilizing the *Our Daily Bread Food and Resource Center*. This is consistent with the United States Department of Agriculture Economic Research Service reporting a variety of households, including households with children headed by single parent, either female or male, and households of women and men living alone having a higher prevalence of food insecurity than the national average and

households with children headed by a single woman and both households of single men and women living alone have a higher prevalence of very low food security than the national average (USDA ERS, 2018). However, another study reported risk of childhood food insecurity was not different by the structure of the family, when other variables were controlled including income, family size, race, ethnicity, education and age (Miller, Nepomnyaschy, Ibarra, & Garasky, 2014).

An interesting observation was that, although Stillwater is a university town and eligible Oklahoma State University students can utilize the *Our Daily Bread Food and Resource Center*, only 4.4% of participants reported they were college students. The low percentage of participants who were college students is unexpected given the reported high rate of food insecurity among college students (Bruening *et al.*, 2016; Chaparro, Zaghloul, Holck, & Dobbs, 2009; Patton-López, López-Cevallos, Cancel-Tirado, & Vazquez, 2014). This is something to take note of because it may mean that the *Our Daily Bread Food and Resource Center* is not being fully utilized by Oklahoma State University or Northern Oklahoma College students. The universities in collaboration with *Our Daily Bread* may want to consider ways to increase students' awareness of the Food and Resource Center.

It is interesting to note that 71.1% of participants reported they had no or only one other adult in the home in the home. Furthermore, a large percentage of participants reported they had no or very few family or friends nearby who could help them. These results are consistent with research that has reported lack of social support is associated with food insecurity (Chhabra, Falciglia, & Lee, 2014; Garasky, Morton, & Greder, 2006; Kapulsky, Tang, & Forrester, 2015; Kollannoor-Samuel *et al.*, 2011).

Lastly, food pantries and SNAP were the two leading food assistance programs participants were aware of; however, although 74.8% reported they used food pantries only 38.7% reported they received SNAP benefits. There could be a lower percentage of participants who received SNAP because of the public perception of SNAP or lack of education about the function of SNAP (Kaiser, 2008).

There was a significant difference in participants' awareness of food pantries by whether they had children in the home, with a larger percentage of participants who did not have children in the home reporting they were aware of food pantries compared to participants who did have children in the home. The significant difference in awareness between those with children and those without children may have occurred because participants without children may have had time to learn about food pantries compared to participants with children who may be busy with work and with their children. In addition, many reported they were not aware of community/faith based meals, the Food Distribution Program on Indian Reservations, home delivered meals, or the Women, Infant and Children program. The majority reported not using community/faith based meals, the Food Distribution Program on Indian Reservations, home delivered meals, or the Women, Infant and Children program. Low consumer awareness of food assistance programs has been reported and may be due to eligibility criteria, belief that they are ineligible, difficulty applying or not knowing how to apply, feeling uncomfortable using the programs, lack of transportation, and not knowing where the programs are located (Kaiser, 2008; Martin, Cook, Rogers, & Joseph, 2003).

Food Security Status

Among participants in this study, overall 86% were food insecure and there was no significant difference in food insecurity by whether they did or did not have children in the home. As previously mentioned, the United States Department of Agriculture, Economic Research Service has reported a variety of households, including households with children headed by single parent, either female or male, and households of women and men living alone have a higher prevalence of food insecurity than the national average and that households with children headed by a single woman and both households of single men and women living alone have a higher prevalence of very low food security than the national average (USDA ERS, 2018). However, one study of college students did report that students with children usually have greater food insecurity compared to college students who did not have children (Blundell, Mathews, Bowley, & Roebothan, 2018). Students with children may need to pay for tuition along with child expenses and may lack the time to work.

Food Pantry

It is essential for food pantry guests to feel respected and well treated. Almost all participants reported they felt respect and were treated well at the food pantry. One study reported food pantry participants typically appreciate the services that food pantries provide but have overall negative experiences with them (Middleton, Mehta, McNaughton, & Booth, 2018). It is not only important to provide food to participants, but it is also important to provide a good experience at the food pantry. The high percentage of participants reporting they feel respected and treated well is encouraging because Our

Daily Bread staff and volunteers strive to treat all guests with kindness, dignity and respect, which is reflected in that individuals are called guests, not clients.

In the survey, participants indicated their favorite part of the food pantry. In terms of what participants liked best about the food pantry, many responses were about how nice, friendly, kind, caring and welcoming the people (staff and volunteers) were. In particular, many participants commented on how the staff and volunteers treated guests with respect and without judgment. These results are positive given that the literature indicates there is a stigma associated with being food insecure (Kaiser, 2008; Loopstra, 2018). By staff and volunteers at *Our Daily Bread* developing an image that there is not a stigma associated with food insecurity, people would be more willing to go, and *Our Daily Bread* can be portrayed as a safe and open place to go.

The second most common area of comment was about the food received. Participants commented on how they liked the quantity, quality, and variety of food offered. In particular, many participants expressed appreciation for healthy food choices and fresh produce. Many participants also made positive comments about the facility including the location, multiple shopping times, cleanliness, organization, and efficiency. In particular, many participants commented on how much they enjoyed the shopping experience and "client choice" (being able to pick the food items they wanted). "Client choice" has many advantages including allowing guests to select the products they want, building self-esteem and dignity, accommodating requests whether it be dietary or cooking equipment, and promoting critical thinking and meal planning (Indiana's Emergency Food Resource Network, 2013; Martin, Colantonio, Picho, & Boyle, 2016; Ohio Association of Second Harvest Food Banks, n.d.).

In terms of what participants felt could make *Our Daily Bread* better, 25 responses were related to food improvements such as checking for expired or spoiled food and offering more food including fresh produce, dairy, and fresh meat. Food spoilage has been reported to be a barrier for stocking foods at small food stores (Ross, Krishnan, Ruggiero, Kerrigan, & Gittelsohn, 2017). In addition, several studies have reported food pantries provide insufficient amounts of fruits, vegetables and dairy and associated nutrients including calcium, vitamin A and vitamin C (Akobandu, Cohen, Laus, Schulte, & Soussloft, 2004; Bazerghi, McKay, & Dunn, 2016; Hoisington, Manore, & Raab, 2011; Simmet, Depa, Tinnemann, & Stroebele-Benschop, 2017).

The second most common area of responses were related to the facility (n=18), including more parking (particularly handicap parking), providing shade outside for participants while they wait for the shopping times or allowing participants to wait inside, allowing guests to visit more than once a month, more shopping times per week, longer shopping times, and more promotion. A study reported a limitation of food pantries may be the reliance on volunteer time, which limits the amount of service that the food pantry can give to its guests (Loopstra, 2018).

The fact that many food pantries are reliant on volunteers may limit frequency and length of shopping times. A few participants commented on expanding some current resources including diapers and clothes. One study reported receiving diapers increased the family's economic, social and health outcomes (Massengale, Erausquin, & Old, 2017).

Nutrition Education

Overall, only 19.5% reported "yes" they were interested in food and nutrition education classes; however, 45.1% reported "maybe" interested in educational classes. Most preferred shorter classes (30 minutes). The time of the day most desirable was evenings. Weekdays (Monday through Thursday) were preferred compared to Friday and Saturday. Barriers to coming to nutrition education classes are work, transportation issues, children and the need for childcare, lack of time and distance for those who lived outside of Stillwater. Low food pantry guests' interest in and attendance at food and nutrition education programs has been reported by others (Barone, Thompson, Guo, Hacker, Krummel, & Lee, 2016). In addition, food insecurity can be stressful and is associated with depression, both of which may interfere with ones' motivation to attend education classes (Leung, Willett, Rimm, & Laraia, 2014; Silverman *et al.*, 2015). These results indicate education may need to be presented in ways that participants can clearly see the benefits to them. If participants were able to recognize the benefits of the nutritional education before committing to a class, the participants may be more inclined to attend. Nutrition education for low-income families has been reported to improve dietary behaviors and nutritional status (Hardison-Moody *et al.*, 2015; Lillehoj, Yap, Montgomery, Shelley, & Francis, 2018; Rivera, Maulding, Abbott, Craig, & Eicher-Miller, 2016).

Among all participants, the majority indicated they were interested in "healthy eating at home" and "adult nutrition". These were also the top two topics selected by participants. These results are consistent with literature that reported healthful foods and

nutrition were topics in which food pantry participants were interested (Hoisington, Shultz, & Butkus, 2002)

There was a significant difference in participants' interest in having childcare available at education classes, with a greater percentage of participants who had children in the home being interested in having childcare available at education classes compared to participants who not have children in the home. In addition, although not significant, there was a trend towards a difference in participants' interest in classes for children in the family ($p=0.0527$), participants with children in the home tended to report they were interested in this topic compared to participants who did not have children in the home. These differences are not unexpected in terms of participants' needs and interests if they have children in the home.

The majority of participants were interested in "stretching your food dollar" and "meal planning". "Stretching your food dollar" was also one of the top two food and cooking topics selected by participants; however, the second was "healthy snacks." These results are consistent with literature that reported stretching food dollars, money management, and meal planning were topics in which food pantry and low-income individuals were interested (Hoisington, Shultz, & Butkus, 2002).

There were significant differences in participants' interest in having classes on the topics of childhood nutrition and teen nutrition, with a larger percentage of participants who had children in the home indicating interest in these topics. Similarly, these differences are not unexpected in terms of participants' needs and interests if they have children in the home.

Dietary

A majority of both male and female participants had low fruits, vegetables and dairy intakes. These results are consistent with other research which reported food insecurity was associated with lower diet quality and lower fruit, vegetable and dairy consumption (Araujo, Mendonca, Lopes Filho, & Lopes, 2018; Hanson & Connor, 2014; Mook, Laraia, Oddo, & Jones-Smith, 2016). The fact that those who had children had slightly higher intakes shows that the parents may be more committed to providing for food for both themselves and their children. These results are consistent with a study which reported parents may shield children from diet compromise (Hanson & Connor, 2014).

A large percentage of participants reported "seldom" or "some days" eating breakfast, lunch, and snacks. In addition, a large percentage of participants reported seldom or only some days having the food they needed to make healthy meals. Furthermore, a large percentage of participants reported eating fast food on some or most days. Among low-income populations, cost of healthy food, lack of time to prepare food, lack of transportation, and lack of nutrition knowledge and skills have been reported to be barriers to healthy eating behaviors (Laraia, Leak, Tester, & Leung, 2017; Mullany *et al.*, 2012; Dave, Thompson, Svendsen-Sanchez, & Cullen, 2017).

Among all participants, the majority reported they were often comfortable reading and understanding food labels, planning menus, writing a shopping list, selecting healthy foods at the grocery store, preparing meals, and preparing the food they received from the food pantry. One study reported food pantry participants felt reading nutrition labels helped make better food choices; however, participants reported the information was hard

to understand. In addition, although food pantry participants were confident in their food preparation skills, many still felt a barrier to eating healthy was their ability to prepare healthy meals (Hale, Chhabra, Zipfel, Holben, Vaughn, Falciglia, & Lee, 2012).

A significant difference was observed in participants' comfort planning menus by participant groups, with a larger percentage of those who did not have children in the home being often comfortable compared to those who did have children in the home and a larger percentage of those who had children in the home reporting they were sometimes comfortable compared to those who did not have children in the home. It is possible that those with children may find it more challenging to plan menus because they are trying to meet both their own needs and also their children's needs.

Among all participants, the majority often had the basic utilities and resources for food preparation like electricity, running water, a refrigerator, a freezer, an oven, a microwave, a crock pot, tools and skills to prepare meals at home and storage for frozen, refrigerated food and dry food. These results indicate lack of food preparation equipment and resources is not a major issue for participants. These results are consistent with another study of low-income individuals that reported most participants had access to a refrigerator, stove with an oven, microwave and crock pot (Landers & Shults, 2008).

Among all participants, a large percentage reported when they did not have enough food they "often" stretched meals, and "sometimes" ate smaller meals, skipped meals, and received help with food from family or friends. Eating foods that are less preferred, limiting portion size, borrowing food or money to buy food, maternal buffering, stretching foods, skipping meals, and skipping eating for whole days are food

coping strategies that have been reported by others (Maxwell, 1996; Hoisington, Shultz, & Butkus, 2002; Wicks, Trevena, & Quine, 2006). In fact, one study reported low-income mothers use many strategies to access food (Gorman, McCurdy, Kisler, & Metallinos-Katsaras, 2017). These coping behaviors indicate that food resource management classes such as meal planning and stretching your food dollar might be valuable nutrition education classes.

However, when there was not enough food, nearly half of participants reported they did not eat foods that may have been stored too long and did not eat community meals. There was a significant difference in participants reporting they ate community meals when they did not have enough food by whether they did or did not have children in the home, with a greater percentage of participants who did not have children in the home reported often eating community meals compared to participants who did have children in the home. It is possible that parents who have children in the home find it more difficult to go to community meals at set times and they may feel embarrassed to show up with children at community meals.

Health

Among all participants, about half were classified as obese. The hunger-obesity paradox indicates food insecurity can be related to obesity due to many reasons like unhealthy food choices and selecting unhealthy foods for convenience (Koh, Hoy, O'Connell, & Montgomery, 2012). Many studies have reported food insecurity was associated with overweight/obesity (Franklin *et al.*, 2011; Leung, Williams, & Villamor, 2012; Smith, Colón-Ramos, Pinard, & Yaroch, 2016).

One study reported the hunger-obesity paradox was present among low-income and older women (Hernandez *et al.*, 2017). Another study reported the hunger-obesity paradox was also present among the homelessness (Koh, *et al.*, 2012). The homeless once died from the problem of undernutrition, but now also face the problem of over-nutrition. The hunger-obesity paradox could be due to a variety of factors including consumption of less expensive calorie dense foods over nutrient dense foods (Gundersen, 2013).

Among all participants, a large percentage reported their food intake had decreased. Decreased food intake may be reflective of the large percentage of participants who reported they did not have enough food, so they often stretched meals, sometimes ate smaller meals and skipped meals.

There was a significant difference in participants' self-reported weight change by whether they did or did not have children in the home. A larger percentage of participants who did have children in the home reported their weight had decreased compared to participants who did not have children in the home. It may be possible that the parents are sacrificing their food to feed their children. In fact, prior literature had indicated that mothers are willing to sacrifice their food (Stack & Meredith, 2018).

Among all participants, half reported in a normal week they were often active enough to work up a sweat. One study found higher physical activity was associated with younger age (Hansen *et al.*, 2018). Thus, the higher level of physical activity may be related to the fact that participants in this study were less than 50 years of age.

Among all participants, most reported their health was good. The large percentage of participants reporting their health as "good" contrasts with literature indicating food

insecurity is associated with negative health outcomes (Gundersen & Ziliak, 2017; Lee, Gundersen, Cook, Laraia, & Johnson, 2012). However, this may be due to the fact that participants in this study were young. Another explanation for few reporting negative health outcomes may be the participants' perception of "healthy" may not be accurate compared to what is truly healthy.

Among all participants, the leading health conditions reported were anxiety, depression, high blood pressure. The high percentage of participants reporting anxiety and depression is consistent with literature that reports food insecurity has been reported to be associated with depression and stress (Leung *et al.*, 2014; Silverman *et al.*, 2015). In addition, the incidence of high blood pressure is consistent with research which reported a positive association between food insecurity and high blood pressure, (Irving, Njai, & Siegel, 2014; Seligman *et al.*, 2010.

CHAPTER VI

CONCLUSION

Payne County, Oklahoma has a food insecurity rate of 19.8%, which is the second highest county food insecurity rate in Oklahoma, and is higher than the Oklahoma and national food insecurity rates (Feeding America, 2018c). The purpose of this study was to survey food pantry guests, 18 to 49 years of age, with and without children in the home, at the Payne County *Our Daily Bread Food and Resource Center* regarding demographics, food security, food pantry views, dietary and health indicators, and food and nutrition education interests.

The majority of participants were non-Hispanic and White; however, higher percentages of participants were Native American and African American compared to the

racial breakdown of Payne County, Oklahoma. In addition, a larger percentage were female, had a high school education level, were unemployed, and had annual incomes less than $12,000. These demographic characteristics align with food insecurity risk factors (Feeding America, 2018a; USDA ERS, 2018).

Food pantries and SNAP were the leading food assistance programs utilized by participants. Almost all participants reported they felt respected and treated well at *Our Daily Bread Food and Resource Center.* Participants' portrayal of *Our Daily Bread* as a safe haven is important in conjunction with attempts to eliminate the stigma of food insecurity. To be perceived as a safe public place, the pantry can be a supportive place that affirms its high priority of human value and dignity for its clients.

Although *Our Daily Bread Food and Resource Center* is located in Stillwater, Oklahoma which is a university town and eligible college students can utilize the food pantry, few participants reported they were college students. Future research may need to be conducted regarding college students' awareness and barriers to utilizing the *Our Daily Bread Food and Resource Center*.

Participants reported seldom or only some days eating breakfast, lunch, and snacks and having the food they needed to make healthy meals. Furthermore, the majority reported eating fast food on some or most days. In addition, the majority reported that when they did not have enough food they compromised their diet by stretching meals, eating smaller meals and skipping meals. Collectively, these data indicate participants are at risk of poor dietary status.

Regarding food related activities and food preparation facilities, the majority of participants reported they were comfortable with food related activities such as reading

and understanding food labels, planning menus, writing a shopping list, selecting healthy foods at the grocery store, preparing meals, and preparing the food they received from the food pantry. However, a significant difference was observed in participants' comfort planning menus, with a larger percentage of participants who did not have children in the home being comfortable. It is possible that those with children may find it more challenging to plan menus because they are trying to meet both their own needs and also their children's needs. In addition, the majority of participants reported they had access to food preparation equipment and food storage. These results indicate lack of food preparation equipment and resources was not a major issue among this sample.

The low incidence of chronic disease may be due to the fact that participants in this study were younger. However, almost half of participants were classified as obese and about a fourth were overweight. In addition, participants' emotional health did appear to be impacted with over half reporting they had anxiety and depression and a fourth reporting fatigue. Furthermore, lack of social support appears to be an issue with close to half reporting they had no other adults living with them and almost all reported they had no or very few family or friends nearby who could help them. This is a concern because the accumulated effect of poor diet, weight status, emotional stress, and lack of social support could increase risk of chronic disease in the future.

Providing food and nutrition education to food panty guests has been reported to improve dietary behaviors (Hardison-Moody *et al.*, 2015; Clarke, Evans, & Hovy, 2011). However, it is important to understand the educational needs and desires of food pantry guests in order to inform the development of effective food and nutrition educational programs (Dave, Thompson, Svendsen-Sanchez, McNeil, Jibaja-Weiss, 2017; Evans,

Clarke, & Koprowski, 2010; Hoisington, Shultz, & Butkus, 2002). Overall, few reported they were interested in food and nutrition education classes. When asked what would make it difficult for participants to come to classes, the leading responses were work, transportation, and children and the need for childcare. Though the results indicated a small number of participants were interested in attending nutrition education classes, greater individualized and personalized time and instruction can be provided to a smaller number. While there may be a lower number of people attending classes, individual relationships with those who do attend can be strengthened and developed.

In terms of nutrition and food topics, the majority indicated they were interested in "healthy eating at home," "adult nutrition," "stretching your food dollar," and "meal planning". There were significant differences in participants' interest in classes on "childhood nutrition" and "teen nutrition" and a trend toward a difference in interest in "classes for children in the family," with a larger percentage of participants who had children in the home indicating interest in these topics compared to participants who did not have children in the home. These differences are not unexpected in terms of participants' needs and interests if they have children in the home. In addition, participants with children in the home were significantly more interested in having childcare available. Having classes for parents and children together could be a solution for childcare.

Future research could be conducted on evaluating the impact of different educational strategies on food pantry guests' knowledge and behavior. Possible educational strategies may include videos in the waiting room, short education during the shopping times and pamphlets (fact sheets). These educational strategies may better fit

the time constraints of food pantry guests. Future research could also be conducted on assessing food pantry guests' perception of what is a "healthy" diet and better assessing food pantry guests' food intake by including dietary recalls to enhance the accuracy.

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APPENDICES

APPENDIX A

Oklahoma State University Institutional Review Board for Human Subjects Approval

Oklahoma State University Institutional Review Board

Date:	06/05/2018
Application Number:	HS-18-31
Proposal Title:	Food and Nutrition Educational Needs and Interests of Food Pantry Guests, 18 to 49 Years of Age, With and Without Children in the Household
Principal Investigator:	Lydia Wei
Co-Investigator(s):	
Faculty Adviser:	JANICE HERMANN
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 223 Scott Hall (phone: 405-744-3377, irb@okstate.edu).

APPENDIX B

Survey

Survey of the *Our Daily Bread* Food Pantry Guests, 18 to 49 Years of Age

I. Food Pantry

1. How many people eat the food you get from the food pantry? _____

2. Did you feel respected and treated well at the food pantry?
   _____ Yes
   _____ Sometimes
   _____ No

3. What do you like best about Our Daily Bread?
   _____

   _____

4. What could make Our Daily Bread better? _____

   _____

II. Food and Nutrition Education Interests:

1. Are you interested in attending any food/nutrition education classes?
   _____ Yes
   _____ Maybe
   _____ No

2. How long would you like an education class to last?
   _____ 30 minutes
   _____ 45 minutes
   _____ 1 hour
   _____ Other _____

3. Which time would be best for an educational class to be offered (check all that apply)?
   _____ Morning
   _____ Early afternoon
   _____ Late afternoon
   _____ Evening

4. What day(s) would be best for you (check all that apply)?
   _____ Monday
   _____ Tuesday
   _____ Wednesday
   _____ Thursday
   _____ Friday
   _____ Saturday

5. Would you like to come a series of classes on a topic?
   _____ Yes
   _____ Maybe
   _____ No

APPENDIX B

Survey (continued)

6. In terms of education classes would you like…	Yes, Often	Yes, sometimes	No
Classes for you or other adults in your family?			
Classes for children in your family?			
Family classes (adults and children together)?			
Food demonstrations?			
Hands on food preparation?			
Handouts?			
Group discussions?			
Videos?			
Recipes?			
Activities			
Grocery store tours?			
Childcare available?			

7. Would you like to go to a class about: (check all that apply)

Nutrition and Health Topics

_____ Healthy eating at home
_____ Healthy eating when eating out
_____ Dietary supplements
_____ Pregnancy nutrition
_____ Infant nutrition
_____ Childhood nutrition
_____ Teen nutrition
_____ Adult nutrition
_____ Older adult nutrition
_____ Mindful eating
_____ Sports nutrition
_____ Health promotion
_____ Diabetes management
_____ Adult weight management
_____ Childhood weight management
_____ Lowering blood pressure
_____ Heart health
_____ Food and medication interactions
_____ Physical activity
_____ Health resources available in the community
_____ Other topics (please list): _____
_____

Food and Cooking Topics

_____ Stretching your food dollar
_____ Meal planning
_____ Breakfast
_____ Healthy snacks
_____ Fast meals
_____ Healthy cooking
_____ Cooking with less fat
_____ Cooking with less salt
_____ Cooking with less sugar
_____ How to cook foods you get from the food pantry
_____ How to reduce food waste
_____ How to use leftovers to make other meals
_____ How to prepare and store foods safely
_____ Reading food labels
_____ Food expiration dates
_____ Cooking classes for children and teens
_____ Other topics (please list): _____
_____

8. Is there anything that would make it hard for you to come to an education class?
_____

9. On the lists above please put a star by the top two classes in each section you would like.

APPENDIX B

Survey (continued)

III. Dietary:

1. How many cups of fruits do you eat in a normal day? _____

2. How many cups of vegetables do you eat in a normal day? _____

3. How many cups of milk and yogurt do you consume in a normal day? _____

4. How many ounces of cheese do you consume in normal day? _____

5. Do you have any special dietary needs? (check all that apply)
   _____ Low fat
   _____ Low sodium (salt)
   _____ Low sugar
   _____ Food allergy (please list) _____
   _____ Other (please list) _____

6. Do you eat when you are worried or sad?
   _____ Yes
   _____ Sometimes
   _____ No

7. Do you feel you have time to cook?
   _____ Yes
   _____ Sometimes
   _____ No

8. Are there any foods you do not eat because of your culture or faith?
   _____ No
   _____ Yes (please list) _____

9. How often do you…	Seldom, If Ever	Some Days	Most Days	Do Not Know
Eat breakfast?				
Eat lunch?				
Eat dinner?				
Eat snacks?				
Prepare meals at home?				
Have the food you need to make healthy meals?				
Eat fast food?				

10. Do you feel comfortable…	Yes, Often	Yes, sometimes	No
Feel comfortable reading and understanding food labels?			
Feel comfortable planning menus?			
Feel comfortable writing a shopping list?			
Feel comfortable selecting healthy foods at the grocery store?			
Feel comfortable preparing meals?			
Feel comfortable preparing the food you get from the food pantry?			

APPENDIX B

Survey (continued)

11. Do you…	Yes, Often	Yes, sometimes	No
Have electricity?			

12. Do you…	Yes	No
Have running water?		
Have a refrigerator?		
Have a freezer?		
Have an oven?		
Have a microwave?		
Have a crock pot?		
Have an electric skillet?		
Have enough space to store frozen food?		
Have enough space to store refrigerated food?		
Have enough space to store dry food?		
Have the right tools to prepare meals at home?		
Have the cooking skills to prepare meals at home?		
Have a smart phone?		

13. If you do not have enough food, do you ever…	Yes, Often	Yes, Sometimes	No
Eat smaller meals?			
Skip meals?			
Stretch meals? (make soups or casseroles; add rice or noodles)			
Eat foods that may have been stored too long?			
Eat community meals provided by local groups?			
Get help with food from family or friends?			
Other (please list) _____			

IV. Health Status: Mark what best describes you.

1. What is your height? _____ (feet) _____ (inches)

2. What is your weight? _____ (pounds)

3. Without wanting to…	No	Yes, Decreased	Yes, Increased	Do Not Know
Has your food intake changed over the past 3 months?				
Has your weight changed over the past 3 months?				

4. Would you say that in general your health is…
   _____ Excellent
   _____ Very good
   _____ Good
   _____ Fair
   _____ Poor

APPENDIX B

Survey (continued)

5. In a normal week (7 days) how often are you active enough to work up a sweat (heart beats rapidly)?
_____ Often
_____ Sometimes
_____ Rarely or Never

6. Do you have any of these conditions? (check all that apply)
_____ Anxiety
_____ Depression
_____ Diabetes
_____ Fatigue
_____ Food allergies (please list) _____
_____ Heart Disease
_____ High blood pressure
_____ Conditions that make it hard for you to **grocery shop**?
_____ Conditions that make it hard for you to **prepare food**?
_____ Conditions that make it hard for you to **eat**?
Other (please list) _____

V. Food Security: Mark what best describes you

In the last 12 months…	Often True	Sometimes True	Never True	Do Not Know
1. The food (I/we) bought just didn't last, and (I/we) didn't have money to get more.				
2. (I/we) couldn't afford to eat balanced meals.				

In the last 12 months…	Yes (answer question 4)	No (skip question 4)
3. Did you or others in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?		

Answer question 4, if you answered Yes on question 3.	Almost Every Month	Some Months, but Not Every Month	Only 1 or 2 Months	Do Not Know
4. How often did this happen?				

In the last 12 months…	Yes	No	Do Not Know
5. Did you ever ***eat less than you felt you should*** because there wasn't enough money for food?			
6. Were you ever ***hungry but didn't eat*** because there wasn't enough money for food?			

APPENDIX B

Survey (continued)

VI. Tell us about you: Mark what best describes you.

1. Is English your first language?
   _____ Yes
   _____ No

2. What is your age? _____

3. What is your gender?
   _____ Male
   _____ Female

4. Are you Hispanic?
   _____ Yes
   _____ No

5. What is your race? [Check all]
   _____ African American
   _____ Asian
   _____ Caucasian or White
   _____ Native American
   _____ Other _____

6. What is your highest level of education?
   _____ Some high school
   _____ High school graduate
   _____ Some college/associates degree
   _____ Bachelor's degree
   _____ Some graduate school or higher

7. Are you a college student?
   _____ Yes
   _____ No

8. What is your marital status?
   _____ Never married
   _____ Married
   _____ Divorced/Separated/Widowed

9. Are you currently employed?
   _____ Yes, full time
   _____ Yes, part time
   _____ No

10. What is your current living situation?
    _____ Apartment/House/ Mobile home
    _____ Homeless
    _____ Local shelter
    _____ Other_____

11. **Not including yourself**, how many adults (18 years or older) live with you? _____

12. How many children (younger than 18 years) live with you? _____

    12a. What are the ages of your children?
    _____

13. How many adults over 65 years of age live with you? _____

14. How many family members or friends do you have nearby that can help you?
    _____ None (0)
    _____ Very few (1-3)
    _____ Some (3-6)
    _____ Many (7 or more)

15. Which food assistance programs are you aware of? [Check all]
    _____ Community/Faith Based Meals
    _____ Food Distribution Program on Indian Reservations
    _____ Food Pantries
    _____ Home delivered meals
    _____ SNAP/Food Stamps
    _____ Senior Farmers Market
    _____ Senior Meals
    _____ Women Infant and Children (WIC)

16. Which of the following food assistance programs do you use? [Check all]
    _____ Community/Faith Based Meals
    _____ Food Distribution Program on Indian Reservations
    _____ Food Pantries
    _____ Home delivered meals
    _____ SNAP/Food Stamps
    _____ Senior Farmers Market
    _____ Senior Meals
    _____ Women Infant and Children (WIC)
    _____ Other_____

17. What range is your annual household income?
    _____ Less than $12,000
    _____ $12,000 - $16,000
    _____ $16,001 - $21,000
    _____ $21,001 - $25,000
    _____ $25,001 - $29,000
    _____ Over $29,000

APPENDIX C

Solicitation Script

Introduction Script

Hello, my name is Lydia and I am a dietetic intern graduate student in the Nutrition Sciences Department at Oklahoma State University. With me is Janice Hermann, a professor at Oklahoma State University.

We would like to get your help with a project focusing on food pantry guests who are 18 to 49 years of age, with and without children under 18 living in the home. We would like to find out what issues need to be addressed to better serve adults who use food pantries.

If you would like to participate, we will ask you to complete a survey [hold up survey]. We would like to point out the a few things:

- Participation is voluntary.
- You do not put your name on the survey.
- The survey should take twenty minutes to complete.
- There are no risks involved in completing the survey.
- By placing your completed survey in the box [point to box], you are showing your willingness to participate.
- Those who complete the survey will receive $20.

APPENDIX D

Participant Information Form

Nutritional Sciences Department

PARTICIPANT INFORMATION FORM

Food and Nutrition Educational Needs and Interests of Food Pantry Guests, 18 to 49 Years of Age, With and Without Children in the Household

You are invited to be in a research project focusing on food pantry guests who are 18 to 49 years of age, with and without children under 18 living in the home. This project is being conducted by Lydia Wei, a Nutrition Sciences graduate student at Oklahoma State under the direction of Janice Hermann, Department of Nutritional Sciences. Your participation in this study is voluntary. There is no penalty for not wanting to participate. You are free to stop participating in this project at any time.

If you agree to be in this study, we would ask you to do the following: Fill out the survey provided and return it in the box provided.

Compensation: You will receive $20 cash for completing the survey.

Confidentiality: The information you give in the study will be anonymous. This means your name will not be collected or linked to the data in any way. The researchers will not be able to remove your data from the dataset once your participation is complete. The data will be stored in a secure area so that confidentiality relating to the data will not be compromised.

Contacts and Questions: If you have questions about the study itself, please contact the principal investigator, Lydia Wei. Her contacts are 469-323-9788 and lydia.wei@okstate.edu. If you have questions about your rights as a research volunteer, please contact the OSU IRB at (405) 744-3377 or irb@okstate.edu.

If you agree to participate in this research, please tear off this page for your record.

.

VITA

Lydia Wei

Candidate for the Degree of

Master of Science

Thesis: FOOD AND NUTRITION EDUCATION NEEDS AND INTERESTS OF FOOD PANTRY GUESTS, 18 TO 49 YEARS OF AGE, WITH AND WITHOUT CHILDREN IN THE HOUSEHOLD

Major Field: Nutritional Sciences

Biographical:

Education:

Completed the requirements for the Master of Science in Nutritional Sciences at Oklahoma State University, Stillwater, Oklahoma in May, 2019.

Completed the requirements for the Bachelor of Science in Nutrition and Dietetics at University of Texas at Austin, Texas in May, 2017.

Experience:

Graduate Research Assistant, Department of Nutritional Sciences, Oklahoma State University, Stillwater, Oklahoma, 74078 from January to December 2018.

Professional Memberships:

Member of the Academy of Nutrition and Dietetics