Development of an East Tennessee Tri-County Community Food Assessment Instrument to Aid in the Construction and Implementation of a Working Food Model.

Alison Suzanne Brooks
East Tennessee State University

Follow this and additional works at: https://dc.etsu.edu/etd
Part of the Human and Clinical Nutrition Commons

Recommended Citation
Development of an East Tennessee Tri-County Community Food Assessment Instrument to Aid in the Construction and Implementation of a Working Food Model

A thesis
presented to
the faculty of the Department of Family and Consumer Sciences
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Master of Science in Clinical Nutrition

by
Alison Suzanne Brooks
May 2005

Keywords: food insecurities, hunger, food security, poverty
ABSTRACT

Development of an East Tennessee Tri-County Community Food Assessment Instrument to Aid in the Construction and Implementation of a Working Food Model

by

Alison S. Brooks

The purpose of this study was to determine the needs and relationships of high-risk community members in Cocke County Tennessee to food sources. Cocke County was chosen as the representative county in this pilot study due its high percentage of residents living at or below the poverty level, which can lead to hunger and food insecurities. A community food assessment was conducted among residents participating in a commodities disbursement program in Cocke County. Two hundred seven individuals participated in this survey. The results of the surveys were posted and analyzed using an online statistical analysis software program. With the needs of the Cocke County community identified, steps will be taken to implement a plan of action and the results from this study will also be used as a model to identify needs in both Greene and Hancock counties as well as other counties in the Northeast Tennessee region.
ACKNOWLEDGEMENTS

I would first like to express my gratitude to the members of the community of Cocke County including the Rural Task Force and the residents who participated in this project. Without them, this study would not have been possible. I would also like to thank Camille Carter, whose hard work, generosity, and perseverance are remarkable.

Great appreciation goes out to Dr. Jamie Kridler, my committee chair. Her support, compassion, and encouragement were invaluable to me, and always just what I needed. I am also grateful for her patience as well as her kindness and positive attitude when times were hectic. I would also like to thank the other members of my committee, Mrs. Alison Schaefer and Mrs. Beth Lowe for all of their assistance during this project, as well as their professional opinions and expertise in proofreading and correcting this document.

Thank you to my family, especially my parents for their love and support, both emotionally and monetarily. I express much appreciation to them for their encouragement of my plans, goals, and dreams. Specifically I would like to thank my mother, Sheila Brooks, who encouraged me in the first place to become a dietitian, as well as pursue my educational career thus far. Her compassion and kindness for others has served as a great example to both my two sisters and myself.

I would like to dedicate this thesis to the memories of two wonderful women, my Aunt Shelia and “Mamaw” Colleen. Both women were exceptional people, both strong-willed, emotionally and physically, and perfect role models for any young woman. Both were taken too early, but their support and encouragement of my educational career as
well as their strength and determination have helped to mold me into the person I am today.

Last but not least, I would like to thank a very special someone, whose never-ending encouragement, love, support, and selflessness are appreciated more than words could ever express. Thank you to my boyfriend, Jason Smith, who was my comfort in times of sorrow, my laughter in times of joy, and my rock in times of tribulation. I could not imagine life without him and am thankful every day that I have been blessed to know someone so extraordinary.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>2</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>3</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>8</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>9</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>10</td>
</tr>
<tr>
<td>Research Questions</td>
<td>11</td>
</tr>
<tr>
<td>Limitations</td>
<td>11</td>
</tr>
<tr>
<td>Definitions</td>
<td>11</td>
</tr>
<tr>
<td>2. REVIEW OF LITERATURE</td>
<td>13</td>
</tr>
<tr>
<td>Background and Review of Literature</td>
<td>13</td>
</tr>
<tr>
<td>3. METHODS AND PROCEDURES</td>
<td>21</td>
</tr>
<tr>
<td>Demographics</td>
<td>21</td>
</tr>
<tr>
<td>The Sample</td>
<td>21</td>
</tr>
<tr>
<td>Instrument</td>
<td>21</td>
</tr>
<tr>
<td>Data Collection Procedure</td>
<td>23</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>23</td>
</tr>
<tr>
<td>Implications</td>
<td>24</td>
</tr>
<tr>
<td>4. RESULTS</td>
<td>26</td>
</tr>
<tr>
<td>The Sample</td>
<td>26</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>26</td>
</tr>
</tbody>
</table>
Where Food Comes From: How much of your household’s food is bought from grocery stores such as Food City or Save-a-Lot? ................................ 27
Where does your household get the food that is not bought at a grocery store?........................................................................................................ 28
How many children in your household eat school meals during the school year?........................................................................................................ 29
How often do you go shopping for food and what is the place you shop the most? ................................................................. 29
Indicate how often these foods are served in your household .................. 29
Do you have a household member that should observe a special diet?
Indicate all conditions that apply ........................................................................................................ 30
Does your household have a diet as healthy as you would like? How would You like to change it? What problems keep it from being as good as you’d like?.................................................. 31
Would you like to see restaurants, schools, and stores offer more fresh locally produced foods? ............................................................ 31
When you shop for your household groceries, how do you get to the places you shop? ..................................................................................... 32
About how much cash do you spend on food? How much EBT funds do you spend on food? ......................................................... 32
How do you store food for your household? How do you prepare food for your household? ................................................................. 33
What is your drinking water source? .......................................................... 34
Thank you for participating in this survey. Please list any comments here.... 34
Research Questions .............................................................................. 35
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS</td>
<td>37</td>
</tr>
<tr>
<td>Discussion</td>
<td>37</td>
</tr>
<tr>
<td>Conclusion</td>
<td>38</td>
</tr>
<tr>
<td>Recommendations</td>
<td>38</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>41</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>43</td>
</tr>
<tr>
<td>VITA</td>
<td>47</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table | Page
--- | ---
1. How much of your household’s food is bought from grocery stores such as Food City or Save-a-Lot? | 27
2. What is the place you shop the most? | 27
3. Indicate how often these foods are served in your household | 29
4. When you shop for your household groceries, how do you get to the places you shop? | 31
5. How do you store food for your household? | 32
6. How do you prepare food for your household? | 33
7. Please list any comments here | 33
CHAPTER 1  
INTRODUCTION  

Although hunger is not perceived as a large problem by most in the United States, food insecurity is an area of concern. Food insecurity, or having insufficient resources needed to obtain an adequate amount of food to ensure health daily not only can lead to hunger, but over time, can span a whole host of other problems. Hunger is the uneasy or painful feeling caused by a lack of food. While food insecurity does not always lead to hunger, it greatly increases the chance. The longer an individual experiences a lack of access to food, the more likely he or she will become hungry. Besides the nutritional deficiencies related to food insecurity, health concerns both physically and mentally may arise.\(^1\)\(^-\)\(^3\) Individual's who are classified as hungry may experience embarrassment or feelings of low self-worth, which may impact their search for help in this problem.\(^2\) If hunger continues for extended periods of time, chronic diseases may manifest themselves or be exacerbated by nutrient deficiencies, leading to poor health status.

Hunger has a significant effect on health outcomes, mainly through nutrient and energy deficiencies.\(^2\) Those individuals most often affected by food insecurity include children and the elderly, who are impacted differently. For the elderly, food insecurity is strongly related to poor health status, the development of chronic diet-related diseases, as well as more frequent doctors visits and higher health care costs.\(^2\)\(^,\)\(^3\) For children, food insecurity is not only linked to poor health but poor academic and cognitive performance, mental and psychological functioning, and psychosocial problems.\(^2\)\(^-\)\(^4\)
Statement of the Problem

In the year 2000, 11.8% of all households in Tennessee faced food insecurities. Hunger is a condition of poverty and in northeast Tennessee, Cocke, Greene, and Hancock counties have high percentages of residents living below the poverty level. All three counties have significant rates of the population living at or below the poverty level, which is highly associated with food insecurities. Tennessee has a higher than average rate of food insecurity compared to the national average.

In the year 2000, 22.5% or 7,452 residents in Cocke County were living below the poverty level. In the same year in Greene County, 14.5% or 8,889 residents were living below the poverty level, while in 2000, 29.4% or 1,933 residents in Hancock County were living below the poverty level. While poverty-related, agriculture-related and health-related statistics for these areas indicate a significant need for change, data do not exist about specific needs of the community that would lead to effective change efforts. Areas of change that might benefit the community include community gardens, farmers markets, and increased availability of nutrient dense foods from food banks and commodity programs. By conducting a community food assessment in these three counties, information regarding consumers and food suppliers and their relationships to food sources can be used to prioritize and articulate needs for the region. This study will focus on the identification of consumer needs.
Research Questions

1. What are the national standards on food insecurities and how are they intended to assist rural communities?

2. How can Cocke County work with established local organizations to improve food insecurities?

Limitations

A limitation of this study was that only consumers in the Cocke County commodities disbursement program were studied. Therefore, findings of this study could only be generalized to that particular group.

Definitions

Hunger- the uneasy or painful feeling caused by a lack of food. The recurrent and involuntary lack of access to food, which, over time, may produce malnutrition.\textsuperscript{6}

Food Security- access by all people, at all times to sufficient food for an active and healthy life. Includes at a minimum: the ready availability of nutritionally adequate and safe foods, and an assured ability to acquire acceptable foods in socially acceptable ways.\textsuperscript{6}

Community Food Security- the state in which all persons obtain a nutritionally adequate, culturally acceptable diet at all times through local non-emergency sources.\textsuperscript{6}
**Food Insecurity**- limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.⁶

**Nutrition Security**- the provision of an environment that encourages and motivates society to make food choices consistent with short-and long-term good health.⁶

**Food Insufficiency**- an inadequate amount of food intake due to a lack of resources.⁶

**Commodities Disbursement Program**- a food and consumer service through the United States Department of Agriculture that distributes food to eligible individuals through state distributing agencies.⁷

**Rural Task Force**- a group of 9 community member representatives from Greene, Hancock, and Cocke Counties.⁸
CHAPTER 2
REVIEW OF LITERATURE

Background and Literature Review

Although the United States is a developed country, hunger is still a strong and growing issue. Hunger is a condition brought about by poverty.\textsuperscript{9} Besides the physical distress it brings, hunger can also detrimentally affect the psychological, social, mental, and emotional growth of an individual.\textsuperscript{10} Children who are affected by hunger may experience insurmountable problems, some of which include weight loss, fatigue, inability to concentrate, and irritability. Children who regularly experience hunger are two to four times more likely to encounter health problems.\textsuperscript{6} Anemia is a significant problem for children who are undernourished or hungry. The presence of anemia can not only exacerbate current health problems but can also increase a child’s susceptibility to other conditions including the vulnerability to lead poisoning.\textsuperscript{6} Stunted growth is another problem associated with undernourishment or hunger due to the insufficient intake of essential nutrients required for proper growth.\textsuperscript{6} From a psychological, sociological, and emotional standpoint, children who experience hunger are also less likely to interact with others and are more likely to express feelings of negativity, hostility, and low self-worth.\textsuperscript{6}

Undernourishment and hunger also have negative effects on pregnant mothers and infants. Women who experience the condition of hunger during pregnancy have an increased risk of delivering a low birth weight baby.\textsuperscript{6} Infant mortality risk is also associated with poor and undernutrition of the mother during the pregnancy.\textsuperscript{6} Low birth
weight infants often suffer from learning and behavior difficulties throughout life and have been shown to experience delays in development.\textsuperscript{6}

Among individuals in the elderly population, hunger and malnutrition can intensify chronic and acute conditions that have already manifested. With this population it can also exacerbate the onset and development of degenerative diseases.\textsuperscript{6} In addition poor nutrition may impede healing for injuries or surgeries, and may, therefore, worsen a condition or initiate the onset of another.\textsuperscript{6} Poor nutrition and hunger can also increase the cost of health care and can lead to a decreased quality of life for people among this population.\textsuperscript{6}

The United States Department of Agriculture’s annual Census Bureau Survey, administered by the Economic Research Service reported a rise in the number of individuals who experienced food insecurities in 2002.\textsuperscript{9} The report, released in October 2003, stated that in 2002, 34.9 million people lived in households experiencing food insecurity and 11.1\% of U.S. households experienced either hunger or food insecurity that same year.\textsuperscript{9, 10} By August 2004, the Census Bureau reported that for the third consecutive year, the population of those individuals living in poverty had reached 35.8 million.\textsuperscript{10} While African American and Hispanic households experienced food insecurity twice that of the national average, the occurrence of food insecurity for households located in central cities and rural areas were significantly higher than for other households.\textsuperscript{11}

There are varying degrees of food insecurity, and the U.S. Census Bureau classifies households as either food secure, food insecure, or food insecure with hunger.\textsuperscript{9} Food security is used to describe households that have assured access to food
at all times to support an active, healthy life without the need for supplementation from emergency food sources or other actions taken to meet basic food needs.\textsuperscript{11} Food insecurity is defined as a lack of access to enough food to completely meet basic needs at all times because of a lack of financial resources.\textsuperscript{11} Hunger, although defined as an uncomfortable sensation due to a lack of food, actually refers to the recurring and unintentional lack of access to adequate food due to poverty or limited resources, which ultimately can result in malnutrition.\textsuperscript{11}

In 2002, 9.4 million people experienced full-blown hunger.\textsuperscript{9} For families experiencing food insecurities, hunger is avoided by either restricting the type of food purchased or relying on food assistance programs.\textsuperscript{9} Thirty-two percent of the individuals surveyed by the Census Bureau reported going hungry in 2002.\textsuperscript{11} Households are classified as hungry when the individuals living there have decreased the quality and quantity of food due to a lack of money, resulting in hunger.\textsuperscript{11} Households determined to be food insecure experience limited resources to buy food, so they either run out or reduce the quality of food, which leads to unbalanced diets and skipping meals.\textsuperscript{11} The results of the Census Bureau found that individuals with the greatest risk of hunger or food insecurities are those households headed by a single woman, Hispanic or Black or those households with incomes below the poverty line.\textsuperscript{11}

Native Americans are another group who suffer from high rates of hunger and food insecurity.\textsuperscript{11} The rate of hunger among the Native American population is more than double that of the national rate.\textsuperscript{11} Poverty is a prevalent problem among this population. It is estimated that 43\% of Native American children 5 years and younger live at or below the national poverty line.\textsuperscript{11}
The Appalachian region is also a significant location for high numbers of food insecurity cases. Because the Appalachian region is mostly rural, high rates of poverty as well as unemployment put Appalachian residents at an increased risk of experiencing food insecurities. Holben et al. conducted a study among households in Appalachian Ohio with children enrolled in the Head Start program. Two hundred ninety-seven families were surveyed using an instrument that contained 55 questions pertaining to food security issues within the past 12 months along with questions taken from the US Household Food Security Survey Module. One hundred forty-five families were identified as food insecure, with 90 families experiencing hunger over the course of the previous 12 months. Forty-one households experienced food insecurity with childhood hunger. From the results, this study concluded a suggestion that in rural Appalachian households with children in Head Start may experience food insecurity and hunger at significantly higher rates than those of the national average.

While food insecurities were more likely to be found in households in the western and southern states, households with children were found to be twice as likely to experience food insecurity as households without children. In a national, comprehensive survey conducted among emergency feeding programs, America’s Second Harvest reported that their food bank network assisted 23 million people in 2000, with more than 9 million of those aided being children. Seventy-one percent of Second Harvest’s participants reported food insecurity. Between the years 1999 and 2001 in Tennessee, 11.8 % of all households reported food insecurities, while 3.4 % reported food insecurities with hunger. Numerous individuals questioned by the
Census Bureau reported having to decide between spending money on food or using that money to pay for necessities such as utilities, housing, or medical care.\textsuperscript{11,13}

Many low income or food insecure individuals implement coping strategies into their lifestyles in order to maintain food sufficiency. In a study conducted by Kempson et al., \textsuperscript{14} 62 individuals living at 185\% of the poverty level, ages 19 to 67 were interviewed by food security programs such as Food Stamp agencies and low-income outreach programs regarding coping strategies to remain food sufficient.\textsuperscript{14} Coping strategies identified included obtaining meals from churches that provided meals to the hungry and brought food to individuals without transportation, selling food stamps for money, cooking with other people when individually they did not have sufficient resources to create a meal, companies donating food to employees in need, selling blood, and participating in multiple research studies as a way to earn money to purchase food.\textsuperscript{14} One shocking method identified was to commit a crime with the sole purpose of going to jail in order to obtain food sufficiency.\textsuperscript{14} Avoidance of dinner guests was another identified coping strategy for some of the subjects.\textsuperscript{14} Home gardening and the practice of eating “road kill” were also noted to be more prevalent in rural as opposed to urban areas.\textsuperscript{14}

One of the goals of the Surgeon General for the year 2010 is to increase food security from 88 \% of all U.S. households to 94 \%.\textsuperscript{11} The capacity to acquire food, or food security, is essential for healthy growth and development and satisfies the most basic of human needs.\textsuperscript{1,4,9,11} Individuals who are food insecure face the inability to achieve well-being due to malnutrition and poor health.\textsuperscript{1,4,9,11} Based upon the evidence
put forth by the Census Bureau, it is apparent that the need for outreach and assistance to this population is greater than recent efforts have supplied.

Although malnutrition in the United States is rare, over time, lack of sufficient nutrients through adequate amounts of food can lead to nutrient deficiencies, increasing the risk of chronic disease and health problems.\textsuperscript{2,3} In two separate studies, food insecurity and the effect it has on nutritional status and nutrient intake were examined. In the study conducted by Lee and Frongillo,\textsuperscript{2} data from the Third National Health and Nutrition Examination Survey and the Nutrition Survey of the Elderly in New York State were analyzed to see what nutrients were deficient in the food-insecure elderly populations. Lee and Frongillo\textsuperscript{2} found that this particular population had a significantly lower intake of several important nutrients, including: energy, protein, carbohydrate, saturated fat, niacin, riboflavin, vitamins B-6 and B-12, magnesium, iron, and zinc.\textsuperscript{3} Participants from this study also had low skinfold thickness and were 2.33 times more likely to report a health status of fair or poor and were at greater nutritional risk.\textsuperscript{3} The elderly are at an increased risk for chronic diseases and diet-related health problems, and they make up the majority of the food insecure population, making them a prime target population for food assistance programs.

The second study, conducted by Rose and Oliveira\textsuperscript{3}, focused not only on the elderly population of the food insecure but also looked at two more affected populations: adult women and preschool children. The two latter populations are very likely to experience food insecurity as households headed by single mothers increase.\textsuperscript{2,11} This study examined the degree to which individuals from food-insufficient households were likely to experience a low intake, or deficiency, of energy and 14 other nutrients.\textsuperscript{2}
research concluded that food-insecure adult women were most likely to have a decreased intake of eight crucial nutrients, some of which include magnesium, vitamins A, E, C, B₆, and energy. Food insufficiency was not significantly related to low intakes among preschoolers however, it has been widely reported that food insecurity has a relevant affect on mental and physical health. Hunger in children has been associated with an inability to concentrate in school and has a negative influence on psychological and psychosocial performance.

Besides malnutrition and predisposition to chronic diseases, other health concerns arise in the face of food insecurity. Hampl and Hall found that a large number of adult women who reported food insecurity are classified as overweight due to a high body mass index (BMI). Families from low-income households are less likely to purchase fruits and vegetables and are more likely to purchase cheaper foods, which often include processed, low nutrient foods, due to limited funds. Families that acquire foods from food pantries, food banks, and other community food assistance programs also face this issue, as many of the foods offered at these locations are not often high in nutrient quality. Increased risk of becoming overweight is also a concern for individuals who are food insecure, as they tend to overeat when food is available for fear that a significant span of time will elapse before the food supply is adequate again. Food safety is also an issue for the food insecure, as when hunger or despair set in individuals are more willing to eat whatever is available, without regard to sanitation or other food safety issues. In addition, there is the possibility of inadequate food storage.
Food insecurity is still a new term for most communities, but increased awareness is leading to progress towards change as well as a concentration on not only solving hunger but increasing nutritional status as well. While food insecurity is generally perceived as a problem among households and not communities, research is being conducted on how citizens within a community can impact community food insecurity issues and implement a plan of action to aid in the eradication. One such study, conducted by McCullum et al., looked at how effective empowerment of citizens within a community would be at establishing a food security agenda. Forty-four subjects were purposefully selected to participate in community-based planning development referred to as a search conference. The goal of this study was to observe how empowerment among the subjects would influence the outcome of the agenda. The study concluded that power did in fact influence the planning and setting of the agenda through management of knowledge, problem framing, trust, and even consent. In conclusion, food insecurity is not just a problem that affects a select few, but it impacts entire communities, and, therefore, should be combated through community based programs and efforts.
CHAPTER 3
METHODS AND PROCEDURES

Demographics

Cocke County is located within the Cherokee National Forest of east Tennessee at the base of the Great Smoky Mountains. With a population of 33,884, it is ranked 11th by the Appalachian Regional Commission as “economically distressed” due to significant levels of poverty throughout the county. For a county to be considered “economically distressed” it must have a 3-year average of unemployment rates and per capita market incomes at least 50% worse than the national average. In 2000, 22.5% of the population in Cocke County was estimated to be in poverty, while 29.1% of children under the age of 5 lived in poverty. The unemployment rate for Cocke County that same year was 8.8%, and 38.8% of residents within the county did not have a high school diploma. All of these rates were above both the Tennessee and national averages.

The Sample

Residents from Cocke County participating in a federal food commodities disbursement were surveyed for the study. The sample consisted of 207 individuals who reside in Cocke County and participate in the commodity disbursement program conducted there.

Instrument

The Rural Task Force involved 9 members total, 3 representatives each from Cocke, Greene, and Hancock counties. Representatives included both community
members and county officials. The Rural Task Force then shared information regarding
the needs of each county and provided information to the principal investigator. Survey
questions were then formulated using the information provided. The surveys were
posted on the seedwiki, an informational, web page accessible to all members of the
Task Force. Rural Task Force members reacted to the format and made suggestions.

Survey questions were reviewed and changed to address concerns. The
university panel, and then the community panel, reviewed completed surveys and
suggested changes. All revisions were posted to the seedwiki. Rural Task Force
members reread the surveys and final changes were made to the instrument. Changes
implemented included wording of the questions to assure better understanding of
participants, merging of several questions into one, and answer choices for the
questions on the survey.

Although recommendations of questions to ask were given by the principal
investigator, the Rural Task Force had the final say in how the surveys looked and were
worded. The principal investigator and faculty member determined the steps for
collecting the data and trained the Rural Task Force members to administer the survey.
In order to prevent bias, Task Force members were instructed to only assist with
administration of the surveys and not help participants with the answers to the survey
questions. Task Force members aided participants needing assistance in reading the
surveys. Because subjects were already participating in a community project, and
community task force volunteers gave out and collected the surveys, permission did not
have to be requested to conduct this survey. Collection of data took place between the
dates of January 10 to February 8, 2005 at commodity disbursement sites.
Data Collection Procedure

Cocke County was chosen for the pilot study due to its similarities to both Greene and Hancock in demographics, geographics and economics. Cocke County was also chosen due to the availability and timing of the establishment of the commodities disbursement program. The commodities disbursement program is sponsored by the USDA, and distributes food to eligible individuals through state distribution programs. All surveys were conducted at and collected from the commodities disbursement program sites. To encourage participation, individuals who completed the surveys were entered in a drawing for a 50-dollar food basket donated by a non-profit community group. After all surveys were completed, a drawing was held and a winner was selected and contacted. The surveys were then entered into the computer and analyzed.

Data Analysis

Data from the surveys were posted to Survey Monkey\textsuperscript{19}, an online statistical analysis program. Survey Monkey uses a web browser to create surveys with options for up to a 12 types of questions.\textsuperscript{19} With this program, the principal investigator of the survey being conducted has complete control over the flow of information and the ability to eliminate bias through randomization of answer choices.\textsuperscript{19} Raw data and information from Survey Monkey can also be downloaded into SPSS or Microsoft Excel for further analysis.\textsuperscript{19} Results on Survey Monkey are collected in real-time, which allows for viewing of live charts and graphs.\textsuperscript{19} Survey Monkey also contains filters in order to view individual results or display separately information of current interest.\textsuperscript{19} Descriptive statistics were used to determine at-risk participants in Cocke County. Data from the surveys were analyzed and profiles were determined based on the answers participants
The Rural Task Force further assessed the results of this study in order to determine needs of the community as they set priorities and create a plan for change.

**Implications**

This study began with intent to survey the three counties of Cocke, Hancock, and Greene, as they have high numbers of residents living at or below the poverty level. As the project developed, however, the scope was narrowed by the Rural Task Force to survey only Cocke County as a pilot study. Cocke County was chosen over the other two counties due to its similarities to the other counties, as well as establishment of a commodities disbursement program, which created an ideal setting for the survey to be conducted. The original intent of this study was also to identify food insecurities among residents living in Cocke County. As the target population was narrowed, however, so was the focus of the survey, as the Rural Task Force made final wording and formatting decisions.

The original survey questions, recommended by the principal investigator, pertained more to food insecurity issues. Rural Task Force members had the final say to what questions would be asked, and the focus of the study was altered to aim more at issues that increased the risk of food insecurity. Further studies will be conducted in Greene and Hancock Counties among similar populations to identify the needs in these counties, including similarities and differences between the counties. The Rural Task Force will also seek to gain support from local organizations, institutions, schools, and businesses such as plants that produce food products as well as food distributors and hospitals in each county. The manner in which this study was conducted and the results that were obtained will provide a model and comparison for future studies conducted.
throughout the region and will hopefully also increase awareness concerning food
insecurities in both the northeast Tennessee region and the state. Although the original
intent of this study and survey was to identify food insecurity issues and needs in the
three counties, as the scope was narrowed to only Cocke County, so was the content of
the survey. In the end, the survey measured only needs of residents in Cocke County
participating in the commodities disbursement program, and situations that are
associated with an increased risk of food insecurity rather than measuring food
insecurity specifically among residents within the county.
CHAPTER 4

RESULTS

The Sample

Out of the population of individuals involved in the survey conducted in Cocke County, 207 individuals completed the survey. The sample consisted of Cocke County residents who were participating in the county’s commodities food disbursement program. No data were collected pertaining to age, race, gender, or socioeconomic status. Individuals within the sample were motivated to participate by a drawing for a $50 food basket donated from a non-profit community organization. Upon completion of the survey, individual’s names were entered into a drawing for the basket. When all surveys were completed, the drawing was conducted and a winner was selected. The winner was contacted and a time was arranged for the individual to pick up the prize. Aside from the drawing for the basket, participants received no compensation for their input or completion of the surveys. Rural Task Force members who were trained to conduct the surveys provided assistance with completing the surveys but did not provide help in answering questions on the survey.

Data Analysis

The survey consisted of 12 questions divided into three sections entitled “where food comes from”, “food choices”, and “shopping and food storage”. A majority of the survey questions had answers based on a scale similar to that of a Likert scale, with choices consisting of “all or nearly all”, “always”, “most”, ”quite a bit” “half”, “some”, “sometimes”, “a little bit”, or “none or nearly none”. Wording of the questions was
evaluated and altered by the Rural Task Force in order to assure better understanding by the participants. Some questions did require participants to answer in their own words. These questions pertained to the number of children in the household, meals eaten at school within the school year, frequency of food shopping, places where food is bought most often, conditions that require special diets, nutritional quality of the household diet, monetary or government funds spent toward food per month, food storage, and drinking water sources. One question addressing food frequency provided answers such as “more than once a day”, “every day or two”, “weekly”, “seldom”, or “never”. The most significant results of the surveys are listed by question in the following tables.

Where Food Comes From: How much of your household's food is bought from grocery stores such as Food City or Save-a-Lot?

The first question on the survey addressed how much of food purchased came from grocery stores such as Food City or Save-a-Lot. Two hundred two participants responded to this question, five chose not to respond. A total of 31.7% of respondents said that all of the food was purchased from grocery stores, while 42.6% responded that most was purchased from grocery stores. Mean scores for this question are presented in Table 1. Data pertaining to the most frequently shopped grocery stores are listed in Table 2.
Table 1. How much of your household's food is bought from grocery stores such as Food City or Save-a-Lot?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent (%)</th>
<th>Response Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>31.7</td>
<td>64</td>
</tr>
<tr>
<td>Most</td>
<td>42.6</td>
<td>86</td>
</tr>
<tr>
<td>Half</td>
<td>12.9</td>
<td>26</td>
</tr>
<tr>
<td>Some</td>
<td>12.4</td>
<td>25</td>
</tr>
<tr>
<td>None</td>
<td>0.5</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td></td>
<td><strong>202</strong></td>
</tr>
</tbody>
</table>

Table 2. What is the place you shop the most?

<table>
<thead>
<tr>
<th>Location</th>
<th>Response Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food City</td>
<td>92</td>
</tr>
<tr>
<td>Whites</td>
<td>33</td>
</tr>
<tr>
<td>Save-A-Lot</td>
<td>2</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td><strong>199</strong></td>
</tr>
</tbody>
</table>

Where does your household get the food that is not bought at a grocery store?

The second question on the survey addressed places where food was purchased besides the grocery store. Two hundred one participants responded to this question while six chose not to respond. Wal-mart and commodities distribution programs or food pantries were the two most significant contributors to food in the household. Thirty-two percent of respondents replied that Wal-Mart provided “some” of the food in the household, while 31% of respondents got “some” of their household food from commodities distribution programs or food pantries. Places where none or nearly none of the food was purchased included: country stores or convenience stores, Dollar Stores or Fred’s, their own farm or garden, other farms or gardens, farmer’s markets or produce stands, sit-down restaurants, fast-food restaurants, school or workplace cafeterias, “Meals on Wheels,” or specialty shops.
How many children in your household eat school meals during the school year?

The third question on the survey pertained to the number of children within the household and whether or not they consumed meals served at school. One hundred sixty-eight individuals responded to this question, out of which 105 said that their children did consume meals served at school during the school year. The number of children within each household ranged from 1 to 4, with two children per family being the average. The number of meals eaten per week ranged from 5 to 30, with 10 meals eaten at school per week being the mode. Thirty-nine participants skipped this question.

How often do you go shopping for food and what is the place you shop the most?

The fourth question on the survey addressed the frequency and location of where participants shopped for food. One hundred ninety-nine individuals responded to this question. The average response to this question was weekly, with 2 to 3 times per month being the second most significant response. Responses ranged from daily to once or twice a month. Food City and Save-a-Lot were the most widely shopped stores.

Indicate how often these food are served in your household.

The fifth question on the survey, which appeared under the second section pertaining to food choices, addressed food frequency according to types of foods and daily or weekly frequency of servings. There were 177 respondents to this question. Of the food choices given, 25% of participants responded that soda or Kool-Aid is served more than once a day, with 27% responding that whole grain bread is also served more
than once a day. Foods that were reported to be served every day or two included fresh vegetables, home canned or home frozen vegetables, fresh fruit, and fresh or frozen meats. Canned meat or fish was reportedly only served weekly, while sugary cereals and fresh fish were seldom served. Box dinners received the highest percentage of responses for never being served. The highest responses for each food are listed in Table 3.

![Table 3. Indicate how often these foods are served in your household](image)

<table>
<thead>
<tr>
<th>Food</th>
<th>Response</th>
<th>Response Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Vegetables</td>
<td>Every day or two</td>
<td>44</td>
</tr>
<tr>
<td>Home canned or home frozen vegetables</td>
<td>Every day or two</td>
<td>34</td>
</tr>
<tr>
<td>Fresh Fruit</td>
<td>Every day or two</td>
<td>34</td>
</tr>
<tr>
<td>Soda, Kool Aid</td>
<td>More than once a day</td>
<td>25</td>
</tr>
<tr>
<td>Whole grain bread</td>
<td>More than once a day</td>
<td>27</td>
</tr>
<tr>
<td>Sugary cereals</td>
<td>Seldom</td>
<td>28</td>
</tr>
<tr>
<td>Box dinners</td>
<td>Never</td>
<td>31</td>
</tr>
<tr>
<td>Fresh or frozen meats</td>
<td>Every day or two</td>
<td>39</td>
</tr>
<tr>
<td>Canned meat or fish</td>
<td>Weekly</td>
<td>34</td>
</tr>
<tr>
<td>Fresh fish</td>
<td>Seldom</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td><strong>177</strong></td>
<td></td>
</tr>
</tbody>
</table>

Do you have a household member that should observe a special diet? Indicate all conditions that apply.

The sixth question on the survey pertained to the frequency of special diets observed in the households and the conditions that require special diets. One hundred thirty-five participants responded to this question. Seventy-two participants chose not to respond. Out of the total respondents to this question, the majority of participants
indicated that diabetes, hypertension, and high cholesterol were of the most concern, while special diets were also followed for individuals who were considered overweight.

**Does your household have a diet as healthy as you would like? How would you like to change it? What problems keep it from being as good as you’d like?**

The seventh question on the survey pertained to the nutritional adequacy of the household diet, changes that could possibly be implemented and challenges that might prevent improving the overall nutritional quality. Out of the 127 participants who responded to this question, 102 said that their diet was healthy enough, while 58 said that they would like to change it. Forty-five participants reported problems that prevent them from making appropriate changes. The most common responses to the changes that respondents would like to make included to eat less sugar, fat, salt, and junk food and eat healthier foods like fruits and vegetables. The most common problems reported to prevent changes from being made included lack of financial funds to purchase healthier foods and health problems.

**Would you like to see restaurants, schools, and stores offer more fresh locally produced foods?**

The eighth question on the survey addressed availability of locally produced fresh foods served in restaurants schools and stores. Out of the 170 respondents, 134 said definitely they would like to see locally produced foods served in these establishments, 31 said maybe, while a mere 5 individuals responded no to this question.
When you shop for your household groceries, how do you get to the places you shop?

The ninth question on the survey began section 3, “Shopping and Storing Food”, and addressed transportation of participants to obtain groceries. Out of the 185 respondents, 78% always traveled by household vehicle, while 44% sometimes received rides from a friend or neighbor. A significant number of respondents reported never walking or riding the East Tennessee Human Resources Agency (ETHRA) van to get groceries. Twenty-two individuals skipped this question. Responses to the data from this question are listed in Table 4.

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household vehicle</td>
<td>78</td>
</tr>
<tr>
<td>Friend or neighbor</td>
<td>25</td>
</tr>
<tr>
<td>Walk</td>
<td>4</td>
</tr>
<tr>
<td>ETHRA van</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td><strong>185</strong></td>
</tr>
</tbody>
</table>

About how much cash do you spend on food? How much EBT funds do you spend on food?

The tenth question on the survey pertained to the monetary and Electronic Benefits Transfer (EBT) funds that each participant spent on food per month. Respondents were asked to estimate the amount of both funds that they spent each month. One hundred sixty-two total individuals responded to this question, with 149 responding to the amount of cash spent per month and 108 responding to the amount of
EBT funds spent per month. Responses to the monetary funds spent on food each month ranged from as little as $15 to as much as $600. Two and three hundred dollars per month seemed to be the mode for this portion of data. Forty-five respondents skipped this question.

How do you store food for your household? How do you prepare food for your household?

The eleventh question on the survey addressed food storage and preparation. One hundred eighty-two participants responded to this question. Respondents were given a list of items and asked to check all that applied. The most common responses to storage for food included refrigerator, freezer and secure cabinets or a pantry. As for food preparation, the most common responses were electric stove with burners and oven and microwave. Twenty-five respondents skipped this question. Data pertaining to food storage are listed in Table 5, while data pertaining to food preparation are listed in Table 6.

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerator</td>
<td>95.1</td>
</tr>
<tr>
<td>Freezer</td>
<td>78.6</td>
</tr>
<tr>
<td>Secure cabinets or pantry</td>
<td>72</td>
</tr>
<tr>
<td>Can house or root cellar</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td><strong>182</strong></td>
</tr>
</tbody>
</table>
### Table 6. How do you prepare food for your household?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric stove w/ burners &amp; oven</td>
<td>74.2</td>
</tr>
<tr>
<td>Electric stove partly working</td>
<td>9.9</td>
</tr>
<tr>
<td>Gas kitchen stove</td>
<td>6.6</td>
</tr>
<tr>
<td>Heater or camping stove</td>
<td>3.8</td>
</tr>
<tr>
<td>Microwave</td>
<td>68.1</td>
</tr>
<tr>
<td>Other</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td><strong>182</strong></td>
</tr>
</tbody>
</table>

What is your drinking water source?

The twelfth, and final question, on the survey addressed drinking water sources of the participants in this study. Newport utilities, a household well, and bottled water were the most common answers to this question. One hundred eighty-four participants responded to this question, while 23 skipped it.

Thank you for participating in this survey. Please list any comments here.

At the end of the survey, participants were thanked and asked to list any comments or concerns they would like to address. Twenty-four participants chose to list comments. Some of the comments listed are included in Table 7.

### Table 7. Please list any comments here.

<table>
<thead>
<tr>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Thank You”</td>
</tr>
<tr>
<td>“Nice survey-about time!”</td>
</tr>
<tr>
<td>“This is a good help for people, espec. For older people, this help us to get more food when some of us pay all of what we have left for medison. We sure do than all of you, for this help you give us all.”</td>
</tr>
<tr>
<td>“Your council is doing a good job helping everyone who takes time to check your source out.”</td>
</tr>
<tr>
<td>“Thank you! Very much for the help. Thanks for helping others. I am and would be glad to help in the future any way possible.”</td>
</tr>
<tr>
<td>“More fresh vegetables and fruits locally.”</td>
</tr>
</tbody>
</table>

Ref: Survey Monkey
Research Questions

Question One addressed: What are the national standards on food insecurities and how are they intended to assist rural communities?

Nutrition security is defined as “an environment that encourages and motivates society to make food choices consistent with short and long-term good health.” In order to promote nutrition security and combat food insecurity, the United States Department of Agriculture created the Center for Nutrition Policy and Promotion. The mission of this agency is to “improve the health of Americans by developing and promoting dietary guidance that links scientific research to the nutrition needs of consumers.” Healthy People 2010 guidelines and objectives implemented by the Office of Disease Prevention and Health Promotion was designed to increase the quality of living and discourage disease. Healthy People 2010 also set a goal to increase food security among households in the United States to 94% as well as reduce hunger. Other measures to reduce food insecurity instituted by the government are to monitor food security at the state and national level using the annual data collection obtained from the Census Bureau’s Current Population Survey, and also by using a household food security scale developed by the USDA during food security surveys conducted at the regional, state and local levels. Data collected from these findings conducted at the local level can then be compared to the national data and standards.

The United States also has an Action Plan on Food Security: Solutions to Hunger, which was published in 1999. The Action Plan was compiled by members of the Interagency Working Group on Food Security (IWG) and the non-governmental Food Security Advisory Committee (FSAC) along with the U.S. government, businesses,
farmers, international organizations, and private citizens in order to combat food insecurity both locally and abroad. Some main points of the Action Plan focus on adequacy of available food supplies. The pathway for adequate food supply may occur through agriculture, imports, and governmental policies that include nutritional safety nets, socioeconomical, educational, and social aspects that allow or prevent individuals from obtaining adequate amounts of food through earned income. Other methods include community food security activities and complete use of food by way of appropriate diet, safe drinking water, sanitary conditions, education, and health care. The goals of this Action Plan apply locally as well as nationally and internationally.

Question Two addressed: How can Cocke County work with established local organizations to improve food insecurities?

Once the data is analyzed by the Rural Task Force for Cocke County, additional steps can be taken to develop plans to help meet the needs that were identified from this pilot study. This study can serve as a model for Greene and Hancock Counties, in order to identify needs related to food insecurity in those communities. Working with local organizations, businesses, schools, and other institutions, plans can be developed to address the food insecurity issues identified; possible solutions include community gardens, farmers markets, food buying cooperatives, community supported agriculture programs, farm to school initiatives, and food recovery programs. Some of these currently exist and simply need to be expanded to meet community needs.
Overall, the data identified and addressed specific needs among participants in the commodities disbursement program within the Cocke county community concerning issues that increase the risk of food insecurity. While the results of this survey did not directly pertain to food insecurity and did not provide evidence that there is significant concern for food insecurity, it did focus on the areas that increase the risk for food insecurity that need to be further addressed in order to better assess ways to address the subject for this particular region. The data from this pilot study identified the areas that are associated with food insecurity and provided the Rural Task Force for Cocke County with pertinent information to proceed toward planning and implementing ways to improve community food issues and the food security issues that are present. The most significant need for change appeared to be with the nutritional aspects of the diets participants reported to be consuming and the lack of resources and other obstacles that prevent individuals from obtaining nutritious foods such as fruits, vegetables, milk and dairy products. Analysis of the results of this study indicated that participants of the commodities disbursement program were not consuming enough nutritionally dense foods on a daily basis, the reason for which was not identified. While this study was only conducted among a small number of high-risk participants living in Cocke County, it has laid the groundwork for other surveys and studies to be conducted in other areas of the region, including Greene and Hancock Counties, and will possibly serve as a model for other counties within the northeast Tennessee region as well as counties throughout the state.
Conclusion

Although the data were unsuccessful in addressing food insecurity issues, data analysis of the surveys used in this pilot study were successful in pin-pointing the issues that are associated with increased risk of food insecurities that require further exploration and special attention by the Rural Task Force. These needs pertain to food and purchasing issues among commodities disbursement participants. Results from this study will be assessed and analyzed further by the Rural Task Force for the community of Cocke County and will be used to plan and implement programs in order to meet the needs of both participants of the commodities disbursement program and residents of the community of Cocke County.

Recommendations

This pilot study will help with evaluating the other counties and will be used in the future for other studies conducted on this subject. Studies such as this are appropriately called “utilitarian focused research” as they attempt to seek out needs and establish goals and resolutions pertaining to the best interests of the community members. Opportunities to reach food insecure people are minimal due to embarrassment or low self-esteem they may be feeling due to their need or poverty level, so it is often difficult to find willing participants who will agree to answer questions. The plan is for this study to be carried out in the Counties of Greene and Hancock and could possibly be used as a model for the state to address the issue of food insecurities and the needs of those food insecure individuals.
The results of this study found that the reported nutritional quality of the diets of the participants was below average, indicating a need for increased awareness and focus on more ways to introduce nutrient dense foods into the diets of food insecure residents within the community. Ways to incorporate and encourage the consumption of more nutritionally dense food within the population of the food insecure should particularly pertain to low cost methods. Education should possibly focus on teaching individuals to grow vegetables in their own backyards and establish neighborhood or community gardens through schools and communities with little or no fees for participants. The Rural Task Force should seek to gain support from local organizations, institutions, such as schools, hospitals and businesses or plants that produce food and food products. During the process of editing the survey tool, the survey content emphasis was changed so questions specifically pertaining to food insecurity issues were not addressed; however, questions that pertained to situations that increased the risk for food insecurities were addressed. In order to better assess food insecurity within the region, questions should be incorporated onto the survey that focus on lack of resources to purchase foods and feelings regarding food supply or lack thereof, especially feelings of anxiety or fear that the food supply will be limited during the week or month.

Once the principal investigator made suggestions, Rural Task Force members made final wording and formatting changes to the survey instrument. In order to improve the survey instrument for both participants and investigators, educational background of participants should be taken into consideration for future surveys and studies. Questions on the survey for this pilot study were not always clear and may
have been difficult for participants to understand and answer, skewing the results of the data. For example, the question on the survey pertaining to frequency that “whole grain bread” was served in the household, may have been misinterpreted by participants, as many may not have known exactly what “whole grain bread” was. Individual questions should also be addressed rather than two or three questions fused together. When questions are combined to address several different issues at once, oftentimes it can be difficult for the participant to distinguish what exactly the question may be asking. Not only does this lead to confusion for the participant but for the investigator as well when data analysis is conducted.

With the success in completion of surveys and participation among individuals in this pilot study, hopefully, future research can be conducted in other counties throughout the region resulting in successful outcomes of identification of food insecurity issues in the region. This could lead to an improvement in the resources available to aid those who are food insecure, as well as increase awareness and assist in establishment of further plans to help correct food insecurities and hunger.
REFERENCES


APPENDIX
Cocke County Food Security Consumer Survey

Where Food Comes From
Here are some questions about where groceries and prepared meals come from.

1. How much of your household's food is bought from grocery stores such as Food City or Save-a-Lot?
   - [ ] All
   - [ ] Most
   - [ ] Half
   - [ ] Some
   - [ ] None

2. Where does your household get the food that is not bought at a grocery store?

<table>
<thead>
<tr>
<th></th>
<th>All or Nearly All</th>
<th>Quite A Bit</th>
<th>Some</th>
<th>A Little Bit</th>
<th>None or Nearly None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country store or Convenience store</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Dollar Stores or Fred's</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Your own farm or garden</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Other farm or garden</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Farmer's market or produce stands</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Commodities distribution or food pantries</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Sit-down restaurants</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Fast food restaurants</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>School or workplace cafeterias</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>&quot;Meals on Wheels&quot;</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Specialty shop</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

3. How many children in your household eat school meals during the school year?
   Number of children ________________________________
   Meals per week eaten at school ________________________________

43
4. How often do you go shopping for food and what is the place you shop the most?
   How often? ________________________________
   Where shop most? ________________________________

Cocke County Food Security Consumer Survey
Food Choices
These are some questions about choices and preferences for foods

5. Indicate how often these foods are served in your household

<table>
<thead>
<tr>
<th>Food Choices</th>
<th>More Than Once A Day</th>
<th>Every Day Or Two</th>
<th>Weekly</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home-canned or home-frozen vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh fruit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soda, Kool-Aid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole grain bread</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugary cereals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box dinners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh or frozen meats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canned meat or fish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh fish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Do you have a household member that should observe a special diet? Indicate all conditions that apply.
   - Diabetes
   - Overweight
   - Food Allergies
   - High Blood Pressure
   - High cholesterol
   - Pregnancy
   - Other

7. Does your household have as healthy a diet as you would like? How would you like to change it? What problems keep it from being as good as you'd like?
   Healthy enough diet? ________________________________
   Changes? ________________________________
   Problems? ________________________________
8. Would you like to see restaurants, schools & stores offer more fresh locally produced foods?

☐ Definitely  ☐ Maybe  ☐ No

**Cocke County Food Security Consumer Survey**

**Shopping & Storing Food**

Here are some questions about shopping, transportation, and food storage

9. When you shop for your household groceries, how do you get to the places you shop?

<table>
<thead>
<tr>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household vehicle</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Friend or neighbor</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Walk</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>ETHRA van</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

10. About how much cash do you spend on food? How much EBT funds do you spend on food?
    Cash spent per month ________________________________
    EBT funds spent per month ________________________________

11. How do you store food for your household? How do you prepare food for your household? Check all that apply.

☐ Refrigerator
☐ Freezer
☐ Secure cabinets or pantry
☐ Can house or root cellar
☐ Electric stove w/ burners & oven
☐ Electric stove partly working
☐ Gas kitchen stove
☐ Heater or camping stove
☐ Microwave
Cocke County Food Security Consumer Survey
Shopping & Storing Food (cont.)

Here are some questions about shopping, transportation, and food storage

12. What is your drinking water source?

☐ Newport Utilities
☐ Household well
☐ Spring
☐ Neighbor
☐ Bottled water
☐ Other (please specify) ________________________________

Cocke County Food Security Consumer Survey
THANK YOU!
The Cocke County Health Council, Community House Cooperative, UT Extension and others are working to improve local health, nutrition and food security.

13. THANK YOU for participating in this survey! Please list any comments here.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
VITA

ALISON S. BROOKS

Personal Data: Date of Birth: July 22, 1981
   Place of Birth: Rogersville, Tennessee
   Marital Status: Single

Education: Public Schools, Rogersville, Tennessee

   East Tennessee State University, Johnson City, Tennessee;
   Dietetics and Food Systems Management, B.S., 2003

   East Tennessee State University, Johnson City, Tennessee;
   Clinical Nutrition, M.S., 2005

Professional Experience:

   Graduate Assistant, East Tennessee State University, Department of
   Family and Consumer Sciences, 2004-2005

   Dietetic Intern, East Tennessee State University, 2004-2005

   Tuition scholarship, East Tennessee State University, Johnson City,
   Department of Family and Consumer Sciences, 2003-2004