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Pictures with a Voice: Understanding the Everyday Lives of Native Americans of the Chickasaw Nation in Developing a Nutrition Social Marketing Campaign

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PICTURES WITH A VOICE: UNDERSTANDING THE EVERYDAY LIVES OF NATIVE AMERICANS OF THE CHICKASAW NATION IN DEVELOPING A NUTRITION SOCIAL MARKETING CAMPAIGN

By

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Randomly selected Native American families eligible to receive commodity foods were provided cameras to take pictures of visual responses in the areas of: 1) primary food purchases, 2) family use of food, 3) family activities and information access, and 4) future goals of the family. Using a focus-group format, participants chose five pictures that represented the group's consensual responses. Selected pictures and meaning were analyzed using thematic analysis procedures. Twelve families completed the project. There were four major themes: 1) the importance of family and the Native-American community, 2) health of individual and family including extended family as it pertains to physical, social, emotional and economic stability, 3) spiritual beliefs and its impact on family's morals and values, and 4) economic constraints of daily living activities. Aspects of the social-marketing campaign should address the entire family including extended family and must be culturally and economically specific to limited-resource families.

DEDICATION

I would like to dedicate this research to my parents, Kenneth and Rebecca Bowen, my siblings, and my beautiful nieces and nephews. May you find the silver lining in every gray cloud.

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Above all, I would like to thank my mother who has practiced complete selflessness in regards to her children. Her dedication and perseverance in hard times was an example to me that with dignity and some elbow grease, I can overcome anything.

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INTRODUCTION

Obesity, following smoking, is now considered the second leading preventable cause of death (Flegal, Williamson, Pamuk & Rosenerg, 2004; Satcher, 2002). In 2005 – 2006, more than one-third of the adults in the United States were considered obese (Ogden, Carroll, McDowell, & Flegal, 2007). Within 2004, obesity was attributed to causing about 300,000 deaths per year in the United States (Flegal et al., 2004).

Overweight and obesity are classified by a body mass index (BMI) of 25.0 - 29.9 and 30.0 or higher respectively, according to the Centers for Disease Control and Prevention (CDC) (Ogden, Carroll, Curtin, McDowell, Tabak, & Flegal, 2006; Ogden et al., 2007). BMI is calculated by using the individual's height in meters divided by weight in kilograms squared (kg/m^2). Overweight and obesity result from an energy imbalance which involves eating too many calories and not getting enough physical activity (Centers for Disease Control and Prevention, 2008). Along with the energy imbalance, recent research has suggested that genetic, physiological, and behavioral factors plays a significant role in the presence of obesity (Jeqier & Tappy, 1999; Wilborn, Beckham, Campbell, Harvey, Galbreath, La Bounty, Nassar, Wismann, & Kreider, 2005).

Obesity by itself is a public health concern; however, it is also associated with several serious physical and psychological health concerns. Issues that are physically related to obesity are Type 2 Diabetes, hypertension, cardiovascular disease, gallbladder

disease, osteoarthritis, joint problems, renal disease, and specific types of cancers such as breast, colon, endometrial, esophageal, kidney and prostate cancer (Blissmer, Riebe, Ruggiero, Greene, & Caldwell, 2006; Luo, Morrison, de Groh, Waters, DesMeules, Jones-McLean, Ugnat, Desjardins, Lim & Mao, 2007; Ishizaka, Ishizaka, Toda, Koike, Seki, Nagai, & Yamakado, 2007). Obesity is not just a state of body weight or fat, but it is also a state of mind (Hafen, 1981). Psychological problems may cause or add to the development of obesity. Lower self-concept, decreased self-image, and negative self-evaluation are just a few concerns that the individual may incur. Socially, there are other issues including discrimination and prejudice that overweight or obese individuals may face (Blissmer et al., 2006).

The prevalence in the United States for obesity appears to rise continuously among all population segments (Smith, Clark, Cooper, Daniels, Kumanyika, Ofili, Quinones, Sanchez, Saunders, & Tiukinhoy, 2005). However, obesity is disproportionately elevated in several racial/ethnic minority populations than among white Americans including: African-American women, Mexican Americans, Puerto Ricans, several American Indian and Alaska Native populations, Native Hawaiians, and Pacific Islanders. In 2000 National Health and Nutrition Examination Survey (NHANES) estimated the general population to have an obesity rate of 30.1% with Non-Hispanic white, Non-Hispanic black, and Mexican Americans with obesity rates of: 1) male 27.3%, female 30.1%, 2) male 28.1%, female 49.7%, and 3) male 28.9%, female 39.7%, respectively (Smith et al, 2005). Native Americans have a current obesity

prevalence of 39%, making this minority group at a greater risk of obesity-related comorbidities than the general population (Wilson, Gilliland, Moore, & Acton, 2007).

The current leading causes of death for Native Americans aged 55 and over include heart disease, cancer, and diabetes, all of which are complications aggravated by obesity (Conti, 2008; Denny, Holtzman, Goins, & Croft, 2005). Diabetes is two to ten times more common in American Indians than in the U.S. population as a whole, and specific tribes have the highest prevalence of diabetes in the world (Broome & Broome, 2007; Hood, Benson, Martinez, Shurman, & Secker-Walker, 1997).

Obesity and the related health consequences are not the only issues Native Americans have faced, it was noted that poverty plays an unfortunate role in the Native American community. Currently, 31.6% of Native Americans are living at or below the poverty level while the national level for all US races is 13% of the total population. (Conti, 2008). Land displacement and near-poverty living conditions may have hindered the traditional food acquisition methods, while many Native Americans have become dependent on government-supplied commodity food programs (Osterkamp & Longstaff, 2004). With Native Americans living below the federal poverty level and with median income of $33,627, the risk of nutrition-related health problems increase and are apparent in this population (Broome & Broome, 2005; Wharton & Hampl, 2004).

Programs have been created for the Native American population; however, some of these programs did not contain the vision of health issues from the Native American population. When creating a health or nutrition program for Native Americans, Broome & Broome (2007) stated that it is important to remember that rather than trying to fit the

participant into your model of health, that you should discover how you can fit the program into the participants' model of health. When leading a program, the facilitator should aim to not only involve the client, but also the family and tribal community (Broome & Broome, 2007).

Freire, a Brazilian educator, used a method in which the use of drawn pictures, provided discussion on pertinent issues within the community for comprehensive understanding and agreement. The instructor became engaged along with the learner leading to a co-creation of knowledge (Freire 2000). From Freire's processes and theories, Wang and Burris (1994) created an educational approach to design a participatory health promotion intervention called photovoice. Photovoice is a participatory-action research methodology based on the understanding that people are experts on their own lives. The photovoice project created by Wang and Burris (1994) had four main goals: 1) to engage people in active listening and dialogue, 2) to create a safe environment for introspection and critical reflection, 3) to move people toward action, and 4) to inform the broader society to help facilitate community change (Carlson, Engebretson, & Chamberlain, 2006).

In order to improve dietary intake and the adoption of healthier lifestyle habits, researchers must first understand general everyday occurrences and community engagement that may influence food and health choices. The qualitative research method of photovoice can help gather information from the community for the development of effective programs that are inclusive of Native American views and experiences. The qualitative method of photovoice and the incorporation of Native American views and

experiences may provide valuable insight in the development of effective nutrition education programming and messages.

The purpose of this study was to document visual reflections of everyday occurrences that are significant to limited-resource Native American families living in the Chickasaw Nation boundaries. This will assist in the development of a culturally related social-marketing campaign pertaining to nutrition.

CHAPTER II

LITERATURE REVIEW

National Trends of Obesity, Consequences of Obesity, and Minority Audiences with Obesity

National Trends of Obesity

Throughout the United States as well as in other portions of the world, obesity has proven to be a public health concern (Ogden et al., 2006; Ogden et al., 2007; Sowers, 2003). According to Ogden et al. (2007), more than one-third of the adults in the United States (seventy-two million people) were considered obese in 2005 to 2006. Obesity has been attributed to causing about 300,000 deaths per year in the United States. Obesity, following smoking, is now considered the second leading preventable cause of death (Flegal et al., 2004; Satcher, 2002).

Overweight and obesity are classified by a body mass index (BMI) of 25.0 - 29.9 and 30.0 or higher, respectively, according to the Centers for Disease Control and Prevention (CDC) (Ogden et al., 2006; Ogden et al., 2007). BMI is calculated by using the individual's height in meters divided by weight in kilograms squared (kg/m^2). For most people, BMI will correlate with the amount of body fat on the person (Ogden et al., 2007). However, BMI does not discriminate between fat and non-fat mass within a body.

Abdominal obesity measurements may also be used when looking at obesity levels and health risk factors, and it is defined as a waist circumference greater than 35 inches for women and greater than 40 inches for men (Smith et al., 2005). BMI weight classifications and corresponding numerical value as defined by the World Health Organization (WHO) can be found in Table 1 (World Health Organization, 2006).

Table 1 The International Classification of Adult Underweight, Overweight and Obesity According to Body Mass Index

Weight Classification	Body Mass Index (kg/m²)
Underweight	< 18.50
Normal Weight	18.50-24.99
Overweight	≥ 25.00
Obese	≥ 30.00
Obese Class I	30.00-34.99
Obese Class II	35.00-39.99
Obese Class III	≥ 40.00

Etiology of Obesity

Obesity results when individuals ingest more energy than they expend resulting in fat storage in adipose depots (Levin 2007). Along with the energy imbalance, recent research has suggested that genetic, physiological, and behavioral factors also play a significant role in the presence of obesity (Jeqier & Tappy, 1999; Wilborn et al., 2005). Overweight and obesity result from an energy imbalance which involves eating too many calories and not getting enough physical activity (Centers for Disease Control and Prevention, 2008). Energy in a diet is consumed through protein, carbohydrate, and fat intakes. Alcohol also contributes to caloric intake if ingested. When there is an excess of

caloric intake, the body converts and stores the extra calories as triglycerides in adipose tissue (Wilborn et al., 2005).

Energy expenditure is the energy or calories the body uses and is composed of basal metabolic rate, the thermic effect of food, and physical activity. Epidemiological studies have shown that there is an inverse association between physical activity and body weight (DiPietro, 1995) with a sedentary lifestyle being a significant cause to the mounting prevalence of obesity (Wilborn et al., 2005). Over time, if excess calories are consumed without a concomitant increase in energy expenditure, excess body fat will be stored and may lead to obesity (Wilborn et al., 2005).

Fat, the primary energy reserve of the body, is stored as triglyceride in depots made up of adipose tissue. Most depot fat comes directly from dietary triglycerides, as evidenced by the fact that fatty acid composition of the diet. Excess carbohydrate and protein are also converted to fatty acids in the liver by means of a comparatively inefficient process. Dietary fat provides a metabolizable energy value often greater than 9 kcal/g, in a range of 10.9 to 11.2 kcal/g. Under normal feeding conditions, little dietary carbohydrates is used to produce adipose tissue, and it requires approximately three times as much energy to convert excess energy from carbohydrate to storage as does fat (Mahan & Escott-Stump, 1996).

Individuals have a percentage of fat that is essential and necessary for normal physiologic functioning. This includes fat stored in bone marrow, heart, lung, liver, spleen, kidneys, intestines, muscles, and lipid-rich tissues in the nervous system. Storage fat is the fat that accumulates in the adipose tissue under the skin and around organs to

protect them from trauma. Adipose tissue increases either by increasing the size of cells present when lipid is added (hypertrophy) or by increasing the number of adipose cells (hyperplasia). Weight gain may be the result of hypertrophy, hyperplasia, or a combination of the two. Obesity is always characterized by hypertrophy, but only some forms of obesity involve hyperplasia (Mahan & Escott-Stump, 1996).

The nature and causes of obesity is the subject of intensive and continuing research. Both environmental and genetic factors are involved in a complex interaction of variables, which include psychological and cultural influences as well as physiologic regulatory mechanisms (Mahan & Escott-Stump, 1996). Science has shown that genetics plays a role in obesity. However, genes do not always predict future health. Genes and behavior may both be needed for a person to be overweight or obese. In some cases, multiple genes may increase an individual's susceptibility for obesity but require outside factors such as abundant food supply and/or little physical activity (Centers for Disease Control and Prevention, 2008).

Many of the hormonal and neural factors involved in normal weight regulation are determined genetically. These include the short- and long-term signals that determine satiety and feeding activity. Defects in genetic expression or interaction could contribute to weight (Mahan & Escott-Stump, 1996). One genetic factor identified in 1994 was with the discovery of leptin. Leptin plays a pivotal role in regulating energy homeostasis, and the obese state is thought to be associated with "leptin resistance," where in overweight or obese individuals become insensitive to high circulating leptin concentrations (Roth, Roland, Cole, Trevaskis, Weyer, Koda, Anderson, Parkes, & Baron, 2008).

Individuals may make decisions based on their environment or community. The presence of playground equipment, the safety of a neighborhood, the lack of sidewalks, the availability and affordability of healthy foods could all be environmental factors that may influence a person's choices and behaviors which affect levels of obesity. Along with the environment, lifestyle factors may affect obesity. Lifestyle factors promoting the obesity epidemic include: increased time spent watching television or other sedentary behaviors, lack of physical activity, increased portion sizes, and the consumption of caloric-dense foods (Centers of Disease Control and Prevention, 2008).

Biomedical Consequences Related to Obesity

Obesity by itself is a public health concern; however, it is also associated with several serious physical health concerns. Issues that are physically related to obesity are Type 2 Diabetes, hypertension, cardiovascular disease, gallbladder disease, osteoarthritis, joint problems, renal disease, and specific types of cancers such as breast, colon, gallbladder, pancreas, and kidney cancer (Blissmer et al., 2006, Luo, Morrison, de Groh, Waters, DesMeules, Jones-McClean, Ugnat, Desjardins, Lim & Mao, 2007; Ishizaka et al., 2007; Wilborn et al., 2005).

Cardiovascular disease (CVD) affects approximately twelve million Americans and accounts for nearly one million deaths per year making it the leading cause of morbidity and mortality in the United States (Sowers, 2003). The state of obesity may increase the risk factors for certain types of CVD, particularly coronary heart disease (CHD) and stroke. Part of obesity's role is its association with elevated blood pressure,

blood lipids and blood glucose levels, and as weight increases, the risk factors for disease increases related to the degree of obesity (Luo et al., 2007).

While obesity itself may not be the only cause of heart disease, it tends to be a precursor to hypertension, hyperglycemia, and hypercholesterolemia, which increase the risk of CVD (Luo et al., 2007)). These conditions can make supplying blood to the tissues more difficult. This suggests that obesity may also lead to CHD because an enlarging of the heart muscles occurs in order to pump the blood supply through the larger body mass in obese individuals (Luo et al., 2007).

Hypertension has been estimated to affect around 25% of the American population. There are different levels of hypertension, but generally it will be indicated by a systolic and diastolic blood pressure starting from ≥120 and ≥80 mm Hg, respectively (Charney & Malone, 2004). The exact cause of hypertension is not known; however, it is thought to have multifactorial causes (Gropper, Smith, & Groff, 2005). Among these multiple factors for hypertension, excess weight is correlated with an elevated blood pressure. Obese individuals were 2.2 to 5.7 times more likely than people who were not obese to develop or become hypertensive (Luo et al., 2007). One reasoning behind this correlation is that obesity increases sodium reabsorption in the kidneys which results in an elevation of blood pressure (Ishizaka et al., 2007).

Obesity is listed as being the strongest life-style or behavioral factor for developing Type 2 Diabetes Mellitus, also known as non-insulin dependent diabetes mellitus (NIDDM) (Luo et al., 2007). Type 2 Diabetes accounts for 80 to 90% of the reported cases of diabetes mellitus (Gropper et al., 2005). Type 2 Diabetes itself is

increasing at a very accelerated pace all over the world (Luo et al., 2007). Insulin resistance is linked to impaired glucose tolerance, Type 2 Diabetes, and considered a result from obesity (Luo et al., 2007). The connection between obesity and Type 2 Diabetes was determined in a study to define the prevalence and risk factors for Type 2 Diabetes in a population-based sample of Caucasian (lower-risk) individuals from 40 to 79 years of age in Italy. A total of 1,000 individuals were randomly selected and clinical and laboratory data were collected. The results of the Bruneck Study, indicated that incidence rates of Type 2 Diabetes were three times higher in overweight persons and about ten times greater for obese individuals (Bonora, Kiechl, Willeit, Oberhollenzer, Egger, Meigs, Bonadonna & Muggeo, 2004).

Renal disease or renal dysfunction is promoted by both hypertension and diabetes, in which obesity increases the risk of all three. Several longitudinal and cross-sectional epidemiological studies show that obesity may increase the incidence and prevalence of chronic kidney disease (CKD) (Ishizaka et al., 2007). As mentioned, obesity causes an increase in blood pressure; this hypertensive factor is the most important factor associated with both nondiabetic and diabetic CKD. However, studies suggest that overweight and obesity may increase the incidence of CKD, but it is still dependent on the degree of hypertension of the individuals (Ishizaka et al., 2007).

Abdominal obesity along with atherogenic dyslipidemia, raised blood pressure, insulin resistance with or without glucose intolerance, proinflammatory state, and prothrombotic state make up the six components of the metabolic syndrome that relates to CVD. Metabolic syndrome is defined as a multiplex risk factor for CVD and is tightly

associated with abdominal obesity. People with metabolic syndrome are at an increased risk for developing DM, CVD, and a higher risk of mortality (Grundy, Brewer, Cleeman, Smith, & Lenfant, 2004).

Obesity is thought to drive the continuation of metabolic syndrome. Adipose tissue, found in excess in obese individuals, will be a key role in the formation of metabolic syndrome by promoting inflammation, hypertension and dyslipidemia, as mentioned prior with CVD. These will lead to a development of Type 2 Diabetes, atherosclerosis and thrombosis (Ceska, 2007).

As obesity rates continue to rise, the prevalence of metabolic syndrome is also expected to rise. The prevalence of metabolic syndrome along with the known connection between obesity and other biological consequences are not the only consequences of obesity. While obesity has its effects on the body, it also has unfortunate effects on the psychological well-being of obese and overweight individuals.

Psychological Consequences Related to Obesity

While there are a myriad of physical consequences related to obesity, there are also numerous psychological issues associated with obesity. Lower self-concept, decreased self image, and negative self evaluation are just a few concerns that the individual may incur personally. Socially, there are other issues including discrimination and prejudice that overweight and obese individuals may face (Blissmer et al., 2006). Fairburn and Brownell (2005) describe research which shows clearly that a stigma of obesity is widespread. Obese people are less liked and viewed less favorably than

persons of normal weight. Compared to normal-weight individuals, obese persons are often described as "lazy," "stupid," "cheats," and "ugly," among other characteristics (Carr & Friedman, 2005; Fairburn & Brownell, 2005). These negative attitudes often translate into prejudice and discrimination among obese individuals with discrimination being reported in employment, housing, and college admissions. Individuals who were overweight as adolescents are less likely to be married, and have lower household incomes and higher rates of household poverty in future years than individuals who were normal-weight adolescents. Living in a culture which condemns their physical appearance, and may blame them for their condition, it is logical to assume that overweight and obese persons suffer emotionally from the bias, negative attitudes, and discrimination (Carr & Friedman, 2005; Fairburn & Brownell, 2005).

Carr and Friedman (2005) created a study with the purpose of investigating the frequency and psychological correlates of institutional and interpersonal discrimination reported by underweight, normal weight, overweight, obese I, and obese II/III Americans. Refer to Table 1 for weight classifications. The analysis used data from the Midlife Development in the United States study, which is a national survey of more than 3,000 adults between ages of 25 to 74. In this study, it was reported that compared to normal weight persons, obese II/III individuals were more likely to report institutional and day-to-day interpersonal discrimination. Among the obese II/III individuals, workers in a professional setting were more likely than nonprofessionals to report employment discrimination and interpersonal mistreatment. They reported lower levels of self-acceptance compared to the normal weight counterparts, however this relationship is fully

mediated by the perception that one has been discriminated against due to body weight or physical appearance. The findings of this study offered support for the pervasive stigma of obesity and the negative implications of stigmatized identities for their psychological well-being and successes (Carr & Friedman, 2005).

Obesity is not just a state of body weight or fat, but it is also a state of mind. Psychological problems may cause or add to the development of obesity. Furthermore, these psychological problems may be created within the overweight or obese persons from negative cultural attitudes or by the process of trying to lose weight (Simon, Von Korff, Saunders, Miglioretti, Cran, van Belle, & Kessler, 2006). Research suggests that obesity may be significantly associated with mood disorders and have found associations between obesity and depressive symptoms, history of depression, and measures of psychological distress (Johnston, Johnston, McLeod, & Johnston, 2004). Longitudinal studies reported that depression predicts the subsequent onset of obesity and that obesity predicts the subsequent onset of depression (Goodman & Whitaker, 2002; Hasler, Pine, & Gamma, 2004).

To gather more information on a possible association between obesity and psychological disorders, Carpenter et al. (2000) created a study to find if relative body weight is positively associated with clinical depression, suicide ideation, and suicide attempts in an adult general population sample with variations among men and women as well as White and African American individuals. The study was based on the 1992 National Longitudinal Alcohol Epidemiologic Survey (NLAES). The survey involved face-to-face interviews with a total of 42,862 household residents who were 18 years or

older living in the contiguous United States. The Bureau of the Census conducted the interviews.

The Alcohol Use Disorders and Associated Disabilities Interview Schedule (AUDADIS) was a structured interview that was administered to elicit detailed information on alcohol, drug, and depressive disorders according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (*DSM-IV*) (Carpenter, Hasin, Allison, & Faith, 2000). The diagnosis of major depression was consistent with the DSM-IV and states that social or occupational dysfunction must have occurred and a state of a depressed mood or anhedonia should be present. To measure for suicide ideation and suicide attempts, the respondents answered yes or no to a variety of questions assessing these behaviors in the AUDADIS major depression section and considered the 12 month period prior to the interview (Carpenter et al., 2000).

Relative body weight was defined as both categorical and continuous variables in the study. BMI was calculated for the participants and used for continuous data and then they were grouped into three groups or weight status categories based on a BMI cutoff for the categorical data. These three groups were: 1)"underweight" defined by a BMI of 20.77 or less, 2)"average weight" shown by a BMI of 20.78-29.99, and 3)"obese" which was a BMI of 30 or greater (Carpenter et al., 2000). For data analysis, bivariate logistic regression models were used to test the research question. The BMI was analyzed in these cases with both the continuous BMI variable, linear (BMI) and nonlinear (BMI^2).

Carpenter et al. (2000) reported relative body weight was associated with major depression, suicide attempts, and suicide ideation. For depression, both BMI (χ^2_1= 14.8,

P<.001) and BMI² (χ^2_1= 9.63, *P*=.001) were significantly associated with *DMS-IV* major depression and indicated a U-shaped relationship with relatively high and low BMI values associated with the elevated probability of major depression. When evaluating the suicide ideation and suicide attempts, the categorical method of weight status was used. When compared with respondents of average-weight, the underweight participants had increased odds of major depression and suicide ideation. The obese group also had increased odds of suicide ideation relative to average-weight respondents. The study reported a relationship between BMI and major depression, suicide ideation, and suicide attempts were different for men and women but showed no significant difference between White and African American respondents (Carpenter et al., 2000).

It has been noted that there are physical/biomedical and psychological consequences of obesity. These areas were major determinants of measurements of the effect of obesity on the general population. However, when reviewing racial/ethnic obesity data, the rate of obesity has a dramatic shift in not only occurrence but also cultural circumstances that may lead to various racial/ethnic groups to disproportionate rates of obesity.

Minority Audiences Related to Obesity

In 2000, the Census reported that one of every four United States residents claimed to be a racial or ethnic minority (Liao, Tucker Okoro, Giles, Mokdad, & Harris, 2004). By 2010, it is estimated that one in every three individuals in the United States will be an ethnic/racial minority. Since it is clear that the proportion of the United States

population who are of a racial/ethnic minority is expected to keep growing, the importance of their specific health issues is also escalating (Liao et al., 2004).

The prevalence in the United States for obesity appears to raise continuously among all population segments. However, obesity was disproportionately elevated in several racial/ethnic minority populations than among white Americans including: African-American women, Mexican Americans, Puerto Ricans, several American Indian and Alaska Native populations, Native Hawaiians, and Pacific Islanders. However, if you compare the differences among Non-Hispanic white, Non-Hispanic black, and Mexican Americans, they are: 1) 27.3% male, 30.1% female, 2) 28.1% male, 49.7% female, and 3) 28.9% male, 39.7% female, respectively. The data state that out of the racial/ethnic populations, Non-Hispanic black women had the highest prevalence of obesity almost nearing half of the population, and that for both male and female, Non-Hispanic white individuals had the lower percentage of obesity in comparison to Hispanics and African Americans (Smith, Clark, Cooper, Daniels, Kumanyika, Ofili, Quinones, Sancehz, Saunders, & Tiukinhoy, 2005).

Obesity rates varied depending on other factors such as region, socioeconomic status, and genetic variables. Attitudes toward obesity vary among cultural groups. For example, in some world cultures, thinness was associated with extreme poverty where obesity was viewed as a symbol of prosperity. Conversely, in other cultures, such as the United States, obesity was thought of as unhealthy or being at risk for health disparities (Smith et al., 2005).

Non-Hispanic black and Mexican American are not the only ethnic groups noted for having high obesity rates; Native Americans also have issues with obesity as a culture. Some of the health disparities for the Native American population include a susceptibility to risk factors for metabolic syndrome, or insulin resistance, hypertension, CVD, and especially Type 2 Diabetes which has led to high mortality rates (Smith et al., 2005). It is important to explore the health related issues among Native American populations.

Health and Nutrition Status of Native American Population

Obesity and Health Related Issues among Native American Populations

The 2000 NHANES estimated the general population obesity rate at 30.1% (Smith et al., 2005). Native Americans have a current obesity prevalence of 39%, making this minority group at a greater risk of obesity-related comorbidities than the general population (Wilson et al., 2007).

The current leading causes of death for Native-Americans aged 55 and over include heart disease, cancer, and diabetes, all of which are complications aggravated by obesity (Conti, 2008; Denny, Holtzman, Goins, & Croft, 2005). Diabetes is two to ten times more common in American Indians than in the U.S. population as a whole, and specific tribes such as the Pima Indians have the highest prevalence of diabetes in the world or the Eastern Band of Cherokee Indians with higher rates than the United States general populations (Bachar, Lefler, Reed, McCoy, Bailey, & Bell, 2006, Broome &

Broome, 2005; Hood et al., 1997). The combination of diabetes with obesity was associated with an increased risk for developing more severe degrees of hyperglycemia, hypertension, dyslipidemia, retinopathy, and progressive loss of renal function (Wilson et al., 2007).

Type 2 Diabetes became a worldwide epidemic, especially among minority and disadvantaged populations in industrialized countries, such as the United States (Burrows, Geiss, Engelgau, & Acton, 2000). It was thought that changes in these groups' lifestyles have interacted with genetic predispositions to exacerbate the rate of Type 2 Diabetes. These lifestyle changes included: diminished physical activity, increased calorie and fat intake, and an increased rate of obesity. Over fifty years ago, diabetes was rarely reported among Native Americans, but due to lifestyle changes, it has become a major cause of morbidity (including kidney failures, blindness, lower-extremity amputations, and CVD) (Burrows et al., 2000).

Given the facts about Type 2 Diabetes with Native Americans, Burrows et al. (2000) completed a study to determine the trends in diabetes prevalence among Native Americans and Alaska Natives. This study gathered data from the Indian Health Service (IHS) national out-patient database. IHS is a U.S. Public Health Service that offers comprehensive health care to 90% of the Native American population that resides on or around reservations that have an IHS or tribal health facilities. To calculate the prevalence of diabetes among this population, Burrows et al. (2000) used the number of individuals identified with diagnosed diabetes in the IHS database and estimates of the

IHS service population. The prevalence estimates were adjusted for age, and since diabeted varies by tribe, geographic areas were further examined for trends.

Burrows et al. (2000) reported between the years of 1990 and 1997, the amount of Native Americans and Alaska Natives who were diagnosed with Type 2 Diabetes had escalated from over 43,000 to over 64,000 individuals. This meant the prevalence increased 29% in seven years. Type 2 Diabetes prevalence was steadily increasing and further contributes to an already large and disproportionate burden of Type 2 Diabetes in this population. An issue the study reported was the age of the diabetic population is younger than the United States diabetic population. This meant that these younger individuals would have more years of diabetic disease burden and a higher probability of developing complications related to diabetes at a younger age (Burrows et al., 2000).

Native American children have not been spared from the health related consequences of obesity. Alterations in the Native American lifestyle helped cause a high prevalence of obesity among American Indian youth. Obesity placed them at a greater risk for secondary health consequences like CVD and Type 2 Diabetes, much like the adults in this population (Zephier, Himes, Story, & Zhou, 2006). Grandparents and parents had differing views on this issue. Grandparents tended to be more concerned with the weight of children than mothers (Adams, Quinn, & Prince, 2005). While the generational difference is unclear, it may be related to elders' ability to compare the children from decades ago to the children of today's society. The grandparents realized the differences in average body size and lifestyles including lack of physical activity, and increased dietary intake of fast food or, "junk foods." They may be more aware of health

related issues from personal and family experiences of suffering from the consequences of overweight or obesity (Adams et al., 2005). The role and views of a grandparent were very important because they were the most familiar members of the community with the history and development of the culture and its fairly new relationship with obesity.

Historical Perspective of Native American Lifestyle Changes

The Native Americans' health was definitely impacted by the food environment and local food systems in that they were exposed (Brown, Noonan, & Nord, 2007). Maier (2005) noted an interview with the developer and founder of the National Indian Child Welfare Association (NICWA), stating that poor health choices played an unfortunate role in the Native American community. It was believed the reasoning behind this relates to the history of the American Indians. Lack of economic opportunity, unemployment, racism from neighboring towns, and intergenerational grief and the lingering social impacts of genocide may play a role in this high incidence of unhealthy lifestyle choices affecting their environment and habits that affected their health (Maier, 2005).

Many of the Native Americans were more economically disadvantaged than the overall United States population, with 31.6% of Native Americans living at or below the poverty level while the national level for all United States races was 13% of the population at or below the poverty level (Conti, 2008). Land displacement and near-poverty living conditions may have hindered the traditional food acquisition methods, and many Native Americans became dependent on government-supplied commodity food

programs (Osterkamp & Longstaff, 2004). With more than 40% of Native Americans living below the federal poverty level and a median income of $33,627, the risk of nutrition-related health problems increased (Broome & Broome, 2005; Wharton & Hampl, 2004). Many reservations were economically impoverished, and included problems such as overcrowding within homes, a lack of adequate water, electricity, general necessities for cooking, and plumbing (Saravanabhavan & Marshall, 1994). The possibility of progressive movement were hampered by government policies, too little capital for development, a lack of productive land, inadequate health care and education, poverty, and a fractured sense of identity (Ripples of Renewal, 2004). These issues have caused the Native American culture to change over time and adapt to their living and food situations (Brown & Shalett, 1997).

Evolution of Colonized Diet

For the past two centuries, Native Americans were removed from or limited within native tribal lands that resulted in many changes in regards to the availability of traditional foods. The traditional methods of food acquisition were hunting, gathering, and cultivation; however, these methods were not as frequently used today. The traditional diet of indigenous people (Native Americans) was described as nutrient rich and calorie limited (Milburn, 2004). Historically, Native American had a diet with food crops of corn, potato, tomato, squashes, and beans along with animal proteins which were hunted (Conti, 2008). These wild foods were higher in nutrient content than similar cultivated foods. For example, the wild greens that would be gathered traditionally were

higher in nutrients such as calcium, iron, magnesium, and vitamin C than cultivated plants. The traditional hunting and fishing providee wild game and fish that were higher in nutrients, provided less fat, and saturated fats than the domestic counterparts (Milburn, 2004). However, as interaction of the Native Americans with the European settlers increased, an introduction of meats and milk from domesticated animals along with cereal grains of wheat, barley, oats, rice, and the distilled alcohols created from them along with large quantities of lard were more common via trading posts, government rations, and boarding schools. These new foods introduced gradually replaced the nutrient dense foods Native Americans had in their diet from hunting, fishing, and gathering crops (Conti, 2008).

Among American Indian tribal groups living on reservations, traditional foods were consumed on occasion compared to more contemporary foods. This was believed to be one of the results caused by the geographic isolation many reservations face (Brown et al., 2007; and Conti, 2008). These reservations were isolated and had population densities around one to six people per square mile. For these Native Americans, few opportunities existed for access to fresh produces, fresh lean meats and seafood as well as a decreased variety of foods available in the larger market places (Conti, 2008).

Native Americans on reservations often travel long distances to get to stores that are adequately stocked, but with lower-income a lack of transportation may exist, this often meant that residents had poor access to sources of fresh high-quality foods. Often, the only local means of getting food were from small, reservation based stores that did not stock a full range of foods, especially fresh fruits and vegetables, and often provided

more snack and convenience foods (Brown et al., 2007). Traditional foods are often recommended to decrease the risk for conditions such as Type 2 Diabetes, CVD, and overweight/obesity. However, these traditional foods were either unavailable or too expensive for this low-income population. The Native Americans' health was definitely impacted by the food environment and local food systems in which they were exposed (Brown et al., 2007).

In addition to the lack of access to healthy foods, impoverished Native Americans may not be able to afford healthy food options, such as fresh fruits and vegetables (Maier, 2005; Wharton et al., 2004; Zephier et al., 2006). Therefore, the Native American diet evolved to combine traditional foods that they hunt, cultivate, or fish, along with readily available or commodity foods through the USDA Commodity Foods Program. Federal programs often failed to include or support the use of the traditional foods that added to the Native Americans' dependence on less healthy foods and culturally inappropriate patterns of consumption (Brown et al., 2007). This combination of foods is referred to as a "colonized diet" (Osterkamp et al., 2004; Maier, 2005). The evolved diet was filled with highly refined grains, preservatives, and high-fat, high-caloric foods. Native Americans developed a preference for these foods in large portions (Maier, 2005; Hood et al., 1997).

Traditional food preparation methods changed over time as well. The traditional method of preparing foods over dry heat were replaced by pan frying or deep fat frying. Also, fast food restaurants and convenience stores on or in proximity of reservations

encouraged the consumption of high-fat, high-sugar foods instead of the healthier, traditional counterpart (Brown et al., 2007).

In addition to adopting a "colonized diet," major Native American lifestyle changes occurred within the past 50 years that intensified the issue of obesity. These changes included less physical activity from a decrease in farming, hunting, and fishing. In addition to the decrease in physical activity, increases in sedentary activities such as watching television and more frequent use of motor vehicles for travel were more common (Hood et al., 1997). The dietary and lifestyle changes made by the Native Americans were associated with the increased prevalence of nutrition related complications such as obesity, diabetes, and cardiovascular diseases (Osterkamp et al., 2004).

Nutrition Programs for Native Americans

Programs Improving Native Americans' Health Status

Improving the health and nutrition status of Native Americans does not happen immediately, but it can be improved by programs or interventions. In the past there have been programs to help a variety of target populations within the Native Americans. Some programs have focused on a subgroup such as children, women, or elderly.

Pathways was a program focused on Native American children. The objective of the Pathways program was in implementing an intervention for reducing percentage body fat in American Indian schoolchildren. The four components of the intervention were to

1) implement a change in dietary intake, 2) increase physical activity, 3) create a classroom curriculum focused on healthy eating and lifestyle, and 4) implement a family-involved program. The study was a randomized, controlled, school-based trial involving 1,704 children in 41 schools and was conducted over the course of three consecutive years. The children were from third to fifth grade and attended schools serving Native American communities in Arizona, New Mexico, and South Dakota. Results indicated no significant change or reduction in percentage of body fat; however, there was a significant decrease in the percentage of energy from fat that was observed in the intervention schools. The study reported 30.5% of girls, and 26.8% of American Indian children were above the 95th percentiles for BMI for age. Given this information, by the end of the intervention, it was noted a more intense or longer interventions would be required to significantly reduce the adiposity in the Native American school-aged children (Caballero, Clay, Davis, Ethelbah, Holy Rock, Lohman, Norman, Story, Stone, Stephenson, & Stevens, 2003).

Gilliland, Azen, Perez, & Carter (2002) discussed another program called the Native American Diabetes Project: Strong in Body and Spirit that included a lifestyle intervention designed and developed in response to the high and increasing prevalence of Type 2 Diabetes among Native American adults. The goal was to evaluate the effectiveness of a lifestyle intervention specifically targeted for Native American adults with diabetes. The study was a nonrandomized community-based intervention developed and conducted from August 1993 to July 1997 in eight Rio Grande Pueblo communities in New Mexico, served by three IHS clinics. The selection for the intervention was based

on the participant's community of residence and not on self-selection. There were three specified sites, A, B, and C. Site A had an intervention that included family and friends (FF); site B had the same intervention with a one-on-one (OO) style; and site C agreed to serve as a control and only received the usual medical care (UC) from IHS and their intervention was delayed one year.

The population group included Native American men and women with Type 2 Diabetes, aged ≥ 18 years, who were physically and mentally able, and who resided in one of the eight communities. The intervention was designed and developed using community preferences and principles of social learning theory and included five sessions: *"Get more exercise!", "Eat less fat!", "Eat less sugar!", "Together we can!",* and *"Staying on the path!"*.

The results stated a statistically significant increase in blood sugar levels, using HbA1c, among the UC participants (1.2% [0.4], P =0.001), and both interventions showed a small, non-significant increase in the adjusted mean change (0.5% [0.3] and 0.2% [0.3] for the FF and OO treatment, respectively). The primary findings for the community-based intervention were that the individuals in the intervention had significant benefits in glycemic control and weight with a decrease of 1.9 pounds in the combined intervention treatment compared with an increase of 1.7 pounds in the UC treatment group, giving a significant difference at 1 year compared to the UC control group after adjusting for other variables such as sex, age, duration of diabetes medication use or treatments, medical complications, and other biomedical data. This program was important because HbA1c levels are known to be predictive of morbidity and mortality,

and the intervention had shown possible potential to reduce the negative health effects related to diabetes (Gilliland et al., 2002).

As mentioned, obesity and other diet-related chronic diseases were widespread in Native American communities. In response to this fact, a food store-based program was implemented to improve diets on two American Indian reservations (Curran, Gittelsohn, Anliker, Ethelbah, Blake, Sharma, & Caballero, 2005). The Apache Healthy Stores (AHS) project was conducted from July 2003 to June 2004 and aimed to reduce the risk of chronic disease and high rates of obesity among two Apache tribes in Arizona. The program was based on a conceptual framework including components from the Social Cognitive Theory and social marketing. It aimed to increase the availability of healthy foods in stores on these two reservations and to promote healthier food choices and cooking methods among the Native Americans on the reservations. Formative research tools were utilized and included food-frequency questionnaires, community workshops, and a refinement and feedback process which guided the development of the intervention.

To promote the healthier food choices and cooking methods, both in-store and mass-media strategies were used to communicate one to two key behavioral messages for each phase. Some examples of shelf labels that were strategically placed in the grocery store included; "*Lower in Fat," "Lower in Sugar," "Higher in Fiber*," and "*Healthy Food Choice*." Mass-media strategies included communicating via newspaper cartoons and radio announcements. Cooking demonstrations and taste tests were a final component of the AHS project in hopes to promote healthier cooking methods. The impact of the intervention was determined by examining: 1) reach (defined as the

proportion of the intended audience that participated), 2) dose (the amount of intended units of each intervention component provided to the target audience), and 3) fidelity (the extent to which the intervention was implemented as planned).

The study reported at the store level, the AHS intervention had a high level of reach, and a moderate to high level of fidelity was stated in terms of promoting food availability and shelf labeling along with posters and educational displays. On the mass-media level, the program implemented with a low to moderate degree of fidelity and dose, given that community locations did not post all of the posters from each phase. They did not have a cartoon for each phase, but a total of ten cartoons were published from the two reservations. On an individual or customer level, the AHS program was implemented with a high reach and dose. A total of 1,582 contacts were made with customers who participated in the 81 cooking demonstrations, with an average customer per demonstration being 21. The customers evaluated the cooking demonstrations and taste tests with a 4.41 on a scale of 1-5, where 5 indicated that they liked the food very much. On the same 1-5 scale, participants ranked a 4.32 that they would purchase the foods being tasted (Curran et al., 20005).

The Curran et al. (2005) project was important for learning useful lessons for future programs on other American Indian reservations in rural or urban settings. For instance, greater challenges were reported with smaller stores to stock specific healthier food items such as lower fat milk and fresh fruit than larger stores (Curran et al., 2005). This fact was important because in reservations, smaller stores were the only local means to acquire food stuffs. Reluctance of smaller stores to carry healthier foods continued the

cycle where Native Americans had to alter their diet due to what's available to them. Knowing the results of this program as well as previous studies is important because it aids in the shaping of new programs, including more programs incorporating Native American culture.

Programs Incorporating Native American Culture

In order for programs to be effective for the targeted audience, the programs must take into account the individuality of the specified culture. For Native Americans, this fact holds true. From conducting a focus group for a program to instructing a Native American on how to take medication, it is important for the practitioner or program personnel to know how to properly communicate. For example, age may play a role in how they like to be described. For the older adults or elderly, the preference is to be referred to as an American Indian, where the younger adults and youth prefer the term Native American (Broome et al., 2007).

When gathering information in a program or professional setting, it is important to know that while many Native Americans speak English, they use metaphors specific to them to describe a situation. It is necessary to realize Native Americans may describe their own health issues by discussing the health issues of their neighbors. Nonverbal communication important, for they may relay respect for a person by avoiding intense eye contact and keeping a decent physical distance between individuals. When speaking with a Native American, speak in a calm, clear, and direct manner because if the tone of the voice seems loud, it could be taken as aggression (Broome et al., 2007). As a

professional, it is important not to offend the specified group and to know about the cultural norms.

One cultural norm for Native Americans included a strong link between medicine and religion. Modern medicine often kept a narrow view of human health related to the physical laws of science. The difference between modern medicine and Native Americans was that they viewed spirit as the life force and heavily tied physical health with spiritual health. As a patient or participant, a Native American may perceive that the healer or leader's level of spirituality plays a role in the effectiveness of the treatment. American Indians believe in a synergy between Father Sky, Mother Earth, and all life by the Creator/Great Spirit/Great Mystery/ or Maker of All Things (Broome et al., 2007).

Spirituality does not just exist on a healing level, but was also considered with illnesses. Often, American Indians believed if an individual had a physical disability while they had a physical weakness; it was offset by blessing that person with a strong spirit or a keen mind. However, inherited diseases are thought to be caused by 1) negative spirits or sorcery or 2) unhealthy or immoral behaviors. If the inherited disease was supposed to give an important life lesson, then the treatment of the disease by western medicine might hinder the lesson (Broome et al., 2007). Therefore, when creating a program, these issues should be kept in mind.

Napoli (2002) described a program which took place in the Yavapai community at Fort Hills, Arizona from 1993 through 1996. The program was based on an integrated model to provide holistic health care for Native American women who tried to integrate some of the culture within the program. For Native American women, gathering together

and participating in activities was empowering for communication purposes and was a method to share stories and information. The program included women who were all grandparents, had diabetes, arthritis, and were recovering from alcoholism. The purpose of the program was to offer the women an opportunity to deal with emotional and physical pain as well as experience an intimate connection with each other.

The program facilitator met with the group each week at a community healing center that offered health, mental health, and preventative services. The holistic part of the program was from the variety of activities that the group participated in such as storytelling when the women gathered in a circle. Meals were included and the women shared healthy meals, preceded by a prayer, and then tips and recipes were discussed that were suggested for individuals with diabetes or cardiovascular diseases. The women took weekly yoga classes, and went on walks together in the community and through the desert. The exercise helped to benefit overall health and gave a sense of empowerment both by the exercise alone as well as feeling a connection to the land and their ancestors. Retreats and field trips to a sweat lodge helped with joint pain and stress reduction. Short hikes gave alternatives to a sedentary lifestyle. Education was provided through guest speakers on ways to improve health for the group (Napoli, 2002).

At the conclusion of the study, Napoli (2002) wanted to emphasize the importance to take the "journey" with a client to wherever it goes. The bonding and sharing which took place between the clients and practitioner allowed for growth and change to provide the most effective therapeutic tool, empathy. The integrated model was effective for working with the Native American women and the program allowed for

an understanding of Native traditions including storytelling, and ceremonies with an importance in the mind, body, and spirit. As quoted by Napoli, (2002) "it is not possible to separate individuals into parts; they are part of a whole and, from the perspective of a health professional, need to be treated as a whole person."

Improvements Necessary for Advancement of Nutrition and Health Related Programs

When creating a health or nutrition program for Native Americans, it is important to remember that rather than trying to fit the participant into your model of health, that you should discover how you can fit the program into the participants' model of health. This makes the creation of culturally competent care, healing practices, and program goals pertinent. The goals also must allow the traditional values for the American Indians are maintained. When caring or leading a program, the facilitator should aim to not only involve the client, but also the family and tribal community (Broome et al., 2007).

In the Native-American culture, high value is placed on the community and families. On the issue of diabetes, Charles Azure, a member of the Lummi Tribe in Washington State stated, "You can tell a Native person he would be healthier and happier if he managed his diabetes, but what will speak to him is if you say his family and community needs him to be healthy in order to help them" (Schwartz, 2006). The Native-Americans' cultural emphasis on family and community and their concerns should be incorporated into a research design.

In the past, the Native Americans' culture was forced to be left behind, and then over time some of the traditions were lost. However, a countermovement to revive the native language and culture in the last couple of years had been noticed by the creation of immersion programs and American Indian colleges. In some immersion programs, efforts are being made to save the language by having the teachers teach the language and history to keep that part of the Native American culture alive. It was said that the Native American people are tremendously resilient, and they have a strong adherence to spirituality that helped the strength-based culture. Ideals claimed to unite this population were values, extended families, respect for elders, caring about the cultural teaching, and the importance of sovereignty. A pulling of the cultural heritage into the present time by expressions of cultural heritage in new forms of art, dance, and music was noted. There are new forms of healing practices, ceremonies, and rituals. The new leaders of the Native Americans are taking the best of both worlds and blending them into a new uniquely American Indian world view (Maier, 2005).

The culture is forming a new dimension in addition to reviving some of the old culture. This should be taken into account in the development of nutrition education programming. If we are to best serve this population, knowing the culture as it is in that point in time is pertinent. While previous projects did the best they could to incorporate cultural perspectives into the program, they were limited. Some of these programs were missing a valuable key in helping to make the program successful.

One missing element for the AHS program reported by Curran et al. (2005) was an underlying lack of support from the reservation communities. They had problems

with radio stations, newspapers, and businesses not airing or printing the health related advertisements developed for the program. Problems occurred within the grocery stores when the store employees did not place some of the signs in visible places. However, once the workers knew more about the program and the goals, they were more apt to display the signs and put the healthy labels on the shelves (Curran et al., 2005).

This project as well as others determined there was a lack of participation and cooperation from community members in the development and the formation process of the projects. Engaging in learning about the culture is important, however, it may not be enough to form a program. The best approach is to provide the community members a voice in the development process that will give the community a sense of ownership.

Creating efficient and effective programs for this population is imperative. Especially when the programs are addressing issues such as obesity and corresponding health concerns. The reasons for obesity are multifaceted and many physical and psychological issues, environmental and lifestyle choices impacted obesity. Obesity became an epidemic issue for the United States and the risks of obesity related comorbitities were greater for Native Americans than the general population (Wilson et al., 2007). The current leading causes of death for Native Americans aged 55 and over include heart diseases, cancer, and diabetes, all of which are health complications aggravated by obesity (Denny et al., 2005). Native American children have not been spared from obesity and the health related risks either. The diet and lifestyle changes of the American Indian youth have put them at a great risk for secondary health

consequences such as CVD and Type 2 Diabetes much earlier in life (Zephier et al., 2006).

American Indians experienced major cultural changes including dietary intake, reductions in physical activity, and other lifestyle habits that led to obesity and other health conditions (Conti, 2008). Causes of their lifestyle changes were multifaceted and partially due to the history and events Native Americans faced. The events lead to alterations in the foods consumed and food acquisition methods (Maier, 2005). Currently, reservation isolation, economic disadvantages, and limited access to fresh produce and fresh lean meats aided in the development of a less healthful dietary pattern that lend a hand to the current obesity and related health condition problem the Native Americans currently face (Conti, 2008).

In order to slow or reverse the less healthful dietary patterns or lifestyle habits belonging to Native Americans that led and continued the current overweight/ obesity problem, programs needed to be developed to target the health concerns while allowing for the Native American communities to be involved. The purpose of this study was to document visual reflections of everyday occurrences significant to limited-resource Native American families living in the Chickasaw Nation boundaries. This will assist in the development of a culturally related social-marketing campaign pertaining to nutrition.

CHAPTER III

METHODOLOGY

Chickasaw Nation, Social-Marketing Project, Qualitative Research, Photovoice

Chickasaw Nation

Chickasaw Nation is the governing body over the Chickasaw Native Americans in a specified jurisdiction area. Chickasaw Nation this area or territory includes more than 7,648 square miles of south-central Oklahoma and includes parts or all of 13 Oklahoma counties. The 13 counties are listed in Table 2 and indicated with corresponding numbers in the map of Oklahoma State shown in Figure 1.

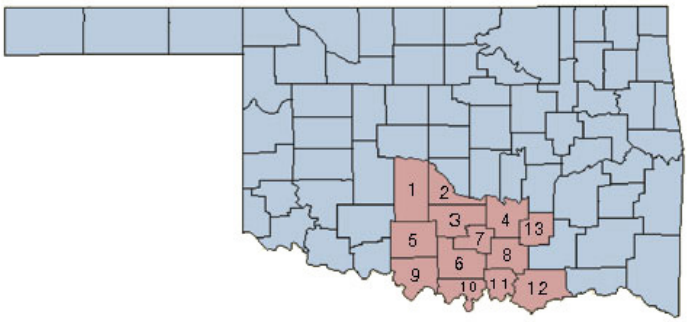

Figure 1 Map of Oklahoma State

Table 2 Chickasaw Nation Counties

Chickasaw Nation Counties	
1. Grady County	8. Johnston County
2. McClain County	9. Jefferson County
3. Garvin County	10. Love County
4. Pontotoc County	11. Marshall County
5. Stephens County	12. Bryan County
6. Carter County	13. Coal County
7. Murray County	

These 13 counties include all of Garvin, Murray, Carter, Love and Marshall with portions of Grady, McClain, Pontotoc, Johnston, Bryan, Coal, Stephens, and Jefferson counties. The Chickasaw Nation Headquarters is in the town of Ada and has regional offices in the towns of Ardmore, Purcell, and Tishomingo with satellite offices in the towns of Sulphur and Duncan.

According to the 2000 census data, the area under Chickasaw Nation jurisdiction has an overall Native American population of 27,790 and a non-Native American population of 291,156. Chickasaw Nation is not a reservation site with defined boundaries, and neither Chickasaws nor Native Americans as a whole, represent the majority population. Chickasaw Nation tribal members account for approximately 9% of the total population in the Chickasaw Nation service area. Thirty-five thousand Chickasaw Indians are registered Chickasaws with the majority of the population residing within Chickasaw Nation's 13 county areas. The Chickasaw Nation tribal members include a large group of non-residential tribal members, who remain very active in tribal affairs (Nichols, Litchfield, Holappa, & Stelle, 2004).

Poverty and related issues affect a large portion of the Chickasaw Nation service area population. In some Oklahoma counties, the 2000 census data found the poverty rate as low as 11% and as high as 43.1% for families with children (Nichols et al., 2004). Due to the issues with poverty, health issues, and lack of healthy eating and exercising, the Get Fresh! Program was developed.

Get Fresh! Nutrition Program

The Get Fresh! Program was funded by Food and Nutrition Services (FNS), and a part of the United States Department of Agriculture (USDA). State funding for Nutrition Education programs for Supplemental Nutrition Assistance Program (SNAP) (formally known as the Food Stamp Program) were provided through Oklahoma Department of Human Services. The Get Fresh! Nutrition Program is part of the Nutrition Services in the Chickasaw Department of Health Services provides supervision over several nutrition programs such as the Food Distribution Program (FDPIR); Special Supplemental Nutrition Program for Women, Infants and Children (WIC); WIC Farmer's Market Program (FMNP) and Senior Farmers' Market (SFMNP) Programs; Summer Food Service Program (SFSP); and a Breastfeeding Peer Counselor Program.

The Get Fresh! Program participants are SNAP recipients or people eligible to receive SNAP, commodity food recipients, Head Start families, WIC participants, Food Bank participants, and children who attend schools where at least 50% of children receive free and reduced-price meals. The Get Fresh! Program delivers their programs based on specified educational messages, from the 2005 Dietary Guidelines and MyPyramid. The

Get Fresh! Program key educational messages are: 1) eat fruits and vegetables, whole grains, and nonfat or low-fat milk or milk products everyday, 2) be physically active every day as a part of a healthy lifestyle, 3) balance calorie intake from foods and beverages with calories expended, 4) utilize safe food handling, preparations and storage practices, 5) use thrifty shopping and preparation techniques, 6) promote breastfeeding, and 7) refresh with water.

There are several different educational methods that are used to deliver nutrition education to the targeted audience. Some of the methods are through the use of web-based programs, recipes, recipe books, calendars with nutrition tips, children's theatrical plays, and through cooking shows. The cooking shows are primarily held in 3 towns: Ada, Purcell, and Ardmore. This is also where the Nutrition Services offices are located.

The program focuses its efforts on helping the participants maximize fresh produce consumption as well as to improve the likelihood that persons eligible for SNAP will make healthy food choices and choose active lifestyles consistent with the current Dietary Guidelines for Americans (2005).

Social-Marketing Project

Chickasaw Nation desired to have more health and nutrition information targeted toward the Chickasaw Indians living within the Chickasaw Nation jurisdiction area. Currently, there is not a wealth of research done with Native Americans in regards to health and nutrition, and there is even less research on Native Americans who do not live on reservations. The overall goal of the Social Marketing Project was to gather

information from the view of the people to provide valuable information for the development of a nutrition education campaign, with the intent of improving the life of the Chickasaw Indians. The short term objectives were: 1) learn specific views of individuals to create a nutrition program to fit the individuals based on aspects including income and indigenous views, and 2) achieve the long term goal by creating improvements in the Native American food choices and behaviors to improve health and decrease rates of obesity and related comorbidities. Chickasaw Nation formed a partnership with Oklahoma State University Nutritional Science Department in hopes of achieving the above goal and objectives.

The three-year project has three distinct parts. The first year included the development of the focus group script, identifying participants, training for focus group moderators, recruitment of participants, and the initiation of focus groups. The participants were recruited from a list of individuals who received food commodities as well as a list from the state Department of Health Services of SNAP participants who lived in the Chickasaw Nation jurisdiction. The second year began with the continuation of focus groups to identify the participants' views of nutrition related topics. Dietary quality, fruit and vegetable intake, and general health were topics discussed. Focus groups were conducted to identify the population's view of product, promotion, price and place aspects of the Supplemental Nutrition Assistance Program goals. Focus groups were analyzed by coding group transcriptions finding common themes using thematic analysis procedures. After a few focus groups were completed and preliminary data was gathered, a survey was developed based on preliminary data. The survey included

questions pertaining to demographics, dietary intake, and lifestyle behaviors. The survey aimed to gather information pertaining to the prevalence of topics mentioned from the focus groups. The surveys were then mailed to the participants. After survey and focus groups were completed, photovoice was initiated. The third year of the project was the implementation and completion of photovoice. Key themes and messages throughout the three years were identified based on what was learned through all of the projects. After the last year of the project, Chickasaw Nation will develop nutrition related programs to better serve the Chickasaw Indians.

Qualitative Research

Qualitative research was defined by Denzin and Lincoln (1994) as a:

> Multimethod in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts – that describe routine and problematic moments and meaning in individuals' lives. (p.2)

Qualitative research is also believed to be "an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting" (Creswell, 1998).

A qualitative study often starts with a research question of *how* or *what* so the study may find a way to describe what is going on. The chosen topic or research question

needs to be explored. In this study, a description of what was going on in limited-income Chickasaw Native Americans' lives that affect food choice and nutrition related topics was sought. Variables in a qualitative study are not always easily identified and sometimes theories are not already available to explain behavior of participants or their population of the study; therefore, theories need to be developed to explain the behavior using the information gathered in the research study. Audiences get an opportunity to be more receptive to qualitative research and the approach will emphasize the researcher's role as an active learner and tell the story from the participant's view instead of an "expert's" view who gathers or passes their own judgment on the participants (Creswell, 1998). Methods of data collection are traditionally based on open-ended observations, interviews, and documents, however, now they include a vast array of materials, including: sounds, emails, scrapbooks, text or word data, image or picture data, and other emerging forms (Creswell, 2003).

For this study we used the phenomenology approach. Phenomenology is the study of phenomena and how they appear from a first-person perspective. It is the attempt to reflect on pre-reflexive experience to determine certain properties of or structures in consciousness. Phenomenology serves as a rationale behind efforts to understand a phenomenon or individuals by entering into their area of perception to see life as the individuals see it (Creswell, 2003).

History of Photovoice

Freire (2000), a Brazilian educator proposed an approach to learning that engaged the learner and the teacher as co-creators of knowledge. This form of qualitative research would allow for an approach intended to shift the power of dynamics of education from a dialectical approach as a simple transfer of knowledge to an egalitarian approach that created knowledge through communal introspection.

Freire (2000) used processes to move individuals from one level of consciousness to a higher level. Freire (2000) utilized emotionally charged themes from a community to be translated into drawings. The drawings were used to stimulate introspection and discussion from the group. His goal was to engage people to participate in their own learning with a combination of action and reflection that he called praxis. From Freire's processes and theories, Wang and Burris (1994) created an educational approach to design a participatory health promotion intervention called photovoice. The intervention was first used with rural Chinese village women and was supposed to function as a participatory process in a large-scale needs assessment (Carlson, 2006).

Wang and Burris (1994) used photographs and stories similarly to Freire's drawings to identify significant community issues, to critically reflect on the contributing factors, and to identify possible solutions. The photovoice project created by Wang and Burris (1994) had four main goals: 1) to engage people in active listening and dialogue, 2) to create a safe environment for introspection and critical reflection, 3) to move people toward action, and 4) to inform the broader, more powerful society to help facilitate community change (Carlson, 2006).

Photovoice is a participatory-action research methodology based on the understanding that people are experts on their own lives. Wang and Burris (1994) first tried photovoice among the village women in Yunnan Province, China. They used photovoice methodology to allow participants' photographs to raise the questions of, "Why does this situation exist? Do we want to change it, and, if so, how?" Through the documentation of their own words, and then critically discussing the images produced with policymakers, the community's people can initiate grassroots social change (Wang & Burris, 1994).

In practice, photovoice provided people with cameras so they can record and represent their everyday realities. It used pictures to promote critical group discussions about personal and community issues and assets. In the end, it was designed to reach and touch policy makers. By having people in the community take photographs and describe the meaning of the images to policy makers and community leaders, photovoice embraced the basic principles that images carry a message, pictures can influence policy, and citizens ought to participate in creating and defining the images that make healthful public policy (Wang & Burris, 1994). Photovoice utilized a community-based approach to photography and health promotion principles, based by adopting Freire's approach to education for critical consciousness

Photovoice Project

The photovoice project was part of a three-year project. Previously, focus groups and surveys were conducted by Oklahoma State University in three towns in Oklahoma: Ada, Purcell, and Ardmore. The objective of the focus groups, surveys, and photovoice project is to identify health and nutrition perspectives of Native Americans eligible to participate in Chickasaw Nation SNAP. This information will be used in the development of a social-marketing program for the Get Fresh! Program. The purpose of all three methodologies was to determine limited-resource families' perspective on obesity and physical activity. Figure 2 is an overview of the photovoice project.

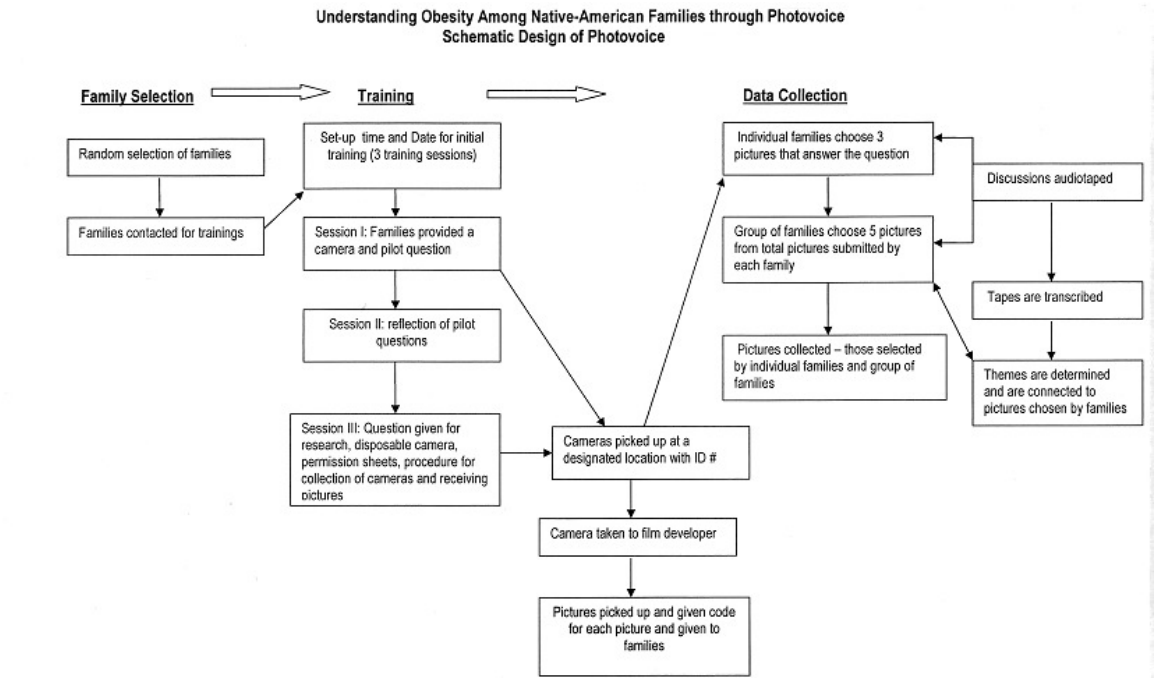

Figure 2 Schematic Design of Photovoice

Selection of Families

The target population was families with children from 1 up to 18 years of age, receiving commodity food in the towns of Purcell, Ada and Ardmore. In order to randomize the selection of participants, a die was rolled. The random number generated from the die was used to select participants. This was completed taking the Chickasaw Nation SNAP participant list and selecting every n^{th} participant to contact. Individuals from Oklahoma State University called the selected participants. A written script was provided to ensure consistent information was given in the phone calls (Appendix A). The script included a description of the process, what the information was used for, and inquired if the individual would like to participate in the project. The goal was to obtain 4 to 6 families per town to participate in the project (total of 12 to 18 families). In qualitative research projects, the depth of information gathered is important. This project felt that 4 to 6 families per town or a total of 12 to 18 families would provide enough reoccurring data to conduct thematic analysis.

There were no identifiable risks or discomforts associated with this project and the families had the right to leave the project at any time. The participants were allowed to ask questions about the project before agreeing to participate and all throughout the entire photovoice process. Contact numbers for community programmers were given to the participants. A convenient time and place was determined by the families for discussion of pictures. Each family received $50.00 per session with a total of 5 sessions conducted. If needed, childcare was provided for the families.

Photovoice Training

Families chosen to complete the photovoice project were required to attend training sessions. These trainings achieved two purposes: 1) assist families in taking pictures that were true testimonies of questions asked, and 2) to review procedures that were to be conducted in order for images to be used in an ethical manner and guarantee the safety of the families. There were two days of training with an intermediate period for participants to take pictures and for development of pictures. Each Participant was given a training notebook and one camera at the initial meeting.

The first day of training, the following was discussed: 1) why the families were chosen, 2) a project introduction, 3) how to use a disposable camera, 4) explanation of photo release forms (Appendix B), 5) adult and youth consent forms provided (Appendix C), 6) dates set for when cameras were due in the mail from participants, and 7) the practice question was given to the families to answer. In the second day of training, the following was completed: 1) families participated in photovoice group discussion and picture selection, 2) the first item was given to the families, 3) dates were decided for the cameras to be mailed in for the next session, 4) final review of forms, and 5) contact information was provided to the families.

Collecting Data

Photovoice Questions or Items

There were four questions or items that the families were asked to answer. One practice question was included to get the families acquainted with the cameras and the process of photovoice, in addition to three remaining items. Item two was broken into two parts. The families were asked to respond to the following questions or items.

Practice Question:

"When planning meals, what five foods do you feel you must have on hand?"

Item One:

"These are the ways my family and I use food."

Item Two:

"This is how my family has fun."

"This is where my family and I get information that is important to us."

Item Three:

"This is what I want most for my children/grandchildren in the future."

The question or items asked of the participants was a tool in this study. Making sure each facilitator presented the question or item precisely and consistently to each group was important to ensure the reliability of the measurements.

Camera Drop-Off and Development Process

After the first meeting, each participant was assigned a code number. The code was specific to both the individual and to the group. The group codes were: 1) Ada round one signified by codes in 100's, 2) Ardmore round one signified by codes in 200's, 3) Purcell signified by codes in 300's, 4) Ardmore round two signified by codes in 400's, and 5) Ada round two signified by codes in 500's. The participants had a unique code that fell into the group's code range (example: Purcell participant three, code: 303).

After the participants answered the practice question, each participant was given three cameras labeled with their individual code number. Participants were given self-addressed stamped envelopes for each camera. A Mississippi State University project member called the participants to remind them of camera due dates. The project member also inquired if the participants had any questions or problems with the process between photovoice sessions.

Each family was instructed to take pictures of items, places, people, and events to best describe their answer to the question or items provided. The families were urged to take a minimum of five photos to relay five different answers to each question or item given to them.

When the participant finished with the camera answering the assigned question, they were instructed to place it in an envelope and mail it to Oklahoma State University. Oklahoma State University project members developed the photos with two copies of the prints, one for research purposes, and the other to be given to the participants. Table 3 shows an example of a standard month cycle of how the photovoice process progresses.

A data management sheet was created to help keep a system of data collection consistent (Appendix D).

Table 3 Photovoice Due Date Progression

Example of a One Month Rotation of Events				
Monday	Tuesday	Wednesday	Thursday	Friday
	Reminder call-Session	Photovoice session		
	Reminder call-Camera	Cameras due in the mail		OSU * develop photos
	Reminder call-session	Photovoice session		
	Reminder call-Camera	Cameras due in the mail		OSU * develop photos

* OSU = Oklahoma State University

Group Discussion

Participants brought the five pictures that were most important with them along with their photo reflection sheet (Appendix D). In the group, each family discussed why they chose that photos to answer the question or item. Once each family explained the reasoning behind their photos, all of the families were asked to put every family's photos on the table. From all of the pictures, the group was asked to choose five pictures from all the photos on the table to best represent the group's response to the question or item. Once the photos were selected, families provided how and why those pictures were chosen. To understand the meaning behind the pictures, probes were used throughout the session. Probes were further questions the facilitator asked the participants during the discussion to get the deeper information. The probes and other information helped explain what the family wanted researchers to receive from the image.

Thematic Analysis

A thematic analysis process was conducted on the data collected. The full process of thematic analysis can be split into three stages: a) the reduction or breakdown of the data, b) the exploration of the data, and c) the integration of the exploration.

Reduction of the Data

The first step in the thematic analysis is to code the material to reduce the data. This may be done by devising a coding framework; the coding framework may be based, for example on pre-established criteria. In this study, we had primary and secondary codes. The primary codes in this study were established by the participant groups. The primary codes were the most important photos or responses that each group stated for the questions or items given to them. For example, if five groups completed the process, there would be approximately 125 responses noted as primary code responses (five groups, five questions or items, with a possibility of five responses per group and per question).

To condense the data, secondary codes were developed. This process included tallying the most important photo responses noted from the individual groups. For each question or item, the five most frequently reported responses for each question would be noted. To continue with the example, the noted secondary code responses would decrease from 125 primary code responses to 25 secondary code responses (five most

frequent responses for five questions or items). The highest possible response frequency would equal the total number of groups that participated in the project.

Exploration of the Data

All photovoice sessions were digitally recorded. Oklahoma State University and Mississippi State University project members transcribed the digital recordings verbatim for accuracy. The transcriptions were used to provide explanations for the pictures. These transcripts were utilized to explore the data collected further.

The next step was to dissect the text using the coding framework into meaningful and manageable segments such as passages or quotes (Attride-Stirling, 2001). Once the 25 secondary codes were established, every quote from the transcriptions pertaining to all 25 secondary codes was copied from the transcripts into a separate document. The copied quotes provided the background story from individual participants pertaining to each question or item and gave participants the chance to explain why their response was important to them and their families.

All of the quotes copied from the secondary codes should be reviewed and the salient, common or significant themes in the secondary quotes should be extracted. This procedure allows the researcher to reframe the reading of the text, and enables the identification of underlying patterns and structures. The themes may then be refined by checking for themes that are 1) specific enough to be discrete (non-repetitive) and 2) broad enough to encapsulate a set of ideas contained in numerous text segments. The point here was to re-present the text passages succinctly (Attride-Stirling, 2001).

In the project, the reoccurring topics among most groups and throughout quotes for the question or item responses would be identified. These topics went onto the next level of the thematic analysis procedure.

Integration of the Exploration

The transcribed quotes and picture response frequency data were combined to discover and develop key themes. Noted topics from the secondary code quotes that transcended among groups and in several questions or discussion sessions were regarded as themes and entered the theme development process. The themes developed should be supported. To support the themes, transcriptions were revisited.

Every transcript was reviewed and any quotes pertaining to the theme were copied into a document. The gathered thematic quotes were read, explored, and descriptions of the themes were created using the words, ideas, or issues based from the transcriptions and gave further detail describing how the theme topic played a role in the individual and family's life. The themes developed along with the primary and secondary code information were given to Chickasaw Nation and guided them in their development of the Social Marketing Campaign. Figure 3 provides a schematic picture of the photovoice theme development process.

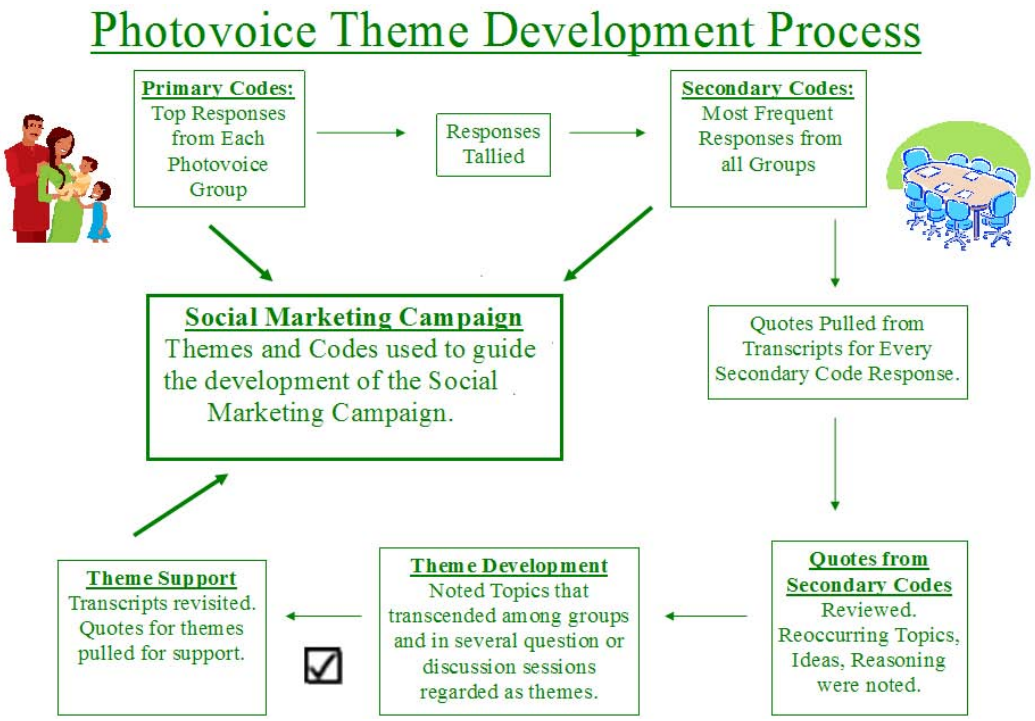

Figure 3 Photo Theme Development Process

CHAPTER IV

RESULTS

Data Analysis

There were a total of 15 participants with 12 participants completed the process. The participants were part of five photovoice groups. These individuals were asked to answer the following question or items:

Practice Question:

"When planning meals, what five foods do you feel you must have on hand?"

Item One:

"These are the ways my family and I use food."

Item Two:

"This is how my family has fun."

"This is where my family and I get information that is important to us."

Item Three:

"This is what I want most for my children/grandchildren in the future."

Participants individually captured five photos for each question or item. Each group of participants (5 groups total) discussed the top 5 pictures that best represented their response to the question. Those responses were compiled, and the 5 most frequent

responses from those groups were presented. Conversations from the meetings were transcribed and the data from the tallies and transcriptions were used to discover and define themes. The photos provided were one of the group's 5 most important pictures and the quotes were extracted from transcriptions to provide the meaning of the photo. The participants included 11 females (91.6%) and 1 male (8.3%). All participants in the study were selected from the Commodity Supplemental Food Program (CSFP) participation list which indicated that they were at or below 185% of the poverty level as a family or at or below 130% of the poverty level if over 60 years of age (USDA FNS, 2008) signifying that they were all of a low income or low economic status. The ages and gender of all participants who completed the process are presented in Table 4. The average age for the remaining participants was 42.9 years of age.

Table 4 Photovoice Participant Age and Gender

Photovoice Participant Age and Gender												
Age*	72	27	57	52	48	56	48	27	23	**	33	29
Gender	F	F	F	F	F	M	F	F	F	F	F	F

F= Female, M= Male, n=12
*Age Noted In Years
** Age Not Provided By Participant

Participants' Responses to the Questions or Items

Overall Participant Responses

Table 5 lists each group's 5 most important photos chosen. From these group responses, the top 5 most frequent answers were compiled and are presented in Table 6.

Table 5 Individual Group Most Important Five Photo Selections for Each Question or Item

Individual Group Most Important Five Photo Picks for Each Question					
	Practice Question	Item 1	Item 2 Part 1	Item 2 Part 2	Item 3
Ada	Salad Meat Loaf Potatoes Stew Pizza	Natural remedies Time with family Eat to live, not live to eat Keep healthy Celebrations	With Kids: sports Playing outside Fishing Road trips Cultural events Elder fun: puzzles Games With pets Site seeing Doing nothing	TV Bible Internet Newspaper Library	Freedom of religion Education Family & friends Job Luxuries of life
Ardmore	Meat Onion (veggies) Potato Fruit Bread	Food with health Comfort with emotions Strength/ exercise Family fun To rest	Game night Bike rides Walking together Playstation games Swing set	Bible Dictionary Telephone book	Education Church Health care Home Financial health
Purcell	Bread Hamburger Potatoes Eggs Vegetables	Not available	Cd/music/radio Tv Movies (theatre) Concerts Games	Bible TV Computer Newspaper Magazine	Salvation Health Joy Home Prosperity
Ardmore #2	Chicken Salad/corn Cheese/ dairy Grain Potatoes	Good health Energy Enjoyment and taste Brings people together Convenience/bribe	Playing with pets Playing outside Swings Lake and water fun Family gatherings	Parents Internet TV Bible Newspaper	Religion Support system Education Happiness Honor & respect
Ada #2	Meat Potatoes Vegetables Dairy seasonings	Medicinal Projects For photos Pesticides Waste	Movies Swimming Activities Reading Fishing/outdoor play	TV Newspaper Mom/ family Internet Phone book	Love Happiness Education Peace Generations/ family

NOTE: **Practice Question** was "when planning meals, what five foods do you feel you must have on hand?"
Item One was "these are the ways my family and I use food."
Item Two included part 1, "this is how my family has fun," and part two, "this is where my family and I get information that is important to us."
Item Three was "this is what I want most for my children/grandchildren in the future."

Table 6 Overall Most Frequent Group Responses for Questions or Items

Overall Most Frequent Group Responses for Questions or Items	
Frequency of Response	Responses Given
Practice Question	
5	Potatoes
5	Vegetables (A variety)
5	Meat (Chicken, Hamburger)
3	Grains / Bread
2	Dairy / Cheese
Item One	
3	Health
2	Time with Family
2	Strength / Exercise / Energy
2	Brings People Together / Celebrations
2	Natural Remedies
Item Two (Part One for Family Fun)	
5	Games
5	Outside Games / Sports / Activities
3	TV / Movies
2	Road Trips / Site Seeing
2	Time with Pets
Item Two (Part Two for Information)	
4	Bible
4	Newspaper
4	TV
4	Computer / Internet
2	Parent / Family
Item Three	
4	Religion / Salvation / Church
3	Home / Car
3	Education
3	Family / Friends / Support System
3	Joy / Happiness

NOTE: **Practice Question** was "when planning meals, what five foods do you feel you must have on hand?"
Item One was "these are the ways my family and I use food."
Item Two included part 1, "this is how my family has fun," and part two, "this is where my family and I get information that is important to us."
Item Three was "this is what I want most for my children/grandchildren in the future."

In Table 6, the five most frequent group responses are presented. There were five total groups with the highest response frequency for an item being 5. While compiling

the frequencies, each group's answers were given a tally value of 1 no matter how many participants were in the group.

Practice Question Responses

The first question the participants were asked to respond to with a camera was, "When planning meals, what five foods do you feel you must have on hand?" This question allowed the families to become accustomed to using the cameras through taking pictures of still items and becoming familiar with the process of photovoice. This question provided an insight to what foods these individuals commonly eat and an idea of their current diets.

The five most frequent responses reported were: potatoes, vegetables, meat, grains, and cheese/dairy.

Potatoes

For many participants, a large appeal for potatoes was the versatility in meals that it provided. Figure 4 is a photo taken by a participant in response to the item or question.

Figure 4 Potatoes

Photo Courtesy of Participant 204

> "The potatoes are a staple. You know, you can eat it [potatoes] baked, fried, or mashed, a lot of different ways."
> Purcell Participant

> "Potatoes? We love potatoes. We like potatoes, we like them anyway you can fix them."
> Purcell Participant

> "You can do quick potatoes, mashed potatoes, any kind of mashed potatoes, doesn't even have to be real potatoes, you got your au gratin... There's so many varieties, you don't have to have the same kind [of potatoes] every day."
> Ardmore Round Two Participant

Vegetables

Many families felt that vegetables are healthy, part of a balanced diet, and provided needed vitamins and nutrients for their families. Figure 5 is a photo taken by a participant in response to the item or question.

Figure 5 Vegetables

Photo Courtesy of Participant 105

> "[Vegetables] all have good vitamins in them. Those are the two main things; the vitamins in carrots, broccoli, and tomatoes are good for you. They're healthy."
> Purcell Participant

> "I try to make a balanced meal. And, well, I do have like either corn, green beans or carrots, something easy to eat, plus I'll do a little bit of salad because sometimes he'll eat it [referring to her son], sometimes he won't, sometimes he'll throw it at me. And if he sees me eating, he'll come over and want to have a bite."
> Ardmore Round Two Participant

Meat

Many families considered meat as a main source of protein that they felt should be consumed with meals. Ground beef was the form of meat that was frequently mentioned due to its versatility and price. Figure 5 is a photo taken by a participant in response to the item or question.

Figure 6 Meat

Photo Courtesy of Participant 204

> "Then the meat is beef which, you know it provides the protein. I am a meat person, my wife doesn't certainly have to have it, but I like meat with about every meal. And so beef seems like it goes with a lot of things. You can do hamburger, can be used in many ways, you can make hamburgers patties, you can make hamburger helper. You know beef stew; you can make soups and kinda stuff like that."
> Purcell Participant

> "My photo was meat and this picture is the most important because that is what I use most when I am cooking dinner and beef is the most wide spread product we use and next my neighbor frequently cooks out with beef as well."
> Ada Round Two Participant

Grains

Grains, especially bread, were considered important to families for both health reasons and as part of their normal diet. For some participants, whole wheat grains were preferred over more processed grains. Figure 7 is a photo taken by a participant in response to the practice question.

Figure 7 Grains

Photo Courtesy of Participant 204

> "Then of course bread is something,that I like with about every meal. And of course she can use it for so many different things like sandwiches and toast, just a lot of different things… We switched several years ago from white bread to wheat bread for health reasons and it has done a lot of good for us. When we have had tests we've been told that our cholesterol has went down. Well we, we eat wheat bread because whole wheat is good for us."
> Purcell Participant

> "We have pasta. Almost everything I have has some kind of pasta in it, and for what ever reason we don't have pasta, there's some kind of bread with it. And its wheat bread. Whole wheat bread, whole wheat pasta, I mean all my cooking is whole wheat."
> Ardmore Round Two Participant

Cheese/Dairy

In households with children, parents recognized the importance of milk and dairy products for strong teeth and bones for their children. Some parents mentioned struggles balancing their children's consumption of dairy products with normal food intake. Parents of younger children reported their children drinking milk throughout the day and refusing meals prepared. Figure 8 is a photo taken by a participant in response to the practice question.

Figure 8 Cheese/ Dairy

Photo Courtesy of Participant 503

> "Milk, to keep my family strong which we need extra vitamins in my family so a lot of milk is important and we all need vitamin D."
> Ada Round Two Participant

> "[Dairy is important] for your bones and for your teeth. [Speaking of her daughter] Sometimes I think she likes cheese better than milk, because she'll eat the cheese, but if I give her milk, she won't eat anything else, and then she's yelling an hour later that she's hungry."
> Ardmore Round Two Participant

Item One

The participants were asked to respond to Item 1, "These are the ways my family and I use food." The replies to this question would provide information on how the families think of food, what purpose food holds in their life, and how they utilize food. This item was important to see how food was related to health in the mind of the population.

The most frequent participant responses for this item were: 1) health, 2) time with family, 3) strength/exercise/energy, 4) to bring people together/ for celebrations, and 5) as natural remedies.

Health

Many participants recognized the correlation between eating certain foods and health or nutrition related diseases. Some of them felt that food was important in controlling diabetes and preventing or decreasing the dependence of prescribed medications. They iterated that eating was an essential component of life and eating healthfully could improve their life. Figure 9 is a photo taken by a participant in response to Item 1.

Figure 9 Health

Photo Courtesy of Participant 105

"Eat healthy food so I can work and earn money; have money in the bank and be able to buy food at the market that will help me stay healthy and out of the hospital; so I can enjoy spending time with my son."
Ada Round One Participant

"Mainly every time we eat, we are thinking about nutrition. That is our main focus."
Purcell Participant

"I did my diabetes machine because I felt that you know, food (is) involved with your health, and then I am a diabetic and I have to watch what I eat."
Ardmore Participant

"Eating healthy… trying to keep our bodies healthy so we don't need all those pills."
Ada Participant

"Food means living; you have to eat to live, not to live to eat."
Ada Participant

"What I think it is to be healthy? To be at the right weight. To eat the right things. Well because I am as large as I am, it puts me at higher risk for diabetes, and cancer that runs in my family, and which would if I got AIDS (HIV) or one of those it would affects the kids really bad. And if it killed me, it would really affect them."
Ardmore Round Two Participant

Time with Family

Meal time played an important role in bringing families together. Some families utilized this time designated specifically for spending time together as a family talking and being engaged in each other's lives. Figure 10 is a photo taken by a participant in response to Item 1.

Figure 10 Time with Family

Photo Courtesy of Participant 103

> "Most of the time our family eats together at the table. I want to share this photo because it shows that we use food as an activity to bring our family together. Eating is an activity that we all enjoy."
> Ada Round One Participant

> "Usually we are all really busy and we all have different stuff we need to get done so this [being eating dinner at the table] is the only time we really get time to talk to the kids about school and stuff and talk to him about work."
> Ada Round One Participant

Strength, Exercise, Energy

The participants described that food gave their families the energy and strength to go on with everyday tasks, like work, as well as the energy to exercise or for their children to play. Figure 11 is a photo taken by a participant in response to Item 1.

Figure 11 Strength, Exercise, Energy

Photo Courtesy of Participant 302

> "One of my oldest [children] on a bicycle… I said that right there would be for exercise, you know having to eat, [and] eating to have the strength to get up and exercise."
> Ardmore Participant

> "And then, oh I got him playing outside on his swing set… food gives him energy… [Food] helps you to stay active and to keep going and going… I know if I'm hungry at work I can't think… [If I don't have food I'm] tired, uh don't want to do nothing."
> Ardmore Round Two Participant

Brings People Together/ Celebrations

Food can become symbols or part of traditions for many celebrations or holidays. The participants felt food was important for holidays and other events. Food was reported to be an important component of bringing people together for picnics, barbecues, or other social events. Figure 12 is a photo taken by a participant in response to Item 1.

Figure 12 Brings People Together/ Celebrations

Photo Courtesy of Participant 101

> "[Food brings people together] for holidays, [in particular] Thanksgiving and Christmas and Powwows, Church, Mother's Day, Father's Day, and birthdays."
> Ardmore Round Two Participants

> "Food for our family seems to be… revolving a social activity. In other words we are not by ourselves, well we eat out alone sometimes, but we like to eat with other people and we like to have people involved and that's kinda a major part of the family. When we have an activity is to have food."
> Purcell Participant

> "We decided on the Barb B Q grill, for the way we use food for family fun, for like picnics and outings."
> Ardmore Participant

Natural Remedies

Participants felt food played a role in their lives by not only being eaten, but also for common remedies for a variety of uses. They perceived using food items for sicknesses, pesticides, beauty treatments, and household cleaners. Some participants had a lot of opinions on how foods could be used as everyday natural remedies or used for medicinal purposes. Figure 13 is a photo taken by a participant in response to Item 1.

Figure 13 Natural Remedies

Photo Courtesy of Participant 107

> "Butter cause when you get a burn it is something you can use for a burn and peanut butter for when kids get gum stuck in their hair you can use peanut butter to get it out and black pepper and chili powder to keep ants away and you can use pepper for a face mask... Honey for sore throats. Salt, for when the weather is bad and slippery it dissolves the ice. [Baking soda] to clean your teeth… Vinegar you put it in water and you give yourself maybe two teaspoons and vinegar is like um, how can I say it, maybe cleanse you and it don't taste good I know that cause my kids have to drink it and but it's like real important cause back then, they wouldn't drink a cup or two teaspoons everyday, but it is good for your immune system too and fight infections too and of course you can use it in cooking and everything. Vinegar is my main thing with that was with my kids and I gave it to them when they were sick."
> Ada Round Two Participant

Item Two

Item 2 was divided into two segments. These questions were, "This is how my family has fun," and "This is where my family and I get information that is important to us." The most frequent participant responses for family fun were 1) games, 2) outside games/activities or sports, 3) TV/movies, 4) road trips/ site seeing, and 5) time with pets.

The second part of Item 2 was, "This is where my family and I get information that is important to us." The most frequent participant responses for information sources were 1) bible, 2) newspaper, 3) television, 4) the computer/ internet, and 5) parent or family members.

Games

Participants used indoor games or activities as a way to spend family time together and as a means of entertainment. Some of the activities mentioned included: cards, dominoes, puzzles, video games, checkers, board games, arts and crafts, and reading. Figure 14 is a photo taken by a participant in response to Item 2.

Figure 14 Games

Photo Courtesy of Participant 204

> "Dominoes and cards that was what we do for what entertainment."
> Purcell Participant

> "Wednesday, Thursday and Saturday nights and we sit down and play games… the oldest one, he enjoys playing checkers and dominoes."
> Ardmore Participant

> "We usually have two puzzles going at all times and we usually see who can get theirs together quicker… that's how we do everyday."
> Ada Participant

> "We do arts and crafts, especially when he is really hyper at night to slow him down, I sit with him to settle him down."
> Ardmore Round Two Participant

Outside Games/Activities or Sports

Participants mentioned their families enjoyed spending time together doing outside activities. The activities mentioned included fishing, camping, swimming, hunting, cook-outs, sports, and other events where children often were major participants. Adults had either joined in with the activities or they found themselves as spectators of

their children's play time. Figure 15 is a photo taken by a participant in response to Item 2.

Figure 15 Outside Activities

Photo Courtesy of Participant 105

> "We usually go camping and go to the lake and have cook outs… We usually have weenie roasts, we will build a little campfire for the oldest boy. [We] take hiking trails with the youngest one and go swimming."
> Ardmore Participant

> "Eric and I like outdoors, we spend as much time as we can outdoors… We fish a lot and you can catch all kind of fish and it is something I can still do. We like to go hunting Eric and I are avid hunters. We like rodeos and bullfights… we spend most of our time outside."
> Ada Participant

> "I would rather my son go outside and ride his bike instead of sit and play video games, he does that a lot, right now it is jump and ramp. That is his thing. Get the dirt in big balls and [jump his bike to] get some air. I would rather him do that and it is better than sitting there."
> Ardmore Round Two Participant

> "My number one is fishing, my family likes to fish, we have our extended family staying with us now and we took all the kids fishing last weekend. The real story is we don't go fishing real often but when we do we have a lot of fun and everything we do we do as a family."
> Ardmore Round Two Participant

Television Programs and Movies

Families reported that both parents and children enjoyed watching television shows or movies. Some participants mentioned viewing children programs, movies, or cartoons with their children. Some child-centered programs were mentioned to help the children learn through interactive DVDs. Participants mentioned that television and movies viewings were a common family past time and was inclusive of the entire family. Figure 16 is a photo taken by a participant in response to Item 2.

Figure 16 Movies

Photo Courtesy of Participant 505

> "[My grandchildren] they gotta watch their DVD movies, and we all like to do that… I guess watching movies together; it is something we all like. And then, it shows in the picture that they are having fun watching the movie and they seem like they are better kids because they sit still and they are quite when I put in a movie that they like."
> Ardmore Round Two Participant

> "Yeah, we are always watching cartoons. Those are the only movies we buy; the ones for Dylan. We rent the older movies and he is too young and he'll watch them once and want to watch them over and over again."
> Ardmore Round Two Participant

Road Trips/ Sight Seeing

Some participants considered travel in a car to visit or view locations and places to be one of their family's fun past times. Figure 17 is a photo taken by a participant in response to Item 2.

Figure 17 Road Trips/ Sight Seeing

Photo Courtesy of Participant 107

> "This is my car, and we just get out and go places, road trips."
> Ada Participant
>
> **"**We went all over the city, the state fair, the Oklahoma railroad."
> Ada Participant
>
> "Well before I got divorced my husband and I used to ride on a goal-length and ride all over the countryside, and that to me was very enjoyable and fun."
> Ada Participant
>
> "The first time I drove through there with my grandkids, this is when my grandkids were little and I was driving. We drove through there and we was looking over here, everybody was looking over here, and then we when turned back, there was this giraffe with his head stuck in the window. We used to all the time. Every time they added something, we'd go down and see it."
> Ada Participant

Time with Pets

For some participants, animals provided enjoyment for the family. Personal pets and animals at the zoo were specifically mentioned in response to how families can have fun together. Figure 18 is a photo taken by a participant in response to Item 2.

Figure 18 Time with Pets

Photo Courtesy of Participant 104

> **"**We play with our pets! There's a little bitty…Right up there, here is this one better? He's attacking my face… The zoo. We don't have pictures of the zoo. I think the funniest part about it was the ostrich trying to take off my mom's hair. Cause she stuck her head out of the window…"
> Ardmore Round Two Participants

> "Yeah he's a big Chihuahua. He just goes wild, so we have to watch him. And these are my labs, that my son, we work with trainin them and stuff. Like if you walk in the pen, the black one will always will come sit on your left, and the white one always on your right and they'll wait to be fed, so they won't start jumping up all over you. That's what the rest them are, just my labs. A lot of older people] have their, little pets like cats and dogs. [I think they have pets] because they wouldn't get up otherwise. These pets make them get up and do what they normally wouldn't do."
> Ada Participant

Bible

Many participants reported using the Bible as a source of information. Information gathered from the Bible was used when making decisions on various life events and in solving situations. Figure 19 is a photo taken by a participant in response to Item 2.

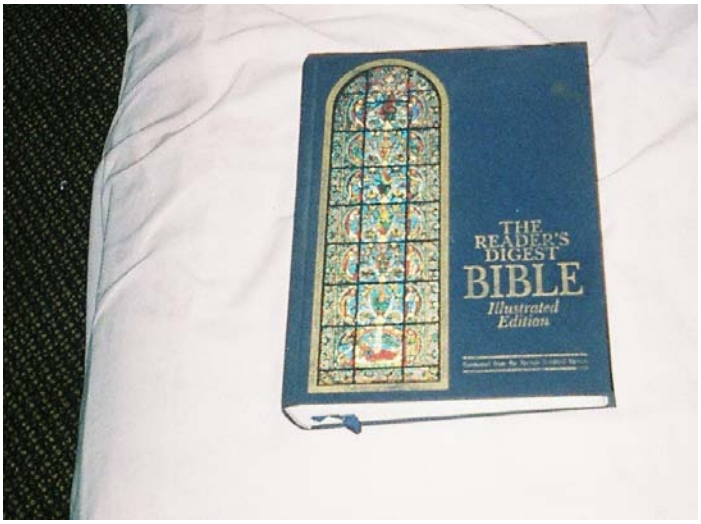

Figure 19 Bible

Photo Courtesy of Participant 302

> *(Referring to the Bible)* "Where we get important information that is usually in between me and my husband. If things aren't going how we are wanting them to go and we are getting frustrating and getting where we are wanting to scream at each other, we turn to that (the Bible) and we always look to god for the help and the answers to solve the situation that we are in."
> Ardmore Participant

> "I go to the lord before I make serious decisions."
> "The Holy Bible, for information, you never think about it. I read it everyday, never think about it for information."
> "Of course I go to church and hear the word taught and preached."
> Ada Participants

Newspaper

For many participants, newspapers were viewed as a reliable source of information. Local and tribal newspapers were mentioned by the participants and used for information on local and tribal news, cultural topics, weather reports, crime reports, horoscopes and events occurring within the area. Figure 20 is a photo taken by a participant in response to Item 2.

Figure 20 Newspaper

Photo Courtesy of Participant 204

> Information from the newspaper] is for local, community, I like to read what is going on… in the Community."
> Ada Round Two Participant

> "My family gets important information from our local newspaper. I want to share this photo because I know most people use the internet for information but we don't have it so we depend on the newspaper."
> Ada Round Two Participant

> "This is [news]paper because it is culture. I am Choctaw so I want to keep up with what is going on in the Choctaw but I live in Ada."
> Ada Round Two Participant

Television

The television was reported by participants to be a useful information source. Televisions were utilized by viewing news channels, health programs, cooking shows, gossip information, and weather programs. The particular type of channel or program viewed, depended on the individual person or family. Figure 21 is a photo taken by a participant in response to Item 2.

Figure 21 Television

Photo Courtesy of Participant 405

> "This is how my family gets information that's important to us is the television and the computer. Because this is usually how I communicate with a lot people. And of course you get your news is where you hear the important stuff and sometimes not so important stuff, like who's having who's babies, you know all that great stuff… And then you get the news, gives you the weather, so you not sending out your kids in shorts and a tank tops in freezing weather."
> Ardmore Round Two Participant

> "I get a lot of information (from the TV) because I watch TBN, and they have a lot of health programs on there and a lot of cooking shows (are also on there) that is healthy cooking."
> Ada Participant

The Computer/ Internet

Participants reported the internet as a good source for information. Some participants reported computers in their homes; others used the library for internet access, while some did not use the computers. Some families reported utilizing computers for research purposes. Participants mentioned using computers in gathering information regarding work, school, family health issues, and to inquire about cultural events. Figure 22 is a photo taken by a participant in response to Item 2.

Figure 22 Computer/ Internet

Photo Courtesy of Participant 205

> "That's my computer at work. If I need information I'll go to get it off the email. I get a lot of stuff sent to me at the newsroom because I work at the newspaper and so I get a lot of information through the email."
>
> "We use the internet and computers at the library. My oldest one plays math games… when I've gone to get on them it is to look up information for essay reports when I was in High School."
> Ardmore Participant
>
> "I get information from the Chickasaw (website, I look up) activities they have for the kids… or events that we can go to."
> Ada Participant

Parent or Family Member

Participants felt that parents or family members were used as information sources. Elders provided the younger generations information such as how to remove fabric stains, details on various health issues, how to treat sick children, provided information on recipes, relationship advice, and family news. Figure 23 is a photo in response to Item 2.

Figure 23 Parent/ Family Member

Photo Courtesy of Participant 404

> "I had a picture of my mom because she can give you information… there are six of us as brothers and sisters and there are so many grand kids and great grand kids…you can go to her and she knows everything."
> Ada Round Two Participant

> "Everything, from dealing with my kids or guys, [and] relationships. Also, my mom, she knows like if they are sick, she'll give you recipes and tell you how to get stains out. Just a lot of things, moms know!"
> Ada Round Two Participant

> "She [my mother] tells me, and because she's diabetic and I'm trying to prevent that, so she tells me a lot about it. Plus she has little rulebooks and stuff, from the clinic that they gave her. And my Dad is too, so he's got that stuff too."
> Ardmore Round Two Participant

Item Three

The last item given to the families was Item 3, "This is what I want most for my children/grandchildren in the future." This item not only provided what was important to the participants but also determined if health was considered important.

The most frequent participant responses for this question were 1) religion/salvation/church, 2) home/car, 3) education, 4) family/friends/support system, and 5) joy/happiness.

Religion/ Salvation/ Church

Religion held a high position when the participants were considering what they would want most for their children. Participants stated they desired their children to have a home church to create a sense of community or extended family who could support the child. They wanted their children to have salvation because they believed when the family passed from this life; they could spend eternity together and live in heaven.

Figure 24 is a photo taken by a participant in response to Item 3.

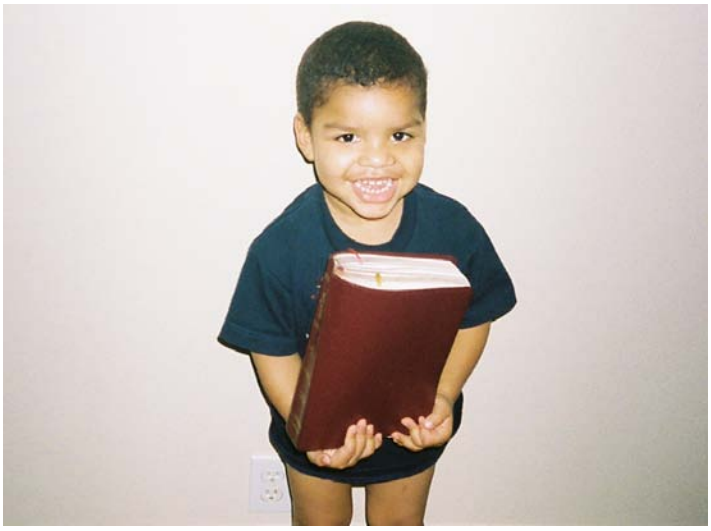

Figure 24 Religion/ Salvation

Photo Courtesy of Participant 404

> "Yeah that's the church that we belong to and my oldest boy said that he wanted to make sure the church was still there when he is grown, and I said sure thing it has been there since I was your age, I doubt it will go any where."
> Ardmore Participant

> "So to me that is the most important thing of all to know that all the kids are going to heaven. My desire for the kids is to have a good home church, because a church is not just a place where you listen to somebody preach. It is a church that you can have a family, and a lot of times they are even closer than your blood kin, and not only is it a place where you can be blessed, but it is a place where you can be a blessing."
> Purcell Participant

Home/ Car

The two material items participants wanted for their children were to have a house and a car. They desired their children to have a place they could call their own when their children grew up. The consideration that apartments cost too much to rent was presented and they felt that if you were to pay money to live in a residence, they wanted

their children to pay towards owning their own homes. Figure 25 is a photo taken by a participant in response to Item 3.

Figure 25 Home

Photo Courtesy of Participant 302

> "We decided [my children] needed a home to call their own."
> Ardmore Participant

> **"**That's our house. What I'd like for all of our kids is just a home to call their own instead of having to rent or living in an apartment or something like that. Just have a place that they can be paying on. And you know it depends on what god's plans are for their lives, and eventually they can have a home to where it's something that can be paid for and not have to keep paying for and they can get settled in. they can you know, decorate it and build fences and fix them a grill or whatever they want outside. Just a place they can call their own. I desire that each one of the children to have their own home. It costs too much to rent; you're really throwing your money away. When you do that, I don't want them having to struggle, I want them to have their own home, then there is just a security sense there and you can raise your children in your own home and you don't have to worry about your land lord wanting to you know toss you out or whatever. To me having your own home is security and that's what I would like to see my children, all of our children have."
> Purcell Participant

Education

Participants felt that children needed an education to obtain jobs or careers. Participants felt a proper education was pertinent for their children because it was considered necessary to 'get by' in the world. Two participants who were mothers stated that they felt most people, particularly women, would definitely desire for their children to be educated. Figure 26 is a photo taken by a participant in response to Item 3.

Figure 26 Education

Photo Courtesy of Participant 302

> "The CEO of the Higher Ed was more than anxious, he said 'You are the first person that I've ever had come in here and ask me and shown me the question you're having to answer, and say that you want education for your children in the future.' I was like, 'Wouldn't understand why wouldn't nobody else come in here and say that they wanted [education] for their children cause I would imagine that everybody will be wanting education for their children.'"
> Ardmore Participant

> "Education is big with me. Now days if you want to make a difference in the world, for the most part you need education. You need knowledge."
> Purcell Participant

Family/ Friends/ Support System

Family and friends can be a form of support system for children growing up. Participants desired their children to have this support while they grew into adulthood. Family, to some, also brought a sense of love to them. Having family love was indeed important to many participants. Figure 27 is a photo taken by a participant in response to Item 3.

Figure 27 Friends/ Support System

Photo Courtesy of Participant 104

> "Family, the description is how we feel about each other and then I believe in order to feel happy in life you have to have love and then family, [it] is the most important thing in life. Life begins and ends in family and love."

> "Family love, it's a big thing in my family. My grandma really put a lot into it and we all try to get together and we have celebrations constantly for reasons to get together. There are 4 brothers and a sister on my dad's side and they have really great grand birthdays and everything."
> Ada Round Two Participant

Joy/ Happiness

Participants felt joy and happiness were a great desire for their children to achieve in life. While some of the other desires mentioned might not always be obtainable due to money and circumstances, they felt that happiness and joy were infinite and not as temporary as materialistic desires. Figure 28 is a photo taken by a participant in response to Item 3.

Figure 28 Joy/ Happiness

Photo Courtesy of Participant 405

> "My first description is being happy… Without happiness there is nothing else and yes there is happiness but not everywhere, unfortunately… cause without being happy you can't do all these other things, I don't think."
> Ada Round Two Participant

> "The smiley face, But what that amounts to is just seeing joy on our kids' [faces]. My desire is that they are happy, that they know joy. Cause you can really to be happy, happiness is something that is inside. People think that if they have money they will be happy. If they get a better job, if they get a better house, you know if they take a trip to Hawaii… That's not true, those things are temporary. But what I would like to see is just a state of joy on our kids to where they know how to be happy even when they don't have a lot of money."
> Purcell Participant

Themes

Once all of the transcriptions were completed, recurring topics or underlying themes were discovered by thematic analysis. The participants' photos provided the primary codes. The secondary codes were determined by tallying the primary codes. Once quotes from the tallied responses were gathered, they were examined to identify common themes or ideas that were underlying issues. These themes were the topics that influence all of the participants' lives as well as their everyday decisions and activities. The four main themes discovered from these focus groups were: 1) the importance of family and the Native American community, 2) health of the individual and family including extended family as it pertains to physical, social, emotional and economic stability, 3) spiritual beliefs and its impact on guidance of family's morals and values, and 4) economic constraints of daily living activities. Quotes supporting a specific theme and a description of the theme will be provided.

Theme One: The Importance of Family and the Native American Community

The importance of family was a core value for participants because it encompassed a generational lineage; it was representative of the past, present, and future. Participants reported having a very close relationship with family members. Individuals were both dependent and depended upon in regards to family. Many of the mothers stated looking towards their mother or older family members for advice on items from child care to handling health related diseases. Participants were depended upon by both

their children and other family members. Many participants were responsible for taking elder members to the hospital for doctors' visits and other needs.

Children were an issue for many participants. Everyday activities for the parents were largely based on the children. Parents would exercise, play games, take road trips, participate in crafts, and play outside with their children. Children brought joy and love into their lives, but they also created obstacles. Mothers reported not having time or the capability to do things for themselves because of children. Regardless, families were very important to the participants and were a large part of their everyday lives.

Outside of families, individuals preferred to have a sense of community, such as being with other women in their age group that had children. The community provided support and a sense of belonging for the individuals. The community members were depended upon for information, fun group activities, and more. Table 7 provides quotes from transcriptions which support the idea that the element of family or community is important for the participant's everyday lives.

Table 7 Quotes from Transcriptions to Verify Themes: Theme One: Importance of Family and the Native American Community

Quotes from Transcriptions to Verify Themes
Theme One: Importance of Family and the Native American Community
"She's got a grandson [that helps] keep her going." Ada Participant
"Well that's true there are parents who could care less about their… I'm not that way, I'm, my son and I we're always, we're like two peas in a pod." Ada Participant
"You don't have the time to cook, you know we're working and then we have to pick up our kids, then we have to get them settled and then we have to go cook, then we have to feed them, then we have to get them ready for bed, and you know try to spend some quality time with them. Even then you gotta do the dishes or be up cleaning." Ardmore Round Two Participant
"She tells me, and because she's diabetic and I'm trying to prevent that, so she tells me a lot about it. Plus she has little rulebooks and stuff, from the clinic that they gave her. And my Dad is too, so he's got that stuff too. We need diabetic friendly recipes, because diabetes runs in my family too." Ardmore Round Two Participant
"[Information gathered from family] was actually ethnic specific because Indians tend to be more lactose intolerant than other, than like white people. Well that's just what they've told us, so I have to watch milk with my daughter, so far she hasn't had any problems, but I have to watch it, but then I also get some useless information too." Ardmore Round Two Participant
"My person to take care of my kid is my support for losing weight. You know? Like my mom she's willing to do it, but she's also the one that wants to go to the gym with me, so she can't do both things at one time. That's why we need a mommy and me gym where mommy can go play…" Ardmore Round Two Participant
"I just thinking about my current situation. I have to go home to get my daughter and it takes me at least 4 hours. It takes me two hours to get there, whatever time is spent there, and two hours to get back. And I know that there's a lot of parents that do it Friday until Sunday where they're switching their kids, and so if they have to take their kids to another place, they don't want to do nothing that's not like spending time with their kids." Ardmore Round Two Participant
"A tree for family generations, joy, love, and then a sunset to show beginnings that end if that makes sense. Family, the description is how we feel about each other and then I believe in order to feel happy in life you have to have love and then family is the most important thing in life, life begins and ends in family and love and then the last one I have , how does it relate to life? I'm trying to relate, it should relate to everything so it does relate to people around me." Ada Round Two Participant
"Probably family love, it's a big thing in my family. My grandma really put a lot into it and we all try to get together and we have celebrations constantly for reason to get together. There are 4 brothers and a sister on my dad's side and they are really great grand birthday and everything." Ada Round Two Participant
"We prefer and also the fact that you know food for our family seems to be always you know kinda revolving a social activity. In other words we are not by ourselves, well we eat out alone sometimes, but we like to eat with other people and we like to have people involved and that's kinda a major part of the family. When we have an activity is to have food." Purcell Participant

Theme Two: Health of the Individual and Family Including Extended Family as it Pertains to Physical, Social, Emotional and Economic Stability

For many participants, the goal of trying to live "healthfully" drove everyday decisions such as what foods to buy and how often to exercise. However, for participants with current health complications, issues regarding their disease condition were of importance, with diabetes being the most frequently mentioned disease.

These participants mentioned health care and having to visit health care providers such as the doctor, taking medications, or being on a specific diet due to their health complications. Health and health care did not only affect one member of the family. If one member of the family had an issue with his/her health, it impacted the whole family because taking care of an illness or condition involved the whole family, not just that one individual. Grandchildren were often used to take grandparents to a doctor's appointment, wives had to cook foods according to the husband's illness (such as diabetes or CVD), and parents had to take care of children when they were sick. Keeping the family healthy was a team approach for many of the participants.

There were barriers for the participants that kept them from making healthy lifestyle choices. For some participants, time, children, money, and a dislike for "healthy" foods were issues brought up. Parents tended to lack the time needed to go to the gym or prepare a healthy meal for the family. Low income families may not have the money to purchase "healthy" foods or spend on the gas to get to a gym. For a variety of reasons, the issue of trying to achieve health impacts many individual's everyday lives. Table 8 provides quotes for Theme Two.

Table 8 Quotes from Transcriptions to Verify Themes: Theme Two: Health of the Individual and Family Including Extended Family

Quotes from Transcriptions to Verify Themes
Theme Two: Health of the Individual and Family Including Extended Family
"[Vegetables] all have good vitamins in them. Those are the two main things, the vitamins in carrots, broccoli, and tomatoes are good for you. They're healthy." Purcell Participant
"We switched several years ago from white bread to wheat bread for health reasons and it has done a lot of good for us. When we have had tests we've been told that our cholesterol has gone down. Well we, we eat wheat bread because whole wheat is good for us." Purcell Participant
"Well the first thing that came to mind is that we try to cover the basic food groups for the family. Just the basic food groups, cover the basic food groups to keep us healthy." Purcell Participant
"Health wise, vinegar, you put it in water and you give yourself maybe two teaspoons and vinegar is like, how can I say it, maybe cleanse you and it don't taste good I know that cause my kids have to drink it and but it's like real important cause back then, they wouldn't drink a cup or two teaspoons everyday, but it is good for your immune system too, you know, and fight infections. You know vinegar is my main thing with that was with my kids and I gave it to them when they were sick." Ada Round Two Participant
"You know how she did the honey, that's what you put in diabetic when you are going into convulsions or you can put honey in your drinks for diabetics to bring their sugar level back up. I'm diabetic so we have honey sitting around the house and I didn't even take a picture of that for diabetes." Ada Round Two Participant
"Nowadays there are more and more children are becoming diabetic and most parents don't even realize some of the signs that there actually producing in the children because of the different way that they behave as a sign, that they're developing diabetes. And parents aren't aware of it, because they don't know anything about it or they're turning a blind eye, more than likely they don't know squat about it. And we want the parents to be able to take em to the doctor and get medication for it. Because some children, when your blood sugar gets too low, your mind becomes in a fog, and you just sit there like a nincompoop, and your blood sugar just drops lower and lower, and I've seen kids that act like this and they could be diabetic. And the parents don't think, they might think they're autistic or other that are going on, instead of taking them to the doctor, they are probably diabetic. And a little ol' pill and some right food is gonna help them" Ada Participant
"[I would like Chickasaw Nation to develop] recipes that taste good. Because I know there are things that you can use, you can do it this way with all the fatty stuff and it tastes one way, but then you do it the healthier way and it tastes nothing like the first one. And sometimes it's just like down right nasty. So you end up eating the fattier one because it tastes better, but if this one tastes like this one, then you know, it wouldn't be that hard to switch to the healthier one because one you're watching your health and it tastes good. I like things that taste good. It's just like I ate the South Beach Living Chicken, Walnut, Cranberry salad. It gives you pita chips to eat with the salad, the salad was great, the pita chips tasted like I was just chewing on cardboard. And so I didn't finish eating them, because it just taste nasty! But that's supposed to be healthy for me. Not going to encourage me to eat healthy if it if I don't like it. " Ardmore Round Two
"[Mom] tells me because she's diabetic and I'm trying to prevent that, so she tells me a lot about it. Plus she has little rulebooks and stuff, from the clinic that they gave her. And my Dad is too, so he's got that stuff too. We need diabetic friendly recipes, because diabetes runs in my family too" Ardmore Round Two Participant

Table 8 continued

"[Information gathered from family] was actually ethnic specific because Indians tend to be more lactose intolerant than other, than like white people. Well that's just what they've told us, so I have to watch milk with my daughter, so far she hasn't had any problems, but I have to watch it, but then I also get some useless information too." Ardmore Round Two Participant
"If I was going for support I want other women around my age who are going through the daily, or the basic daily things that I do. Women with kids, if you have single friends that doesn't have kids, it's hard to find things that are common because you will walk farther, you will work longer, if you have something to take your mind off what you're doing. Because if you're sitting there counting those steps, you know, you're never going to make it. But if you have someone to talk to that has the same interests as you do, who is supportive of the losing weight or the exercising, you're most likely to stick with it, because you have a buddy to fall on to." Ardmore Round Two Participant
"Well see I'm like, I'm trying to quit smoking, but the more I try to quit smoking the more I want to eat. And it's just I know it's trading one addiction for another, because food's just right there all the time so why not have a little more, a little more. Portions have gotten out of control." Ardmore Round Two Participant
"Well it's 'watch what you eat'. Because I'm a diabetic they are always on me. And I'm like you all don't have to worry about me. It's not that I have to watch what I eat, because I do. I eat the right proportion but it's my liver doesn't produce insulin whatsoever. That's why I have to take more insulin than the normal diabetic. And um, then constantly talking about exercise and everything and making sure that you get your blood work done on time when it's supposed to be done. Yeah, it's probably talked about all the time. It's not fun watching what you eat, to making sure that you cook follow the recipe that you make sure you keep your doctor's appointments and stuff like that." Ardmore Participant
"Mainly every time we eat, we are thinking about nutrition. That is our main focus. Well we are really concerned with our health. I mean those are our main topic. That is something that we are always thinking about, concerned about. I don't know, that is just our main focus." Purcell Participant
"It is just like our milk, the milk we drink. We try to get 2% most of the time. Also, the margarine that we use it's actually an olive oil base. It's olive oil based margarine, it's not like regular butter. We try to cut down on animal fat and stuff link that. And when it comes to meat, we try to get something high and PRO and lower in fat." Purcell Participant
"We have a, we had a son that had already went home to be with the Lord. He had severe Cerebral Palsy and we took care of him the whole time. And he stayed at home with us and all the kids saw everything he went through. In and out of hospitals and suffering and everything. We would want the rest of our children to have health so they can enjoy life and be joyful and be happy and be able to help others and just know that they can get up on their own and you know, they aren't suffering or hurting in any way. That is a great desire in my heart." Purcell Participant

Theme Three: Spiritual Beliefs and its Impact on the Guidance of Family Morals and Values

For the participants in this study, religion and faith were woven into the very fabric of self-definition and daily activities. The participants' desired relief in living a life based on their religion in hopes of living their afterlife with their family in Heaven. All of the participants who mentioned religion were members in a Christian-based church. The participants mentioned going to church and finding a sense of family or community among the other members of their parish.

Religion was a tradition the parents wished for their children to participate and take part in as well. The participants who had children wanted their kids to be a part of a church and to worship in hopes of spending eternity together as a family in Heaven. Table 9 contains some of the quotes from the transcripts pertaining to religion and faith.

Table 9 Quotes from Transcriptions to Verify Themes: Theme Three: Spiritual Beliefs and its Impact on Guidance of Family's Morals and Beliefs

Quotes from Transcriptions to Verify Themes
Theme Three: Spiritual Beliefs and its Impact on Guidance of Family's Morals and Beliefs
"Yeah that's the church that we belong to and my oldest boy said that he wanted to make sure the church was still there when he is grown, and I said sure thing it has been there since I was your age, I doubt it will go any where. He says he wanted the church and he goes every Sunday when he gets the chance to go. " Ardmore Participant
"We consider god when we have our food you know we try to remember to give thanks and realize that that is where our food comes from and that is the source of all good things. We try to not eat and not think about it. Whether we pray or not whether we thank god or not, I think both my wife and I try to be conscious not to take it for granted and that food is a blessing and it is possible we could have no food. So that to me is a religious connection, that we realize that whatever we have every good perfect gift comes from go whether that get food and we try to be conscious of that when we eat." Purcell Participant
"This I think will be the most important thing of all. To know that our kids are going to heaven, because the bible talks about the life here on earth, it says that life is but a vapor. It's just like a puff of smoke. You see it and then it's gone. But heaven is eternal. And so more than anything in the world, more than anything I would want them to have an eternal state in heaven. Cause that way I know, like I say that is eternity and that would be the greatest state of happiness. You know I was talking about joy a while ago, but joy is here, but in heaven you are definitely going to have joy. So to me that is the most important thing of all to know that all the kids are going to heaven. You know David in the Old Testament… one of his children died, And so instead of mourning and being sad, it said that he got up after, he mourned for a short time but then he got up and went about his business. The people said what are you doing, and he said well, the child can't come to me, but I can go to him so he decided to go ahead and go about his business and being happy realizing that separation is temporary because when he gets to heaven it's going to be eternity. So heaven is important to me for all of those reasons." Purcell Participant
"Heaven is the most important thing of all, but without knowledge of the Bible, people aren't going to get to heaven. The Bible says that before people can come to god, they must first believe that he is. So the Bible is you know a manual for life. Everything that you need, every bit of information, all the wisdom, all the understanding we need is based in the Bible. So I think next to knowing the kids are going to heaven, I would want them to have a good working knowledge of the Bible, cause you know the Bible says you word is a lamp unto my feet and a light unto my path, and that your word brings wisdom and that your word is health to my body. And so when you understand and apply your word of god to your life, then it brings everything you need." Purcell Participant
"This is the number one greatest desire of my heart. Is to see and to know that all of our children have received Jesus as their lord and savior. To me that is the most important thing. You can have everything else, but in the end and can lose your soul. You can have salvation and you're going to go to heaven and live eternally, and not only that but because Jim and I are saved, we can spend eternity with our children. We want them to have that personal relationship with the lord Jesus Christ. We want them to know the word of God because the word of God teaches what is right and what is wrong. It teaches how to treat other people. It teaches love, love is the greatest of all. It helps you with your faults and your shortcomings and everything. It gives you instruction, it encourages you, it strengthens you. So that is the number one desire that I have for our children." Purcell Participant

Theme Four: Economic Constraints of Daily Living Activities

Money and the lack thereof, influenced participants' daily lives. It was noted that in the transcriptions participants stated ways their families cut everyday living costs and saved money in a variety of methods. Some people chose specific food items over others to consume in their diet because their budget wouldn't allow for the more expensive foods. One participant mentioned going to four different grocery stores at one time in search of the cheapest food items to cut costs and live on a budget. Some individuals mentioned trying home remedies to treat or prevent illnesses at home to avoid health care costs. Product substitutions were used on a day to day basis such as using seasonings instead of pesticides to keep bugs away. The sole reason seasonings were used was because it was perceived to be cheaper than purchasing pesticides. Everyday activities were influenced by the person's financial situation, because of the participant's socioeconomic statuses, choosing ways to cut costs such as the expense of food was a pertinent in their day to day lives. Table 10 states quotes from the participants regarding money and related issues.

Table 10 Quotes from Transcriptions to Verify Themes: Theme Four: Economic Constraints of Daily Living Activities

Quotes from Transcriptions to Verify Themes
Theme Four: Economic Constraints of Daily Living Activities
"[Hamburger] is one of the cheaper ones to be honest. We'd prefer steak… to us it seems like the hamburger, we can handle that taste a lot more often. You can do a lot of different things to it. We can put a lot more than we could chicken to change you know, the flavors, uh. I think that's about it mainly. It's a lot cheaper than the others." Purcell Participant
"Now all [these food items are] cheap and doesn't cost a lot. So it is the cost factor there." Purcell Participant
"Eggs are good cause they are cheap and easy to make." Ada Round Two
"Medicine would be so you wouldn't have to go to the doctor and you could do your own care and for home remedies to save time and money." Ada Round Two Participant
"[We use certain foods] to do activities with your children. What they use [for art projects are] all cheap so you can buy more and you don't feel guilty using them for something you are not going to eat. You can use pasta noodles, or rice, or beans, you know, popcorn. And those are cheap and different." Ada Round Two Participant
Facilitator: "Ok, um what about the pesticides, why do we use seasonings for pesticides?" Ada Round two Participant: "It's cheaper because pesticides are expensive, what are they 5 dollars, 4 dollars or something, it's crazy. But that was just 99cents." Ada Round Two Participant
"When I was little we didn't have a lot of these, we had to have a clean plate." Ada Round Two Participant
"I get my food stamps and go to 4 different stores to get the best deals." Ada Round Two Participant
"We're living on a budget. you need to um, like add up or add to cause you like her family has 4 kids and you gotta uh, before you going to the store at least have your list and set yourself a limit. That is what I tell her. It's hard especially in the last week of the month because it's really tight" Ada Round Two Participant
"Yeah, last week my kids are like 'I'm starving please I want food' it's not what they want." Ada Round Two Participant
"Financially, it is what we can afford." Purcell Participant Q1
"We had one of the daughters over, not to long ago and it was her birthday so we fixed up some special food for her and her husband. It was kinda of a social thing and it was food so we enjoyed too, but it was food that... She grew up on. She wanted beans cornbread and fried potatoes. So that is what we fixed for her birthday. So it is emotional cause it ties the childhood memory and connections and sentimental. We couldn't, we would like to take them to a real nice restaurant cause we didn't have the money." Purcell Participant
"I desire that each one of the children to have their own home. It costs too much to rent; you're really throwing your money away. I don't want them having to struggle, I want them to have their own home, then there is just a security sense there and you can raise your children in your own home and you don't have to worry about your land lord wanting to you know toss you out. To me having your own home is security and that's what I would like to see my children, all of our children have." Purcell Participant

CHAPTER V

DISCUSSION

Findings and Applications

All participants in the study were selected from the Commodity Supplemental Food Program (CSFP) participation list which indicated that they were at or below 185% of the poverty level as a family or at or below 130% of the poverty level if over 60 years of age (USDA FNS, 2008). Limited resource Native Americans are at a high risk of obesity and its co-morbidities (Baltrus, Lynch, Everson-Rose, Raghunathan, & Kaplan, 2005; Drewnowski, 2004; Drewnowski & Darmon, 2005**;** Gibson, 2003; Liao et al., 2004; USDA FNS, 2008). A myriad of factors including lifestyle choices, healthcare, and lack of healthier food choices increased the risk of nutrition-related diseases that negatively impacted their lives. There were nutrition education programs that provided information to limited resource population, however, with the two significant cultural contexts accompanying the target population (socioeconomic status and race or ethnicity), the question became were nutrition education programs reaching audiences through their lens or perception of their needs for nutrition knowledge.

Photovoice was a unique method of gathering information because it provided Native American population a voice to share their life experiences. It strengthened the understanding of the Native American culture as it stands today. The participants gave

an insight on what methods of information transfer would be the most efficient and any portals of entertainment to reach them. A better understanding of their view of health and nutrition was reached by allowing them to open up and show their world. All of these experiences and teachings could be incorporated into the development of a socio-marketing campaign to encourage healthy eating behaviors that will help to improve the health status of the Native Americans. By creating a more effective program, it is possible to make an impact to improve the health of Native Americans and potentially decrease the ever-increasing obesity rates and the health and psychological consequences related to obesity. The purpose of this study was to document visual reflections of everyday occurrences that are significant to limited-resource Native American families living in the Chickasaw Nation boundaries. This will assist in the development of a culturally related social-marketing campaign pertaining to nutrition.

Through the photovoice focus group sessions, there were 4 major factors that should be considered when developing a social marketing plan with the target audience: 1) importance of family and the Native-American community, 2) health of the individual and the family including extended family as it pertains to physical, social, emotional and economic stability, 3) spiritual beliefs and its impact on guidance of family's morals and values, and 4) economic constraints of daily living activities.

Building the Social-Marketing Campaign Using Photovoice Themes

The importance of family and the Native American community was the first theme indicated from the findings of this study. A holistic view among Native

Americans was vital because *community* rather than the Anglo-American culture's *individualism*, forms the normative base for Native American culture. Community in the mindset of a Native American involves the family, clan, tribe or nation in which they belong (Portman & Garrett, 2006). The basic tenet of Native American existence is a person's *oneness* with family, tribe, universe, and self (Hall, 2007; Portman & Garrett, 2006). The National Indian Youth Leadership Project noted the importance of the Native American family in empowering youth. This project viewed how Native American communities had organized systems for educating the youth, based on generations of accumulated knowledge about the natural world. Customs, skills, spiritual practices, and languages were transmitted according to determined priorities. The extended family, clan, and the larger community formed a safety net for the children and each other. Elders were held in the highest esteem with grandparents being utilized as researchers of traditional knowledge and carriers of family genealogy and history. Aunts, uncles, and others who may not be blood relatives played roles. It was commonly understood that the responsibilities of rearing children were not confined solely to the biological parents (Hall, 2007).

In rearing children, a behavior was instilled to promote and enhances community survival (Schwartz, 2006; Wilkinson, 1980). The values held by the Native Americans were in their family ties (Brown & Shalett, 1997). A deep respect was held for elders among this population. Native American families depended on each other because if one member of a family network had a resource such as a car, housing, or food, that resource was available to all. Even families in extreme poverty were known to express generosity

through giving away possessions. Families gave away possessions to create networks that allowed for reciprocal obligation that foster mutual aid during difficult times (Brown & Shalett, 1997). For the Native American, putting the needs of the family or community cames before the needs of the individual (Schwartz, 2006).

Transcriptions revealed that for some elderly participants, their children and grandchildren were 'all that kept them going in life' with one mother calling her and her son 'two peas in a pod.' Some of the younger mothers depended on family elders for knowledge on topics including: how to live and deal with diabetes or other chronic diseases, health remedies for sick child, child care, personal relationship and general advice. The elderly in the community depended on the younger generation to assist with daily basic living needs such as transportation to doctor's appointments or going to the grocery store and completing errands. While having family resources aided the individual greatly, if those resources were limited or not available it placed added stress to the individual. For mothers, attending cooking or exercise classes were not an option for those lacking childcare or babysitters, and some mentioned being stressed from caring for children, cooking meals, and cleaning among other responsibilities. However, no matter how stressful family tasks may be at times for them, the participants recognized the importance of the family component in their everyday lives.

The second theme involved the health of the individual and family including extended family as it pertains to physical, social, emotional and economic stability. Parents desired their children to lead 'healthy' lives that included physical, emotional, social, and economic health. Families who suffered the loss of a child or family member

due to poor health greatly understood the value of having one's health. Parents mentioned the importance and privilege of having health care facilities when their children were sick and needed care. Participants noted the need to eat healthy and exercise to lead a longer and healthier life. Part of the parent's 'happy and healthy' future included financial health. Parents desired that their children obtained an education so they could grow up and obtain reputable jobs to be economically stable and have homes and families of their own.

Individuals, families, and communities sometimes depended on each other for emotional support in their everyday lives. Families and communities shared a spectrum of emotions with each other from joy to sorrow. As mentioned, low income families tend to create networks that allowed for reciprocal obligation that foster mutual aid during difficult times (Brown & Shalett, 1997). This network provided economic and social support within the family, extended family, circle of friends, churches or community.

Knowing this, a social marketing campaign needs to incorporate the entire family into programs in order to get into the grain of health disparity issues. The parents, elders, extended family members, and community must be educated on healthy foods and habits to utilize in their own lives as well as establish positive habits for the youth of their nation. If the campaign hopes to make a positive and lasting change on the Native Americans, they must utilize the core value of family and community in their programs.

The third theme to arrive during this project was the importance of spiritual beliefs and its impact on the guidance of family's morals and values. Native American healing traditions enjoyed a long and very rich history that extends beyond recorded

history. It was important to understand the Native American healing practices to help professionals gain the knowledge of Native American cultural belief systems. Each tribe will have a slight difference in their definition about health and wellness, with the many influences that create change in the mind, body, spirit, and natural environment. Native Americans believed their healing practices and traditions operate in the context of relationship to four constructs – namely, spirituality (Creator, Mother Earth, Great Father); community (family, clan, tribe/ nation); environment daily life, nature balance); and self (inner passions and peace, thoughts, and values) (Portman & Garret, 2006). In the Native American culture, when an individual became imbalanced, the entire person was affected, and not simply a physical component of the person's body. Within the epistemology of the Native American Church beliefs disease and death were the results of an imbalance within the individual or within one's larger social, environmental, and spiritual relations. To avoid or heal an imbalance, Native Americans may take various actions through prayer, fasting, and sacred plants. There was an intimate relationship between medicine and religion in this culture that should not be ignored (Jones, 2007).

Participants from the study relied on a Higher Power for everyday issues that occurred. Relationship advice, morale teachings, and how to live day by day were instances in which prayer or religious teachings were utilized for guidance. Most participants referenced being part of a Christian-church based off of the Bible. Parents desired to rear children in a Christian manner to instill positive morals and ensure that the whole family lived a life worthy of the entrance into Heaven. One participant stated that he wanted his children to have a personal relationship with the Lord and to know the

word of God. He stated that God could teach his children right from wrong, how to treat others, and most importantly to teach love. He stated that religion helps you with faults and shortcomings while giving instruction, encouragement, and strength. References to living by God's Will or the importance of being part of a Church or 'church communities' were made frequently by participants and may be a route to reach participants. Participants stated that in their mind, a good home church is not only a place to listen to a preacher, but it is also a *family*, who may be closer than blood kin. They stated that church was a place where they could be blessed and was a blessing while becoming part of a working body of which each person has a function where they grew and expressed themselves as God intended. Utilizing the importance of Native American's spirituality and religion seems crucial in an effort to make positive health and behavior changes. One way to reach this population may be to work with their spiritual leaders in efforts to develop a social marketing campaign incorporating their spirituality with their health. Programs could be advertised and held in the place of worship. Program developers could intertwine the nutrition and health related topic material with those spiritual or religious teachings to make an impact on the participants to promote healthy life changes of the Native Americans living within the Chickasaw Nation. In a successful program, discovering what is most important to the target audience and incorporating those themes with your teachings will be imperative and given that spirituality and religion is a core value to this population, this avenue for information transfer should not be ignored.

The last identified theme included the economic constraints of daily living activities. In the transcriptions, participants discussed how money was an everyday issue. In their everyday lives, money, or the lack thereof, determined the participants' budgets and made it pertinent for them to make life adjustments or changes to live within the meager budgets. Participants mentioned teaching the 'clean plate' method to children to prevent food waste costs. To alleviate additional costs such as childcare or transportation fees to healthcare facilities extended family were used to fill in possible shortcomings. Participants described how income could complicate a simple grocery trip when you factor in going to several different grocery stores to get the best sales on foods to make the money available last as much as possible. Their budgets affected their food purchases as well; some participants noted that a common meat eaten was hamburger and chicken due to the choice meat's versatility and lower price. From the practice question, the common foods consumed were relatively cheap, had longer shelf-lives, and were stretcher foods that could fill their children's stomachs without depleting the budget.

Low income was a risk factor for poor dietary quality and eating behaviors in families (Drewnowski & Darmon, 2005; Herman, 2007). Currently, a major health issue for Native Americans in the United States is poor nutrition (Osterkamp, 2004). Foods with added sugars and added fats were far more affordable than the recommended "healthful" diets based on lean meats, whole grains, and fresh vegetables and fruits (Drewnowski & Darmon, 2005). Good taste, high convenience, and the low cost of energy-dense foods, in conjunction with larger portions, may be the principal reason for overeating and weight gain among this population. The disparity explained how these

eating behaviors led to the highest rates of obesity and the co-morbidities related to obesity affecting the health of Native Americans (Baker, Schootman, Barnidge, & Kelley, 2006; Drewnowski & Darmon, 2005; Gibson, 2003).

Interventions using nutrition education to increase consumption of fruits and vegetables have reported some success, although the magnitude of behavior changes has been modest (Bowen & Beresford, 2002; Herman, Harrison, Afifi, & Jenks, 2008). The social marketing campaign could utilize previous studies and combine that data with information collected from this project to formulate a program that may shed light on nutritional values of lower priced foods. Program development could begin to demonstrate how to shop wisely and healthfully, for example, by using coupons, providing shopping tips, stating which foods were in season and, therefore, cheaper, or how to buy in bulk and store unused food portions for a later date. A comparison of calories, fat, protein and micronutrient compositions could be given between varieties of lower priced food items that they might be consuming currently along with foods that could be suggested for them to incorporate into their diets. Hopefully, the programs developed by the social marketing campaign may prevent more families and children from going hungry at the end of each month.

While working to improve the diet quality of Native Americans living within the boundaries of Chickasaw Nation was one of the main foci in the social marketing campaign, more work will need to be made to improve the diet quality of both Native Americans as well as the general population. One of the goals of the photovoice methodology has been to utilize the voice of the community to take to policy makers and

community leaders in hopes promote positive public policy changes (Wang & Burris, 1994). Analyses have drawn attention to the potential for more "upstream" strategies, including policy, pricing and environmental change to affect food access and availability as well as consumer information and motivation (Glanz & Yaroch, 2004; Herman, 2007). If it is possible to work on programs to directly teach the Native American public on how to attain a healthy diet and lifestyle along with promoting policy changes in their communities, the effect could become much greater.

Building Potential Supporting Pieces to the Social Marketing Campaign

Attendance Motivators

During the project, participants were asked to discuss what they would want from a nutrition program from the Chickasaw Nation to encourage attendance. Participants reported a need for a programs developed toward families in similar situations to theirs who 'live on a budget' (considering economic status) when planning nutrition programs. If recipes were demonstrated, then the food items used should be readily accessible, relatively inexpensive, and recipes that are not overly complicated. When discussing nutritious foods, the participants wanted to sample the nutritious foods to find out if they favored the products or recipes before purchasing the food at the grocery store.

Participants with children stated needing child care where their children could go and play while the adults attended the program or some programs where the children could get involved with parents. If the children were in a separate room, the parents

would feel more comfortable if they could see the children on a security camera or be somewhat close to the kids to keep from worrying about the child's well-being. Another idea was similar to a "Sunday school lesson" where the children and adults had individual lessons and then both groups meet for a combined lesson to participate in as a family.

Participants liked the idea of being engaged in a group with other people of similar age and similar backgrounds. This may be conducive to creating a program into more of community. The participants desired a 'homey atmosphere' where they could feel comfortable to talk and learn. Providing a sense of community among the participants may encourage the formation of a support group where they held each other accountable for making positive life changes.

Choosing Sites which may be more Convenient for Target Audience

Native Americans attending a regular church may be more willing to attend a nutrition program held in their local church. Many churches have Fellowship Halls equipped with kitchens that would be great locations for cooking demonstrations. Nutrition programs could be scheduled right before or after the normal church gathering times to prevent participants from making special trips to attend the programs. Church members would be comfortable in their own space and would be more relaxed to engage in the program. Instead of having the targeted populations go out of their way to participate in a program, incorporating the program into the grain of their everyday routines could construct a more attended program.

One participant in this study reported viewing his church not only as a community but considered them a part of the extended family. This community could be tapped into; churches are attractive settings in which to conduct health-promotion interventions since they represent a major social link to the community (Resnicow, Jackson, & Braithwaite, 2002). Many churches were involved in social and community projects, had a mission of caring and service to others and may be central to many communities. As mentioned, many churches had adequate facilities for conducting group activities. More importantly they had built-in social support networks that could be utilized for a nutrition education program (Young & Stewart, 2006). Previous studies developed physical activity programs or Health Promotion Programs for African-American women in churches (Markens, Fox, Taub, & Gilbert, 2002; Resnicow et al., 2002; Young &Stewart, 2006) so this venue could be a viable option to reach Native Americans for a nutrition education program.

Ways to Advertise for the Social Marketing Campaign

In this photovoice project, one of the project questions the participants were asked to answer included what sources they use to get valuable, credible information. The most frequent answers were the Bible, newspaper, television, computer or internet, and parents or family members. The data were crucial for the social marketing campaign to know where to advertise the programs to reach as many people as possible. This could mean that local newspaper ads, local television commercials, emails or links to web pages, and

sharing information from family members or friends could be used for advertisements and getting valuable nutrition education out to the population.

Nutrition Education Topics

When developing programs, trying to sort out what to teach and how to present the information may become overwhelming. However, in the photovoice project, participants spoke about what key elements they would like to have incorporated into a program. Utilizing these elements could pique the target population's interest and promote program attendance. Topics the participants wanted to learn more about were how to cook or alter the diet when a family member has a health problem or disease such as diabetes. The participants wanted more healthy recipes, ways to control portion sizes, and other nutrition classes pertaining to specific problems that Native Americans in that region face including living on a budget, dealing with diseases, and cooking for a family. In dealing with budgeting issues, one participant mentioned that at the end of the month, her children would state 'I'm starving, please, I want food.' That participant felt strain especially during the end of the month in regards to going grocery shopping and suggested having a nutrition program towards the end of the month when the families were more food insecure and might be more willing to attend a cooking demonstration. Once participants attended the demonstration, a program could use this opportunity to show how to utilize foods that may be left in the participant's cupboards, freezers, and refrigerators. This could both feed the participants while aiding them to feed their families when economic constraints and food insecurity is most prevalent. This program

could be completed in collaboration with local food banks and other supplemental food programs to design the programs created to use foods left at the end of the month to develop meals. Along with tips to feed the family when cupboards are bare, a nutrition program teaching how to budget money throughout the month could work for the prevention of families getting in that state of need. This could be accomplished by educating the population on how to buy healthy, cheaper food items to last throughout the whole month and would be advantageous for the overall food security and nutritional health of the families. This information could be used and applied in the development of the Social Marketing Campaign in Chickasaw Nation. Advertisements targeting the low-income population to teach how to include healthier options while on a tight budget could be created. Classes could be developed on how to remove excess calories from existing recipes or how to purchase healthier foods of a comparable cost to food items consumed and food demonstrations with healthy recipes could be provided with ingredients this population already have in their cabinets. The program could utilize the information gathered from the Practice Question to make ensure using foods commonly kept in their pantries and homes such as the hamburger, potatoes, and canned vegetables.

The participants mentioned interest for programs involving physical activity. They favored the idea of having adult and child exercise classes to provide fun ways to keep the whole family active and involved. Participants worried their children may become bored and would not let mothers attend the classes alone, but mothers felt if the child's program or activities were enjoyable and safe enough to keep the children happy, the mothers could get the most out of the parent's program. Some mentioned having an

activity room similar to Endzone or McDonald's play room where play equipment is abundant to keep a child engaged. Other ideas to involve children and pre-teens were craft projects that could be educational and enjoyable. One participant inquired about having the children learn to make beads, baskets or learning about 'American Indian stuff and making American Indian jewelry' to incorporate culturally specific occupations with health and nutrition information. This type of format would resemble traditional story telling circles that provided the rich stories and history of the Native American culture.

Limitations

While the research project yielded useful information, there were several limitations worth noting. First off, this project had a smaller number of participants compared to quantitative studies; however, given that it is a qualitative research project, smaller sample sizes are typical (Creswell, 2003). Given the smaller number of participants, it is not feasible to generalize the gathered information to all Native American populations. This study focused primarily on the Chickasaw Indians and pertains to them and their culture. Secondly, photovoice research demands more from participants than many other qualitative methods, such as focus groups or interviews. With Photovoice, participants start off with the photographs, attend meetings, and publicly share their perspectives and creativity. Due to the fact that this type of research required a lot of dedication from the participants, sometimes it was difficult to get participants to commit and stay committed to the project. Therefore, the individual groups may not have had the preferred sample size conducive for a normal focus group.

To make up for the smaller sample size per group, more groups were added along the project until the overall sample size was within the previously set goal. Two of the focus groups started off with only one or two participants to show up at the initial meeting. In the case of the Purcell and Ardmore Round One groups, in-depth interviews were conducted on the telephone instead of the traditional focus group discussion after photos were developed and distributed to participants. Due to the limitations of the telephone in-depth interviews, the participants did not have the opportunity to exchange ideas in a group setting. However, plenty of rich data was still gathered from these two groups.

The third limitation included the variations of gathered information due to different people facilitating the training and focus groups. In order to prevent variations, the use of key probes needed to be developed to keep uniformity among groups. The final limitation was that the information gathered was only based on Native Americans not living on American Indian reservations. Therefore, this information reflects the lifestyles of Native Americans living within the Chickasaw Nation jurisdiction and might not be transferrable to Native Americans who live on a reservation.

Areas for Further Research

Chronic diseases are now the major causes of death for Native Americans. Nutritional factors contribute to at least 4 out of the 10 leading causes of these deaths with heart disease, cancer, cirrhosis, and diabetes being the culprits. Native Americans have high rates of overweight, obesity, and hypertension; with all of these nutrition related problems, there is still incomplete information on nutritional status and present

dietary patterns, nutritive values of native foods, and nutrition education knowledge of this population (Caballero et al., 2003). Learning about how Native-Americans within the Chickasaw Nation boundaries perceive the risk of overweight and obesity would assist in the creation of new directions for culturally competent research and service provision.

This study was able to obtain basic information regarding what foods Chickasaw Indians in Oklahoma consumed, nonetheless, more studies needed to be completed to gain in depth knowledge on what this population was consuming in their everyday lives. Similar studies researching the dietary patterns with Native Americans from other tribes would be advantageous to broaden the scope of knowledge and evidence. Possible beneficial research studies could be designed to discover current nutrition knowledge, how Native Americans utilize this knowledge, and the availability and accessibility of nutritious foods to get a complete view of food and nutrition regarding Native Americans as it stands currently. Considering the complexity of these issues and the lack of dietary pattern, knowledge and application, and nutritious food availability and accessibility research, there is merit for future research to investigate these topics and the way it intersects with the Native American culture as it pertains to poverty, and health.

Research defining how much base nutrition knowledge low-income Native American families have could provide a starting point for programs. Once a program outline is created, discussions and research with the Chickasaw Indians on how they would feel about the new Social Marketing Program model might provide critical feedback to advance and further perfect the program towards targeting the population.

CHAPTER VI

CONCLUSIONS

Throughout the United States as well as in other portions of the world, obesity has proven to be a public health concern (Ogden et al.,2006; Ogden et al., 2007; Sowers, 2003). Native Americans have a current obesity prevalence of 39%, making this minority group at a greater risk of obesity-related co-morbidities than the general population (Wilson et al., 2007). The current leading causes of death for Native-Americans aged 55 and over include heart disease, cancer, and diabetes, all of which are complications aggravated by obesity (Conti, 2008; Denny et al., 2005). Preventative and treatment measures need to be embarked upon in order to help alleviate this health burden in the Native American population. In order for programs to be effective for the targeted audience, the programs must take into account the individuality of the specified culture.

Photovoice was a unique method of gathering information because it gave the Native American population a voice to share their life experiences. It strengthened the understanding of the Native American culture as it stands today. The participants gave insight on what methods of information transfer would be the most efficient and any portals of entertainment to reach them when a program is to be designed.

A better understanding of their view of health and nutrition was reached by allowing them to open up and show the researchers their world. All of these experiences, teachings, and stories helped in the development of a social marketing campaign to

encourage healthy eating behaviors to improve the health status of the Native Americans. By creating a more effective program, it is possible to make an impact to improve the health of Native Americans and potentially decrease the ever-raising obesity rates and the health and psychological consequences related to obesity.

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APPENDIX A

RECRUITMENT GUIDE SCRIPT

Recruitment guide

Hello, My name is ____ . We are inviting you and your family members to participate in a research study designed to learn more about how families think about health. You and your family have been invited because your family includes children 1-18 years of age and because you received food stamps or commodity foods over the last 3 months.

Participants in this study will be asked to use a new method to answer questions called *photovoice*. In photovoice your family will be given a question to answer. In order to answer the question, your family will use a disposable camera and take pictures to answer the question provided. Once you have taken the pictures to answer the question, we will collect the disposable camera and develop your pictures and give them back to the family for review. We will ask your family and several other participating families to gather at a specific community agency at a convenient time. At this meeting families will have the opportunity to explain why these pictures were taken to answer the question. This process tends to be fun for everyone in the family! Before we begin, we want to make sure that you take really good pictures and understand the process of photovoice. A training will be scheduled with your family on how to take the pictures. We will have a practice question so that we can go through the process, by giving the family a disposable camera and have them take pictures to answer a question. The training will consist of three meetings. Each meeting will last between 60-90 minutes. There will be a maximum of 3 questions asked and three meetings after pictures are developed. We will keep meeting times to a minimum as possible as we collect all your thoughts about the subject presented. After the training your family will receive $50.00 for each training session and $50.00 for each answer to the questions. You will not be able to receive more than $300.00 for participation. Participation is completely voluntary and you may withdraw from the study at anytime. If this sounds like something you would be interested in, I would like to schedule an appointment. Would you like to participate?

- If yes, schedule an appointment time

If no, thank them and say that if they have any questions they can call **Dr. Stephany Parker**, Department of Nutritional Sciences, 419 HES, Oklahoma State University, at telephone number 405-744-6821. For questions about your rights as a research subject . I may also contact Sue Jacobs, Ph.D., Institutional Review Board, 219 Cordell North, Oklahoma State University, Stillwater, OK 74078, (405) 744-1676 or email irb@okstate.edu with any questions concerning participant's rights or you may contact Mississippi State University Institutional Review Board at 662-325-5220 or e-mail at irb@research.msstate.edu

APPENDIX B

PHOTO RELEASE FORM

Photo Release Form

The investigators are required to ask for your permission to use your photo and keep it on file for educational purposes.

The photos you take may be kept on file for a variety of uses (web pages, brochures, media requests, press releases, magazine, etc.). By signing this form you grant the Chickasaw Nation Get! Fresh Program, Oklahoma State University and Mississippi State University permission to use this photo(s), as well as the ability to store and share these photos for educational purposes such as meetings or printed on brochures or flyers.

I, _____, give permission to the investigators
(printed name)
to keep my photo(s) and/or the photo(s) of my children on file and use it/them for purposes identified herein.

I understand that if I decide to revoke permission to use my photo(s), I will contact either Chiquita Briley, Ph.D., Principal Investigator (662) 325-0240 cbriley@fsnhp.msstate.edu or Stephany Parker, Ph.D., Co-Principal Investigator (405) 744-6821 steph.parker@okstate.edu .
.

_____ _____
(signature) (date)

_____
Permission for child pictured (if subject is under 18)

APPENDIX C

CHILDREN AND YOUTH ASSENT FORMS

Children and Youth Assent Form

Qualitative exploration of perceptions about family health

We are inviting you and your family members to participate in a research study designed to learn more about how families think about health. You and your family have been invited because your family includes children 1-18 years of age.

Participants in this study will be asked to use a new method to answer questions called *photovoice*. In photovoice your family will be given a question to answer. In order to answer the question, your family will use a disposable camera and take pictures to answer the question provided. Once you have taken the pictures to answer the question, we will collect the disposable camera and develop your pictures and give them back to the family for review. We will ask your family and several other participating families to gather at a specific community agency at a convenient time. At this meeting families will have the opportunity to explain why these pictures were taken to answer the question. This process tends to be fun for everyone in the family! Before we begin, we want to make sure that you take really good pictures and understand the process of photovoice. A training will be scheduled with your family on how to take the pictures. We will have a practice question so that we can go through the process, by giving the family a disposable camera and have them take pictures to answer a question. The training will consist of three meetings. Each meeting will last between 60-90 minutes. After the training your family will receive a question and a disposable camera to take pictures of your answers. If you take pictures of a person that is not a part of the immediate family, a form will need to be signed. The picture consent form gives the family the permission to take a picture of a person, business or home that is needed in order to answer the question. There will be a maximum of 3 questions asked and three meetings after pictures are developed. We will keep meeting times to a minimum as possible as we collect all your thoughts about the subject presented. After the training your family will receive $50.00 for each training session and $50.00 for each answer to the questions. This is our way of saying thank you for your time. The comments about pictures will be audiotaped but the people who write out the recording will not know who you are. What you and your family members say during the interview will be kept confidential.

We will also asked your parents for permission for you to do this study. Please talk this over with them before you decide whether or not to participate. If you have questions at any time, please ask one of the researchers. If you check "yes" it means that you have decided to participate. You and your parents will be given a copy of this form to keep**. If you start the project and decide you do not like it, you can feel free to stop participating at anytime.**

_____ yes, I would like to participate

_____ no, I do not want to participate in the study

_____ _____

Signature of participant Date

_____ _____

Chiquita Briley Stephany Parker

APPENDIX D

PHOTO REFLECTION SHEET

Photo Reflection Sheet

Family's Name:	Participant #: Week#: Exposure #:
Brief description of photo:	
I want to share this photo because:	
What's the real story this photo tells?	
How does this relate to your life and/or the lives of people in your neighborhood?	

APPENDIX E

DATA MANAGEMENT SHEET

Film Collection and Distribution Sheet

Question number: _____

Date: _____

Family ID#	# of pics taken	Pics turned in (date)	Pics processed (date)	Pics processed (initial)	# of pics developed and mailed	Pics mailed (date)	Pics mailed (initial)	Family received pics (date)