SOCIOECOLOGIC FACTORS AFFECTING OVERWEIGHT AND OBESITY IN AFRICAN AMERICAN, NATIVE AMERICAN AND WHITE LIMITED INCOME WOMEN

By

KERI LEA LAYTON

Bachelor of Science in Nutritional Sciences

Oklahoma State University

Stillwater, OK

2006

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
July, 2008

SOCIOECOLOGIC FACTORS AFFECTING

OVERWEIGHT AND OBESITY IN AFRICAN

AMERICAN, NAMTIVE AMERICAN, AND WHITE

LIMITED INCOME WOMEN

Thesis Approved:

Dr. Stephany Parker

Thesis Adviser

Dr. Janice Hermann

Dr. Edralin Lucas

Dr. A. Gordon Emslie

Dean of the Graduate College

ACKNOWLEDGEMENTS

I would first like to thank my advisor, Dr. Stephany Parker, for all of the advice she has given me throughout this project. Her patience and guidance have been greatly appreciated. She is a fantastic advisor as well as great mentor and I am extremely grateful for having had this opportunity to work with and get to know her better.

I would like to extend a special thanks to my committee members, Dr. Janice Hermann and Dr. Edralin Lucas, for their time and counsel. I also would like to thank Embry Pollock for her hard work and efforts putting together our last focus group; you helped me tremendously! Special thanks also to all of the volunteers who helped put together and conduct all other focus groups for this project, as well as the transcriptions.

I give thanks to God for all of the blessings that I have in my life and for my wonderful family. Mom and Dad, thank you for always supporting me and for always being there; you have no idea how much you all have helped me through the years. Thank you to my sister, Jill, and brother-in-law, Willie, for all of your support as well. Jill, you were right, this was the hardest part!

Finally, I am thankful for my husband and my best friend, Cliff. Thank you for putting up with me through these long months and for never letting me give up on myself. Words cannot express how much I love you. Thank you for all that you are and everything you do for me.

TABLE OF CONTENTS

Chapter Page

Chapter Page

LIST OF TABLES

Table Page

Table Page

CHAPTER I

INTRODUCTION

Obesity is one of the nation's fastest growing health concerns today; it is a complex condition in that a variety of factors such as social, behavioral, cultural, environmental, physiological and genetics are involved in the development of the disease (Healthy People 2010). Obesity is defined as the accumulation of excess body fat to the point that health and body functions are negatively affected (Ulijaszek & Lofink, 2006). The cause of obesity is usually attributed to the consumption of excess calories without adequate calorie expenditure. When a positive imbalance occurs, excess calories are converted to fat and stored.

Although genetics play a central role in the development of obesity, research suggests that environment may also play a large role (Hill & Peters, 1998; French et al., 2001). With technological advances, few jobs require hard physical labor and hours spent watching television and using computers have contributed to a substantial decline in daily energy expenditure. The emergence of the fast food industry as well as increases in the availability of high energy dense foods, have also been suggested as key contributors to the recent increase in rates of obesity (Jeffery & French, 1997; Hill et al., 2003). Abundance of food, sedentary behaviors, and increased portion sizes all contribute to the development of overweight and obesity in the United States (Surgeon General's

Report, 2001). In sum, increases in energy intake, decreases in energy expenditure, and environmental changes allowing for increased easy access to high energy foods are possible contributors to the prevalence of overweight in the United States.

Race/ethnicity, gender, age, and socioeconomic status are key factors related to differential rates of overweight and obesity among diverse segments of the population. Overweight and obesity are more common among minority groups and those with lower family earnings. Limited-income women are also more susceptible to the development of obesity (Parker & Keim, 2004). Women generally have a higher risk of obesity than men. Furthermore, women of racial/ethnic minorities are at even higher risk than non-Hispanic white women (Surgeon General's Report, 2001). Low socioeconomic status also contributes to disparities in the prevalence of overweight and obesity (Townsend et al., 2001; Basiotis, 2003). For all racial/ethnic groups combined, women of lower socioeconomic status are 50% more likely to be overweight or obese than those of higher socioeconomic status (Surgeon General's Report, 2001).

Racism, sexism, poverty, and/or sexual abuse amongst women have been identified as possible contributors to the development of obesity amongst low-income women (Thompson, 1993; Wiederman et al., 1999). Racial segregation and discrimination against female minority groups are of particular interest because these may provide insight into the differences in obesity prevalence amongst low-income women of different racial/ethnic populations. Unequal educational opportunities, limited access to recreational facilities, and differences in consumption standards are also of concern when postulating as to contributors to differential rates of obesity among limited income women as compared to women of higher income groups (Stunkard, 2000). In

addition, psychosocial effects of income inequality, such as lower self esteem, perceived inability to enact change, and overall attitude, may be especially significant due to the influence on other components that may contribute to obesity, such as sedentarism, caloric intake, food choice, and the physiological effects of stress (Pickett et al., 2005).

Research Question

Do perceptions of overweight and obesity differ among women of limited resources of different racial/ethnic groups?

Objectives

The following research objectives were developed for the proposed study:

1. To identify what socioecological factors influence obesity from the perspectives of limited resource women of different racial/ethnic groups.
2. To determine whether perceptions of obesity vary by racial/ethnic group.

Limitations

This study was conducted using only limited resource women from Oklahoma. As a result, data obtained are reflections of only a small sample of this population. Beliefs and perceptions of these racial/ethnic groups and other limited resource women may vary by geographic location.

There were not an equal number of participants for each ethnic group and for all ethnic groups there was a small sample size. Furthermore, in some focus group sessions there was only one participant, thus it was harder to brainstorm as there were no other participants there to provide more of a “groupthink” environment. In addition, because of time constraints, focus groups were not conducted with each ethnic group to the point of data saturation. Additional focus groups need to be conducted to the point of data saturation for each racial/ethnic group.

CHAPTER II

REVIEW OF LITERATURE

Obesity: Background Information

Generally, obesity is defined by weight that is greater than what is considered healthy for a person of a given height (CDC, 2007). Techniques used to measure obesity and body fat include anthropometry, such as skinfold measurements and body mass index (BMI), body density using underwater weighing, dual X-ray absorptiometry (DEXA), bioelectrical impedance, and body imaging, such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI) (Poskitt, 1995). Body Mass Index (BMI), is probably the most recognized and widely used formula for obesity classification in the United States. BMI has the advantage of not being age, gender or ethnicity specific and is calculated using an individual's weight in kilograms (kg), divided by their height in meters squared (m^2) (WHO, 2007). The number derived can be applied to ranges in four standard weight categories: underweight ($\leq$ 18.4 kg), normal weight (18.5 – 24.9 kg), overweight (25.0 – 29.9 kg), and obese (30.0 – 39.9 kg) (WHO, 2007). Within the obesity category, there are 3 sub-categories, which define classes of obesity. Class I obesity is defined as having a BMI between 30 and 34.9, Class II between 35 and 39.9, and Class III $\geq$ 40 (WHO, 2007).

BMI has been adopted for use in epidemiological and public health forums

because of the strong correlation with morbidity and mortality rates of many chronic diseases (Ulijaszek & Lofink, 2006). However, BMI does not take into account lean body mass or body fat distribution, deeming it an inaccurate indicator of obesity in certain populations, such as those with high muscle mass and low body fat. Athletes are an excellent example of how inaccurate BMI can be when used in a population that has a low body fat percentage paired with a high lean body mass.

In recent years, there has been some discussion concerning the appropriateness of BMI categories for specific racial/ethnic groups as a result of evidence supporting differences in associations of BMI, percent body fat, and body fat distribution among people of different ethnic populations (WHO, 2007). For example, evidence has suggested that the proportion of the Asian population at risk for developing diseases related to overweight and obesity, such as Type 2 Diabetes Mellitus and Cardiovascular Disease (CVD) is significant at BMI's lower than the existing WHO cut-off point for overweight (WHO Expert Consultation, 2004). The assumption that different ethnic groups have like risks of morbidity and mortality at similar levels of BMI is quite possibly in err and there is no evidence to imply that this assumption is valid. BMI values vary greatly depending on the population assessed. (de Onis & Habicht, 1996). Carroll et al. (2008) found in a study using 200 participants over the age of 45 and of African American, Hispanic or Caucasian race, that although African-American men and women had similar BMI and waist circumference measurements, they also had lower visceral adipose tissue (VAT) than their Caucasian and Hispanic counterparts. Increases in VAT have been associated with metabolic anomalies (Albu et al., 1997). However, this study also found that total subcutaneous adipose tissue (SAT) was greater in African American

women (Carroll et al., 2008). Increased truncal SAT has also been associated with metabolic abnormalities such as insulin resistance, especially among minority groups (Wagenknecht et al., 2003).

Another consideration with the use of BMI is that body fat is to some extent age-dependent; as human beings age there is a progressive increase in the ratio between fat and lean body mass, even if an individual is able to maintain approximately the same BMI (Prentice & Jebb, 2001). Thus, BMI is unable to detect the changes from lean to fat tissue, which is of special concern during middle age and menopause in women (Prentice & Jebb, 2001).

Obesity may develop when energy intake exceeds that of energy expended, thus producing a positive energy balance. A 10% positive energy balance can lead to an approximate 13.5 kg weight gain within one year (Bray, 1987). Obesity is a somewhat recent phenomenon and was not well known in the 1950's, yet by the 1990's, 33 nations in the world reported obesity rates in excess of 10% of the total adult population (Nishida & Mucavele, 2005). Historically, obesity has been more prominent among the upper classes. Once seen as a sign of wealth, a large body size, including fatness, displayed privilege among individuals and groups (Brown & Konner, 1987; Brown, 1991; de Garine & Pollock, 1995). At present, obesity is no longer a condition reserved for those with wealth. Surprisingly, in many affluent nations such as the United States, minorities, those belonging to the lower classes, and those dwelling in rural communities often demonstrate higher rates of obesity when compared to those of more affluent status (Swinburn et al., 2004).

Differential rates in the prevalence of obesity may be attributable to the monetary price of being healthy. With changes in accessibility of convenience foods and fast food chains throughout the United States, economically priced, high energy-dense foods have become available for virtually every class of people (Guthrie & Morton, 2000). Thus, more expensive healthful food options that may require more time to prepare are not an option for some.

However, it is possible that healthier items, such as fresh fruits and vegetables, may actually be cheaper than many of the processed forms of fruits and vegetables. Because fresh produce is deemed "healthier", many people may automatically assume that they will be more expensive. A study conducted by the Economic Research Service of the United States Department of Agriculture, using the 1999 A.C. Nielson Homescan data, indicated that of the $223 billion spent on food at retail stores in 1999, expenditures on fruits and vegetables accounted for 7.6% and 7.7%. More than half of all expenditures on fruits and vegetables could be attributed to fresh produce, while canned vegetables and fruit juices accounted for almost one-third of all expenditures. By comparison, 17.1% was spent on grains, 18.4% on meats, 13.7% on dairy, 10.3% on beverages other than juice, 9.8% on already prepared meals/foods and soups, 4.1% on salty snacks and 3.6% on candy. This study also reported that fruit and vegetable prices, both fresh and processed, varied widely. Interestingly, findings indicated the cheapest way to buy fruits was rather evenly distributed between fresh, juice and canned; frozen and dried were never the cheapest, and the cheapest way to actually eat fruit significantly favored buying fresh in season (Reed et al., 2004). There were price differences for the different forms of fruit, however, the dollar-per-serving difference between the most and least expensive

form of the same fruits was generally small (Reed et al., 2004). Similarly, per serving, the more expensive form of vegetables was in the canned form because of the packing liquid, whereas a serving of canned vegetables reflects a drained amount. Thus, most canned vegetables had fewer servings per pound when compared with fresh or frozen; although more than half of the vegetables surveyed drew the highest price per pound in the fresh form (Reed et al., 2004). This research indicates the need for education as far as prices are concerned between processed and fresh produce.

Along with the increased consumption of high energy-dense, high fat, high sugar foods, there has also been a decline in physical activity (McCrory, 1999; Guthrie & Morton, 2000), leading to a shift in obesity prevalence. Many experts agree that the environment has an influence on increased rates of obesity in America (Hill & Peters, 1998; French et al., 2001). While biology and genetics have a major role in the development of overweight and obesity, the changing environment in the United States and the world in general has affected the rapid increase in weight that has occurred over the past three decades (Hill et al., 2003). As social, economic, and technological advancements have changed patterns of physical activity worldwide (Ulijaszek & Lofink, 2006), obesity has gradually increased as a major health problem in the United States among all socioeconomic groups.

The environment in the United States has been described as one that promotes energy consumption and discourages energy expenditure (Hill & Peters, 1998; French et al., 2001). Inexpensive, high energy foods accompanied by large portion sizes have become more common in the past few decades; these factors coupled with decreased physical activity once provided by jobs requiring physical labor and activities of daily

living that are now aided by technology or hours of time spent watching television, all contribute to increased body weight in America (Jeffrey & French, 1997; Hill et al., 2003). The idea that technology would fuel high productivity and in turn create a better life has in reality contributed to a life that is faster paced and more stressful than ever before (Gleick, 1999).

Obesity Statistics

In 2005, the four leading causes of death in the United States according to the National Center for Health Statistics (NCHS) were heart disease, cancers, stroke, chronic lower respiratory disease; diabetes was number six, coming in behind unintentional accidents (Kung et al., 2008). Overweight and obesity are risk factors for all five of these conditions. Data from 2005 indicate that these diseases contributed to 1,561,034 mortalities or 63.8% of all deaths in the United States (Kung, 2008).

Data from the 2003-2004 NHANES study indicated that 66.3% of American adults over the age of 20 were considered overweight or obese. Of the 66.3%, 32.9% were considered to be obese with a BMI >30 (CDC [NHANES data], 2003-2004). When comparing this data with that of the same study conducted in 1988-1994, overweight numbers have increased by 10.3% and obesity has increased by 9%. Among the 1999-2000 and the 2003-2004 studies, obesity in men significantly increased from 27.5% to 31.1%, while there was a slight, but insignificant, decrease in obesity noted among women in the same studies from 33.4% to 33.2%. Recent data from the 2005-2006 NHANES study showed no significant change in obesity prevalence from the findings of

the 2003-2004 examination for either women or men, although women still have a slightly higher incidence of obesity. In 2005-2006, 34.3% of adults were found to be obese (Ogden et al., 2007).

There are also differences in the rates of obesity due to racial/ethnic and socio-economic differences. Data from the 2001-2004 NHANES study indicated that 61.6% of all women in the United States were overweight or obese, with the highest rates occurring among the near poor population of women, defined as having 100% to less than 200% of the federal poverty threshold. The lowest rates for all women of overall overweight or obesity occurred in the non-poor, defined as having an income at or above 200% of the poverty threshold, at 58.2% (CDC [Health Data for All Ages], 2007).

When categorized by race, an alarming 57.6% of all non-Hispanic white women and 79.5% of all non-Hispanic African American women were considered overweight or obese. When racial categories were further delineated by socioeconomic status, the highest rates of overall overweight and obesity for both non-Hispanic white women (63.2%) and African American women (83.7%) occurred within the near poor category. The highest rates of obesity alone were also noted to be in the near poor category for non-Hispanic African American women (54.8%), however, the highest rates of obesity alone among non-Hispanic white women were highest among the poor (37.2%). Those categorized as poor, defined as having incomes below the poverty threshold, had the second highest rates of overall overweight and obesity, with all women at 65.3%, poor white women at 56.5% and African American women at 80.8%. The lowest rates of overweight and obesity for both non-Hispanic white and African American women occurred in those classified as non-poor (CDC [Health Data for All Ages], 2007).

Newly released data from the 2005-2006 NHANES study, although showing no significant increase in overall obesity trends, did indicate large disparities in obesity prevalence by race/ethnic group among women, though not among men. The study indicated that approximately 53% of non-Hispanic African American women aged 40-59 years, were obese compared with 39% of non-Hispanic white women of the same age. Furthermore 61% of non-Hispanic African American women were obese compared to 32% of non-Hispanic white women aged 60 years or older (Ogden et al., 2007). Similarly, Seo & Torabi (2006) found that in a random digit dialing telephone survey of 1,000 completed surveys, 604 of whom were women, 41.8% of female African American respondents were considered obese, compared to only 19% of Caucasian women.

Data obtained from the 2006 Behavioral Risk Factor Surveillance System (BRFSS) classified 36.5% of the United States population, including Washington D.C. and outlying territories, as overweight and 25.1% as obese. When compared with national statistics, Oklahoma was slightly lower than the national average for overweight at 36%, but exceeded the national average for obesity at 28.8%. Approximately 30% of women both nationwide and in Oklahoma were classified as overweight, however Oklahoma women exceeded those classified as obese with 26.9% compared with a national average of 24.5% (CDC [BRFSS data], 2006). Furthermore, while whites had a greater prevalence of overweight at 36.8%, when compared to African Americans (35.1%) nationally, there was a much lower prevalence of obesity among whites (24.2%) when compared to African Americans (36.7%). Oklahoma, compared to the national statistics, had a higher prevalence of obesity among whites at 27.6%, yet a lower prevalence of obesity among African Americans at 32.9%. Using the data based on overweight,

Oklahoma had a slightly lower prevalence among whites with 35.4% compared to the national average of 36.8%, but a higher prevalence of 38.1% among African Americans, compared to the national average of 35.1% (CDC [BRFSS data], 2006).

The highest rates of overweight among income groups reported in the 2006 BRFSS occurred nationally at $50,000+ with 39.1%, and within Oklahoma between $25,000 and $34,999 at 43.9%. The lowest rates of overweight at the national level occurred at an income of $15,000 or less; Oklahoma's lowest rate of overweight, 30.7%, occurred at incomes of $15,000 or less which is a lower rate than that of the national average of 31.6%. Nationally, the highest rates of obesity, 30.7%, occurred at an income of $15,000 or less. The highest rates of obesity in Oklahoma, 35% occurred at this same income level as well and exceeded that of the national average (CDC [BRFSS data], 2006).

Medical Problems and Expenditures

Overweight and obesity are major risk factors for a number of chronic diseases. Overweight or obese individuals are at higher risk for developing heart disease, type 2 diabetes mellitus, hypertension, osteoarthritis, dyslipidemia, stroke, gallbladder disease, obstructive sleep apnea and other respiratory problems, certain types of cancer, pulmonary hypertension, pulmonary embolism, venous insufficiency, degenerative joint disease, and nonalcoholic steatohepatitis (CDC, 2007). Obesity is now second only to smoking as the leading preventable cause of death in the United States (Mokdad et al.,

2004). It is estimated that 300,000 premature deaths related to obesity and sedentary lifestyles occur each year in the United States (Allison et al., 1999).

Healthcare costs due to overweight and obesity are expected to increase over time. Costs attributable to obesity are divided among three subcategories: direct, indirect, and personal costs. Direct and indirect costs are associated with societal losses, such as increased healthcare expenses and loss of productivity. Personal losses may be those such as discrimination and higher living expenses (Seidell, 1995; Seidell, 1998; Wolf, 1998; Colditz, 1999; Wolf, 2002). Sturm et al. (2002) found that healthcare expenditures for overweight and obesity were higher than any other contributory health condition, including smoking and alcohol abuse. In 1998, cumulative adult medical expenditures associated with overweight and obesity were estimated at $51.5 billion using the 1998 Medical Expenditure Panel Survey (MEPS) and $78.5 billion using National Health Accounts (NHA) data. Obesity alone accounted for over half of these estimates at $26.8 billion and $47.5 billion respectively. Medicare or Medicaid encumbered approximately half of the expenditures (CDC, 2007; Finkelstein et al., 2003). In 2000, the total indirect costs attributable to overweight and obesity amounted to $117 billion (Surgeon General Report, 2001). Estimations also reveal that lifetime medical costs associated with diabetes, heart disease, high cholesterol, hypertension, and stroke among the obese are approximately $10,000 higher than those among non-obese individuals (CDC, 2007). A 10% reduction in overall body weight is estimated to reduce lifetime medical costs by approximately $2,200 to $5,300 for those considered overweight (Oster, 1999).

Women and Obesity

Overweight and obesity may have detrimental effects on women in particular. Women naturally have a greater proportion of body fat than men (Ulijaszek & Lofink, 2006). Women with a higher degree of adipose tissue in the abdominal area are especially susceptible to type 2 diabetes mellitus, and women diagnosed with diabetes, when compared to men with diabetes, have a disproportionately higher risk of coronary heart disease (CHD) (Manson et al., 1996; Levitsky et al., 2008). Obesity in postmenopausal women has also been linked to an increased risk of breast cancer, as adipose tissue contains fat-soluble estrogen precursors which are eventually converted to active estrogen (Pi-Sunyer, 1995).

A higher BMI (Willett et al., 1999), coupled with an elevated waist circumference (Carey et al., 1997), are stronger predictors of type 2 diabetes in women. Abdominal obesity, in particular, has been strongly correlated to polycystic ovary syndrome (PCOS) although the mechanism for association is not clear (Hu, 2003). It has been shown however, that over half of women suffering from PCOS are overweight or obese, with most exhibiting abdominal obesity (Gambineri et al., 2002).

Obesity Stigma and Discrimination

Among women, those of limited income and certain ethnicities appear to be more affected by overweight and obesity. Some research suggests that overweight and obesity among women may be an adaptive response to societal injustices such as poverty, sexism, racism, and sexual abuse (Thompson, 1993; Wiederman et al., 1999). In an

ecological study of 21 developed countries, Pickett et al. (2005) found that the United States had the highest percentage of obese women at 34%, while Japan had the lowest percentage of obese women at 2.9%. This study also found that among women, but not among men, and in all weighted analysis, obesity and income inequality remained statistically significant in all 21 countries studied (Picket et al., 2005).

Stigma attached to heavier weights and discrimination experienced by overweight and obese individuals are areas identified for additional research. Much of the research available reports widespread beliefs that obese people possess numerous negative traits that range from poor personal effort, such as lack of willpower or laziness, to flaws in competence, attractiveness, and morality (Puhl & Brownell, 2001; Puhl et al., 2008). Cossrow et al. (2001) indicated that focus group participants consistently reported beliefs that stereotypes associated with overweight and obese individuals may make it difficult for them to find jobs, date, or socially interact with others. Along with stigmatization, discrimination has also been well documented in the literature as a social consequence of being overweight or obese (Paul & Townsend, 1995; Roehling, 1999; Cossrow et al., 2001; Puhl & Brownell, 2006; Schwartz et al., 2006; Puhl et al., 2008). Consequently, the negative attitudes toward overweight and obese individuals may have profound negative psychological affects, which may promulgate lower socioeconomic status in this population (Cossrow et al., 2001)

In a study of 4,283 participants, the majority of whom were from the United States, female, and/or white with at least some college education, researchers found that approximately 85% of the participants more strongly associated overweight or obese people with bad character and thin people as being of good character. Furthermore,

respondents in this study moderately associated overweight or obese people as lazy and thin people as motivated and that many of the respondents would be willing to trade years of life, some diseases, marriage, and even fertility rather than be obese. When responses were compared to the respondent BMI category, the magnitude of anti-fat bias for both implicit and explicit attitudes was significantly stronger in those individuals with low BMIs (Schwartz et al., 2006).

Job and medical care settings have been among the most frequently reported locations where weight based stigmatization has occurred. Reports of being denied promotions, jobs, and poor treatment from co-workers and employers due to weight based stereotypes have been documented (Paul & Townsend, 1995; Roehling, 1999; Cossrow et al., 2001; Puhl & Brownell, 2006; Puhl et al., 2008). Rothblum (1990) et al., in a study of 445 obese individuals, reported that among those classified as 50% or more of their ideal body weight (IBW), 26% reported they were denied benefits and 17% reported being fired or forced to resign because of their weight. Two similar studies conducted in the early and mid 1990s found that overweight women tended to receive significantly lower wages than women of a healthy weight with similar qualifications (Pagan & Davila, 1997; Register & Williams, 1990). Studies focusing on stereotypic attitudes of employers indicate that overweight or obese individuals may be disadvantaged before the interview process even begins (Puhl & Brownell, 2001).

Puhl & Brownell (2006) surveyed a sample of 3,304 respondents employed in the healthcare field and found that doctors were among the most frequently reported source of weight bias reported by women, which is consistent with previous literature (Fontaine et al., 1998; Teachman & Brownell, 2001; Cossrow et al., 2001). Schwartz et al. (2003)

also found that anti-fat bias was evident among those healthcare professionals specializing in the treatment and research of obesity, including physicians, dietitians, psychologists, nurses and other professionals that are directly related to the care and/or research of obesity. Using the Implicit Associations Test (IAT), a timed word classification task, researchers found a significant implicit and explicit anti-fat bias among these participants. Implicit results showed words reflecting negative attributes were more positively associated with obesity, such as the words bad, lazy, stupid and worthless, than positive attributes, such as good, motivated, smart and valuable. Explicit attitudes showed similar findings, as obese individuals were considered more lazy, stupid and worthless when compared to thin people. Moreover, a significantly stronger anti-fat bias was expressed by women on the implicit fat-bad, fat-lazy and fat-stupid measures, but not on the fat-worthless measure. This study did find, however, that those participants who worked directly with obese patients tended to exhibit less anti-fat bias on the lazy-motivated measure than those did not work directly with obese patients. (Schwartz et al., 2003).

It appears that discrimination may also occur when healthy behaviors are being practiced. In a focus group study by Cossrow et al. (2001), participants, particularly females, reported discrimination and verbal insults while exercising at public gyms. These participants, both women and men, also felt there were more prominent weight expectations and stronger media pressure for thinness in women than men (Cossrow, 2001).

Weight stigmatization and discrimination have been documented in the aforementioned settings (Puhl & Brownell, 2001). However, a recent study by Puhl et al.

(2008), found that the worst experiences may actually occur at a more interpersonal level among friends and family. Findings from this study were based on personal responses of 318 overweight and obese individuals, 86% of whom were women. The researchers attributed this phenomenon to several possible factors. First, it was possible that weight bias had become so common that family members and friends had not become impervious to anti-fat bias. Furthermore, more time is spent with family and friends than in other environmental settings where the same bias may be found. Second, that these tactless comments may in fact be a desperate attempt to motivate the obese individual. Third, the comments may stem from personal stress from living with an overweight or obese person (Carr & Friedman, 2006). Fourth, that these comments made by friends or relatives may be recalled more often only because they are deemed more hurtful than if they were coming from a stranger. Fifth, because of the stigmas attached to those associated with overweight or obese individuals (Hebl & Mannix, 2003). Lastly, the person making the comment may feel others view them as a partial contributor to the overweight or obese individual's weight (Puhl et al., 2008).

In the same study by Puhl et al. (2008), when participants were asked what they would like others to know about the experience of being overweight or obese, three major themes emerged: (1) weight based responses focused on causes of obesity and difficulties of weight loss, (2) emotional consequences of weight based stigmatization and (3) the fallacy of many weight-based stereotypes. However, although 84% of the respondents reported that they themselves believed stereotypes were false, 15% believed stereotypes to be true. Of the 15% who believed the stereotypes were true, 88% were female and 97% were Caucasian.

Social Issues Leading To Obesity in Women

Some research supports the idea that overweight and obesity, especially among women, may be the result of social injustices imparted upon individuals including racism, sexism, sexual abuse, or poverty (Thompson, 1993; Wiederman et al., 1999). Lower socioeconomic status has also been positively linked to higher risk of obesity amongst women (Sobal & Stunkard, 1989). A more in depth discussion of these issues follows.

Racism

Although racial segregation is illegal, the consequences from generations past are evident among today's generation. Because of racial segregation, middle class African Americans often live in poorer areas when compared to those of their Caucasian counterparts. Moreover, poor African Americans often live in much worse areas than poor Caucasians (Williams & Jackson, 2005). These areas may be more violent, have less access to safe and healthful foods, as well as have less access to good educational opportunities. Morland et al. (2002) found affluent neighborhoods to have approximately three times more supermarkets than poorer neighborhoods and predominately Caucasian neighborhoods to have approximately four times more supermarkets than predominately African American neighborhoods. Thus, a larger selection of healthful food options may be more available in those neighborhoods with more available supermarkets.

In terms of sustained segregation in neighborhoods, reports indicate that Caucasian Americans prefer an "all white" neighborhood. Charles (2003) surveyed a nationally representative sample and found that 24.7% of Caucasian Americans would prefer to live in neighborhoods with no African Americans and 20.3% would prefer all

white neighborhoods. In contrast, only 6.5% of African Americans preferred to reside in all African American neighborhoods, while only 9% preferred a neighborhood with no Caucasians (Charles, 2003). Researchers studying housing opportunities for African Americans found that auditors who were identifiably "African American" when speaking on the phone with rental housing agencies achieved significantly less access to rental housing than those auditors whose voices were identified as white, middle-class (Massey & Lundy, 2001). This research indicates that racial segregation may relegate certain ethnic groups to unhealthy neighborhoods and perpetuate disparities in obesity among some population groups.

Massey (2004) reported that some U.S. racial/ethnic minorities experience less residential segregation than African Americans, and although residential segregation is inversely related to income for Latinos and Asians, African American segregation is high at all levels of income. Poorer neighborhoods have limited access to healthier options, facilities, and healthcare thus impacting differential rates of obesity, especially amongst African Americans as research supports that this population is most affected by racism and segregation. High levels of racial segregation are positively correlated with shifts in the distribution of income with pockets of poverty (Massey & Fischer, 2000). Such concentrations of poverty in geographically concentrated neighborhoods may also be more ridden with crime and violence which may contribute to obesity due to increased stress levels. When individuals experience high stress, cortisol is secreted into the blood by the adrenal glands. Elevated cortisol levels cause the production of excess glycogen and fat storage, thus contributing to the elevated risk of obesity amongst poverty stricken populations (McEwen & Lasley, 2002). In addition, violence in neighborhoods may also

produce fear and result in less time spent outside and less physical activity. Because poorer areas have been described as having fewer educational and employment opportunities, residential segregation also creates higher rates of unemployment or instability amongst African American men. This is associated with higher rates of female-headed households (Testa et al., 1993), as females must step up as the primary bread winner. In a study comparing the risk of cardiovascular disease (CVD) between partnered mothers and single mothers, single mothers, although reportedly more physically active, were 3.5 times more likely to be very obese than the partnered mothers (Young et al., 2005). If a female is a single parent, this may often lead to less time for herself, between working and taking care of her family.

Sexism

Sexism may also contribute to the increase in obesity amongst females. Perez-Lopez et al. (2001) found, in a study using questionnaires to survey male and female college students on their attitudes towards different groups of people, that men tended to have stronger anti-fat attitudes than did women. These findings also concurred with previous literature, reporting that women may express less anti-fat attitudes because being overweight or obese may be more difficult for them when compared to men, in that women are more likely than men to be criticized based on their physical appearance (Harris et al., 1990) and more likely to be rejected by mates (Harris et al., 1991).

In a previously mentioned study researching racism among rental housing, gender also appeared to affect what auditors achieved the most success at renting based on the sound of their voice. Those who might be identified as white, middle-class males always

had the most success, followed by those identified as white, middle-class females. Next were lower-class African American males, and lastly lower-class African American females (Massey & Lundy, 2001). The findings of this study indicate that not only race, but gender may have an impact on housing decisions, thus affecting the areas by which housing is more available to women and the environments in which they find themselves. This is especially important, it appears, within the female African American population.

Sexual Abuse

Research indicates that the prevalence of obesity is higher among women with histories of childhood sexual abuse (CSA) (Felitti, 1991; Springs & Friedrich, 1992; Felitti, 1993; Aaron & Hughes, 2007). Furthermore, the relationship between sexual abuse and obesity also appears to be strongest amongst women who have experienced more severe forms of sexual abuse, for example, cases involving penetration (Gustafson et al., 2004).

In a longitudinal, prospective study by Noll et al. (2007), two groups of females, ages 6 to 16 years of age, were followed over an 18-period. The study group consisted of participants referred by child protective services (CPS) with experiences of substantiated familial sexual abuse during the previous 6 months and the control group consisted of a similar demographic group of non-abused female peers. Height and weight of both the study and control subjects was obtained by researchers at 6 different points in development. Obesity status was observed at various stages and calculated during three distinct periods of development: childhood to early adolescence (6-14 years), middle to late adolescence (15-19 years), and young adulthood (20-27 years). Body-mass growth

trajectories were also contrasted across the two groups. Researchers observed insignificant differences in obesity among participants in childhood and adolescence, however, by young adulthood, abused female participants were 2.85 times more likely to be obese than their non-abused counterparts. Raw BMI trajectories indicated that, on average, abused female participants tended to gain body mass at a substantially faster rate from childhood to young adulthood than did their non-abused peers, after controlling for demographics and parities (Noll et al., 2007).

Williamson et al. (2002) found adults who reported a history of Childhood Sexual Abuse (CSA) had a 30% higher probability of being obese than those adults who did not report CSA. In a sample of 416 ethnically diverse, adult lesbians, one-third of whom reported CSA, a history of CSA was related to a higher BMI and higher rates of obesity and morbid obesity (Aaron & Hughes, 2007). Those who did not report CSA were less likely than those who did report CSA to be obese (19% vs. 29%) or morbidly obese (6% vs. 11%). Moreover, morbid obesity was more strongly associated with CSA than those who were merely obese (Aaron & Hughes, 2007).

Research has also indicated that sexually abused, obese individuals often have more difficulty losing weight than obese individuals without a history of abuse (King et al., 1996). Van Hanswijck de Jonge et al. (2003) found that among women who were sexually abused, a higher BMI was associated with stronger beliefs of emotional deprivation/abandonment, mistrust/abuse and social isolation from others and unrelenting self standards with subjugation to others. The degree to which these women's weight had changed in adulthood, which may have been a possible indication of failed dieting attempts, was positively related to their beliefs that they had no support system with

others (van Hanswijck de Jonge et al., 2003). Thus, support systems appear to be an important factor in the success of weight loss. As van Hanswijck de Jonge et al.'s (2003) research indicates, healthy support systems may be difficult to form for women with a history of sexual abuse due to mistrust and differing degrees of social isolation and subjugation.

Some research suggests that the development of obesity amongst sexually abused women may serve as a sort of self-protective mechanism, in which obesity is used as a weapon to ward off sexual advances from potential partners, consensual or not (Felitti, 1993; Wiederman et al., 1999). As such, excess weight may be used as a means to avoiding situations which may trigger adverse emotional reactions (Gustafson et al., 2004). Wiederman et al. (1999) found among an obese sub-sample, that a history of sexual abuse was predictive of reasonably less body dissatisfaction when compared to obese subjects without a history of sexual abuse. In addition, researchers also found that those obese women indicating a history of sexual abuse had less weight fluctuation when compared to their non-abused counterparts (Wiederman et al., 1999). These findings are consistent with the aforementioned studies which implied that obese women with a history of sexual abuse often have less success with weight loss when compared to non-abused obese peers (King et al., 1996; Wiederman et al., 1999).

Poverty/Low Socioeconomic Status (SES)

Low SES has long been associated with obesity in western countries (Sobal & Stunkard, 1989). In the United States, and in many other western affluent societies, increasing income inequality is associated with increased health disparities between

upper and lower classes, despite stable economic growth (Pena & Bacallo, 2002). Higher obesity rates tend to be associated with low incomes and low education among women (Brown & Konner, 1987; Paeratakul et al., 2002; Wardle 2002).

Food security is defined as having access at all times to sufficient food in order to support an active and healthy lifestyle (Nord et al., 2004). In the United States, some have questioned the existence of food insecurity among lower income populations because of the prevalence of overweight and obesity among these groups (Olson, 1999). However, studies have shown that food insecurity is positively related to obesity and overweight, especially among women (Townsend et al., 2001; Basiotis & Lino, 2003). When food insecurity exists, sufficient and/or excessive energy may be provided by the limited foods available. It is important to remember the nutritional quality and variety of those foods may not support a healthy diet and be insufficient in micronutrients (Tanumihardjo et al., 2007).

Townsend et al. (2001) found a relationship between overweight status and food insecurity in women, but not in men; this is consistent with previous literature examining socioeconomic status and overweight by gender (Sobal & Stunkard, 1989). Forty-one percent of the 966 women who reported mild food insecurity were overweight compared to 34% of the women reporting food security. Of the 86 women who reported moderate food insecurity, 52% were overweight. Furthermore, food security was positively related to income, with results showing the food secure as having a higher income than the mildly to moderately food insecure, and the mildly food insecure as having a higher income than the moderately food insecure. Researchers in this study also found that food insecurity was related to a number of independent variables such as income, education,

occupation, region of the country, urbanization, ethnicity, age, household size, welfare status, food stamps, total energy intake, and television viewing. The highest prevalence of overweight occurred for those with the lowest incomes, with an educational level of ≤ 11th grade, who consumed diets with total fat ≥ 38.1%, who rarely/never exercised vigorously, and who watched television > 4 hours per day. The majority of African Americans (57.1%) and Native Americans (64.5%) who participated in this study were also reported as being overweight, whereas fewer Caucasians (33.0%) were reported as being overweight (Townsend et al., 2001). Nearly 52% of food stamp recipients were reported as being overweight regardless of race. Food stamp participation has also been positively related to obesity in women in more recent research (Gibson, 2003).

In an analysis of food insecure and food secure women, ages 19-55, Basiotis & Lino (2003) found that food sufficient women had a higher average Healthy Eating Index (HEI) score of 62.7 than food insufficient women with an average HEI score of 58.8. The HEI is "a measure of diet quality that assesses conformance to federal dietary guidance" (USDA, 2008). Interestingly, the caloric intake of both food insufficient and food sufficient women in the sample was statistically similar, 1959 kcal vs. 1868 kcal per day. However, this study also found significant differences in component scores between food insufficient and food sufficient women. Component scores are based on preset standards in which points are assigned based on how much of specific food groups and nutrients were eaten. A single score is then calculated from these components with points varying from 0 to 100. Compared with women belonging to food sufficient households, those in food insufficient households had notably lower HEI component scores for vegetables, fruits, milk, cholesterol, and food variety (Basiotis & Lino, 2003). Since this

study, the HEI has been revised in order reflect those food group standards outlined in MyPyramid; the HEI now measures 12 diet components, as compared to the original 10 (USDA, 2008; Guenther et al., 2007).

Differences in the prevalence of overweight and obesity between women of food secure households versus food insecure households are still being explored, as insufficient evidence exists to explain this phenomenon. It has been hypothesized that the possibility of involuntary food restrictions may lead to periods of overeating, binging and disregard of internal satiety cues at times when there is plenty of food available (Townsend et al., 2001; Basiotis & Lino, 2003). Another theory suggests that overweight women may view their household as food insufficient because the amount of food she feels is necessary is too much; and still others hypothesize that food insecurity in women may lead to consumption of cheaper, high energy dense, high fat foods (Basiotis & Lino, 2003).

Depression and Anxiety

Years of research suggest that a person's lifestyle and behaviors are primary determinants of their risk for developing chronic diseases. Current research has indicated an association between mental illnesses and the risk factors for chronic diseases (Strine et al., 2008).

Recent estimates reveal that approximately 14.8 million (6.7%) of Americans age 18 or older suffer from some type of a major depressive disorder (Kessler et al., 2005). Moreover, women are more likely to have a major depressive disorder than are men (Kessler et al., 2003). Dysthymic disorder, or chronic, mild depression, affects

approximately 1.5% of Americans age 18 or older, and anxiety disorders affect approximately 18.1% (40 million) Americans age 18 or older (Kessler et al., 2005). Anxiety disorders often occur in conjunction with depressive disorders (Kessler et al., 2005), and most of those with one anxiety disorder will also have another (Kessler et al., 2005). Both depression and anxiety, either in isolation or simultanelously, have been associated with unhealthy behaviors or conditions including obesity, little to no moderate or vigorous activity, high blood pressure, and high cholesterol (CDC, 2005).

In a large population based study using the 2006 BRFSS data and Patient Health Questionnaire 8 (PHQ-8), a clinically validated questionnaire that assesses depressive disorders, Strine et al. (2008) found that adults with a current diagnosis of depression or a lifetime diagnosis of depression were approximately 60% more likely to be obese and those with a lifetime diagnosis of anxiety were approximately 30% more likely to be obese than no-depressive counterparts. Depressive groups were also more likely to engage in other unhealthy behaviors, such as smoking. The associations between depressive conditions and behavior remained significant among women, but not among men, after controlling for sex (Strine et al., 2008). This study also found that the more severe the depression, the stronger the association with obesity. Those currently depressed or those with a history of depression were more likely to be obese, and/or exhibit other unhealthy behaviors, than those who had never been depressed (Strine et al., 2008).

Not only can depression contribute to the development of obesity and other unhealthy behaviors, but obesity may likewise contribute to depression, especially in women. Lim et al. (2008) conducted a study in which different anthropometric measures

were assessed and depressive symptoms, levels of fatigue, and response bias were measured. Researchers found that of the 129 subjects, all of whom were >200% of their ideal body weights (IBW), depressive symptoms were significantly associated with a high BMI and elevated percent IBW in women, but not in men. Furthermore, body fat percentage was highly correlated with fatigue, but not with depressive symptoms. The positive correlation between increased body fat percentage and fatigue suggests that physiological factors associated with increased fat composition may be more influential in body fat composition than depressive symptoms (Lim et al., 2008). This research also indicates that depression in women may be influenced more by body size, rather than the actual fat composition of their bodies. Researchers further speculated that the increased social pressures to be "thin" and obsessions for physical fitness may account for higher rates of depressive symptoms in women with larger body sizes as compared to men of like sizes (Lim et al., 2008).

In a study using focus group methodology to obtain values and beliefs on obesity and weight reduction among African American and Caucasian women, Blixen et al. (2006), found that among both ethnic groups, the women spoke of depression due to medical problems. These women felt that because of their depression, many times they would eat more, making their medical problems harder to treat and starting a "viscious cycle" (Blixen et al., 2006). That is, the experience of depression may make it harder for women to lose weight when using food as a coping agent.

Cultural Perceptions and Obesity

Research has indicated that differences in body satisfaction by racial/ethic group may help explain the racial/ethnic differences in BMI. Studies have shown that obese African Americans have significantly higher body satisfaction than do Caucasians (Paeratakul et al., 2002; Mack et al., 2004; Lynch et al., 2007) and weaker anti-fat attitudes (Perez-Lopez et al., 2001). Kumanyika et al. (1993) found that although African American women perceive themselves as being overweight, they also consider themselves physically attractive. Thus, it is logical to assume that this may be what hinders some African American women from trying to lose weight.

Fitzgibbon et al. (2000) found that amongst a sample population of Caucasian, Hispanic, and African American women, there were no differences the proportion of women from each ethnic group reporting body discrepancies. However, Caucasian women tended to report body discrepancies at a lower BMI than did the African American and Hispanic women (Fitzgibbon et al., 2000). It was also noted that the Caucasian women felt body discrepancies between their current and ideal body images below that of which is considered overweight. In contrast, Hispanic and African American women actually reported body discrepancies between their current and ideal body image until they were overweight (Fitzgibbon et al., 2000).

Sanchez-Johnson et al. (2004) reported similar findings among African American women in a study comparing dietary intake, body image and physical activity amongst Latin-American and African American women. African American women tended to consume more calories, fat, and percent calories from fat per day as well spend more hours per day watching TV than did the Latin-American women. Interestingly, although

the Latin-American participants weighed less than the African American women, the Latin-American women tended to perceive their current body image as heavier and reported higher dissatisfaction with their body image than the African American women, who preferred a larger body size (Sanchez-Johnson et al., 2004).

Blixen et al. (2006) found that both African American and Caucasian women felt that the term "obesity" was more of a medical term used by physicians in describing surplus weight, whereas the term "overweight" was how they themselves would describe the same condition. Furthermore, both the African American and Caucasian groups also agreed that the term "obesity" was used more to describe a person who was "very heavy" and had health problems related to their weight (Blixen et al., 2006). Although the two ethnic groups were in agreement on the difference in these two words, researchers found that the Caucasian women had much stronger negative feelings towards the word "obesity" than their African American counterparts (Blixen et al., 2006). Researchers also found that the Caucasian women felt more stigmatized because of being overweight than did the African American women. However, another interesting difference was that although Caucasian women felt more threatened by their significant others finding thin women more attractive, African American women actually felt that they received more attention from men, even if they were not happy with the excess weight themselves (Blixen et al., 2006).

Understanding different cultural and ethnic ideals may play a vital role in successful weight loss. In the same study by Blixen et al. (2006), African American women felt that culture and ethnicity played a vital role in unsuccessful weight loss, while Caucasian women felt that it hindered their weight loss to a lesser extent. "Greasy"

food was described by one African American participant as “a staple of their childhood”, and reported continuing these food habits into adulthood. Another African American participant felt that lower fat foods would not be well accepted at social functions, and that preparing and cooking large portions of food for family and friends exhibited caring (Blixen et al., 2006). Food cravings and family influences also appeared to contribute to African American women’s weight loss barriers more so than to Caucasians. Caucasian women felt that lack of commitment to dieting and depression were the major contributors towards their unsuccessful weight loss attempts (Blixen et al., 2006).

Availability of Resources

Resource availability may contribute to the prevalence of obesity among low-income women. Lack of knowledge or use of food programs, and lack of physical activity may play a large role in the development of obesity.

Food Programs

Food insecurity, as discussed in a previous section, may play a large role in the development of obesity. Numerous programs have been implemented in the United States over the past few decades to alleviate food insecurity. Such programs include the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), the National School Lunch and Breakfast Programs for children, the Food Share (Food Stamp) Program for individuals and families, and the Older Americans Act nutrition programs

(Tanumihardjo et al., 2007). The goal of these programs is to fight hunger, food insecurity, and other related health problems, such as obesity (USDA, 1999).

In 2003, 89% of households in the United States were considered food secure for the entire year. Of the reported food insecure households, just over half reported previous month participation in at least one of the three largest Federal food assistance programs available for low income families – the National School Lunch Program, the Food Stamp program, and WIC (Healthy People 2010). This research indicates that a large proportion of those reporting food insecurity are not taking advantage of the programs that are available to help them. Thus, it is possible that those not taking advantage of these programs in times of hardship are spending what funds are available for food on inexpensive, high energy, high fat, low nutrient dense foods. This, paired with a lack of physical activity, may account for a large portion of obesity amongst those of low socioeconomic status.

Physical Activity

Living in an environment that fosters not only healthy food choices, but also opportunities for physical activity are components of obesity prevention and may help facilitate positive individual behavior change (Surgeon General's Report, 2001). However, many low-income families, especially those of racial/ethnic minorities, live in environments that do not promote either of these two options. Furthermore, due to the unequal proportion of minorities living in poverty when compared to Caucasians, discrepancies could be related to the lack of time or access to leisure activities or exercise (Fitzgibbon et al., 2000).

Because of the longstanding problem of racial segregation, middle class African Americans often live in poorer areas when compared to those of their Caucasian counterparts. Moreover, poor African Americans often live in much worse areas than poor Caucasians (Williams & Jackson, 2005). High levels of racial segregation are positively correlated with shifts in the distribution of income with pockets of poverty (Massey & Fischer, 2000). Highly concentrated areas of poverty are often linked to more violence and higher crime rates. Violence and high crime in poverty stricken neighborhoods may therefore produce fear among residents living in these areas and lead to less time spent outside and less physical activity.

Knowledge, access, and overcoming barriers to available resources are all key components in promoting physical activity, regardless of ethnicity. In a study of 199 underinsured, middle-age women in North Carolina, surveys were conducted to measure perceived and objective proximity to physical activity resources, such as parks, gyms, and schools (Jilcott et al., 2007). Results showed that on average, perceived distance to the closest available resource was greater than the measured distance. Researchers attributed these findings to the possibilities that participants may have been unaware of the resources or thought that the existing resources were unavailable to them due to high cost or other barriers (Jilcott et al., 2007). This research illustrates the importance of raising awareness of available resources to low income populations and helping this population overcome barriers that prevent them from using these resources.

Focus Group Methodology

Focus groups are a type of qualitative research used to find information concerning perceptions, beliefs, attitudes and insights in small groups of people (Kitzinger & Barbour, 1999) from a specific population. Used not only as a primary data-collection method, focus groups are also promoted "as a means of identifying an appropriate domain content for the development of more structured survey instruments" (Blixen et al., 2006). Lindsay & Hubley (2006) described focus groups, as a methodology formatted by "semi-structured interviews conducted with groups." Focus groups are of particular use in understanding how people view specific experiences or events (Krueger, 1994). The objective of the focus group is not to reach a consensus among its participants, but instead to bring forth individual perceptions and beliefs relevant to the topic of interest (Lindsay & Hubley, 2006).

Participants of a focus group are selected based on their characteristics, which should have commonalities with the topic of the research (Krueger & Casey, 1995). Focus groups will vary from topic to topic; however, each group typically consists of 6-8 people and is conducted by a skilled interviewer (Krueger & Casey, 1995), or moderator. Krueger (1994) indicates that smaller focus groups of 4-6 participants may also be used and are sometimes easier to organize.

Focus groups are conducted with several different groups of participants, all sharing the same characteristics for a given topic, in order to identify trends and patterns (Krueger & Casey, 1995), or themes. Listening and gathering information are the main goal of the focus group (Krueger & Casey, 1995) and are important in identifying relevant themes that may emerge from the discussions. The moderator is present to

maintain focus on the topic, encourage interaction and to probe for further information or clarification when needed (Kress & Shoffner, 2007). The ability to negotiate meaning in focus groups is normally viewed as a strength, as it allows for better explanations of complex behaviors in ways that surveys and questionnaires are not able to accommodate (Morgan, 1996).

The Ecological Perspective

The ecological perspective, according to Bloom (1996), is a sort of checks and balances system that exists among individuals and outside forces, such as family, schools, peer groups, and organizations of the community. It "focuses on the nature of people's transactions with their physical environment" (Sallis & Owen, 1997). In the ecological perspective, Bloom (1996) says, "each element in a given situation is ultimately related to every other element, often in an interactive way." These "elements" include psychosocial, physiological and environmental, which encompasses both personal and interpersonal factors (Bloom, 1996). Time must also be considered as a contributing factor (Bloom, 1996).

Psychosocial factors include those related to person, such as cognitive, affective, behavioral and physiological-biological aspects (Bloom, 1996). This area is important in that it concentrates on the individual specifically. It focuses on those factors related to self, such as self-image, self-confidence, and self-esteem, as well as stages and processes of change, aspirations, values, beliefs, personal experiences, perceptions, knowledge, attitudes, and expectations (Sigman-Grant, 2002).

Physiological factors include those directly related to physical health and well-being. This includes age, anthropometrics, nutritional states, disease states, substance abuse, physical activities and physical abilities (Sigman-Grant, 2002).

As mentioned previously, environmental factors include both personal and interpersonal factors. Bloom (1996) identified classes of factors that are to be contemplated in any systematic analysis; this he termed the "configural equation". In this equation, the factors consist of primary groups, secondary groups, socio-cultural groups, and the physical environment. Primary groups encompass family, peers and close work/social network associates to which interactions are face-to-face and personal. Secondary groups include large scale organizations and cultures, such as schools and health care. Socio-cultural groups are comprised of symbolic systems of collectivities that are the basis for life, such as public policy and law, social mores, ethnic heritage, language, sub-cultural lifestyles, spirituality, and other community practices and opportunities. The physical environment encompasses the physical setting, both man made and natural and it also includes the access and availability of food, facilities, and other resources. Finally, time, or lack thereof must be considered as a contributing factor to certain behaviors. It specifically involves life changing events, group evolution, and personal growth and development (Bloom, 1996; Sigman-Grant, 2002).

Eating habits are not well understood and are complex in that a plethora of factors may contribute to the behavior (Sallis & Owen, 1997). Ecological models "specify multiple levels of environmental factors that directly influence behavior" (Sallis & Owen, 1997); this allows for a multi-dimensional study of why a behavior occurs, rather than looking at a single culprit. Thus, it is important to consider these factors when analyzing

why specific groups of people may be at an increased risk of becoming overweight or obese.

CHAPTER III

METHODOLOGY

Recruitment

This study was approved by Institutional Review Board at Oklahoma State University (Appendix A) prior to recruitment. Focus group participants were recruited from a list of food stamp recipients provided by the Oklahoma Department of Human Services. Eligible candidates received a letter (Appendix B) from the Department of Nutritional Sciences at Oklahoma State University informing them of the study, requesting voluntary participation, and providing them with the researchers contact information for any questions and/or concerns related to the research and their participation. Candidates were also informed of a $25 cash gratuity awarded if they chose to participate. Candidates were then contacted by phone to request that a time be scheduled to participate in a focus group regarding the body weight and health of like individuals in their community. If the candidates agreed to participate, they were scheduled for a specific date and time in which they were to take part in a focus group and were notified they would receive a phone call one day prior reminding them of the scheduled focus group. If they did not agree to participate, they were asked to answer 3 questions regarding better times for scheduling other candidates in the future.

Focus Groups

Rationale for the Use of Focus Groups

The purpose of this research was to identify what social factors influenced obesity from the perspective of limited resource women and to determine whether perceptions of obesity varied by racial/ethnic group. Therefore, it was important to gather information qualitatively through focus groups, rather than take a quantitative approach, using tools such as surveys or questionnaires. A central strength of focus groups is that the methodology allows for the negotiation of meaning through the use of a moderator and participants (Morgan, 1996). Participant interactions allow for better explanations of complex behaviors in ways that surveys and questionnaires are not able to accommodate (Morgan, 1996). As pointed out by Krueger (1994), the use of focus group methodology also allows researchers to obtain qualitative data within a short period of time, with flexibility and at a fairly low cost.

Research Design

Focus groups were arranged so that every participant in each group was of the same ethnicity; all participants were limited resource women as defined by receipt of food stamps. Four racial/ethnic groups were of particular interest to this research: Caucasian, African American, Native American, and Hispanic. However, due to insufficient data, the Hispanic information collected will not be reported. Moderators were cooperative extension employees who applied to a call for moderators from the state research team. Each moderator attended a one day training prior to conducting focus

groups. A total of five moderators conducted focus groups. Moderators were assigned focus group locations based on their specified interest in a particular racial/ethnic group.

At each focus group, participants were asked to sign an attendance sheet stating their name, contact number, and the best time of day to contact them. They were also given a consent form (Appendix C) to sign in order to participate in the research study, which explained the purpose of the study, the procedures to be followed, the risks and benefits of participation, confidentiality of any statements given, compensation for participating, rights as participants, and how and whom to contact should any questions or concerns arise. A total of 12 focus groups, 4 from each ethnic group, were conducted and included in the results section.

Instrumentation

Participants were asked to fill out a short demographic questionnaire (Appendix D) pertaining to their race, age, relationship status, education level, household income, geographic location, height, weight, how many children they had under the age of 18 and how many children were living at home. The focus group then commenced, and the trained moderator used a semi-structured script (Appendix E) developed by the principal investigators to explore diagnostic, prognostic and motivational aspects of obesity among youth and adults in the aforementioned racial/ethnic groups, each focusing on the specific racial/ethnic group of interest. Participants were asked to freely express their opinions to each question, while also respecting other participant's opinions. Each focus group session was recorded using tape and digital recorders.

Analysis and Coding

After the focus group recordings were transcribed by the Bureau of Social Research at Oklahoma State University, analysis of the transcripts commenced. The transcripts were first divided into their specific ethnic categories: Caucasian, African American and Native American. For each racial/ethnic group, four focus groups were conducted.

Initial coding was used to analyze transcripts at a line-by-line level (Charmaz, 2006). This consisted of reading each transcript as a whole, then breaking them apart separately into relevant themes discussed in depth by researchers; discrepancies and interpretations were discussed and agreed upon as well. These themes are outlined in the results section. A large portion of these themes were formed using *in vivo coding*, which refers to unique terms used by participants that may "consist of widely used terms that participants assume everyone shares" (Charmaz, 2006).

Once the researchers conducted the initial coding and themes were derived from the whole transcript, the process of focused coding began. The focused coding involved taking each individual theme from each transcript and comparing it to other themes in transcripts of the same ethnic group. The purpose of doing so was to establish commonalities between themes and across same-race focus groups, therefore allowing researchers to gain a better perspective of what views were shared amongst the participants, as well as the important sub-themes that emerged.

The themes and sub-themes were organized into like categories using the ecological perspective**,** described by Bloom (1996) as a sort of checks and balance system that exists among individuals, themselves, and outside forces, such as family, schools,

peer groups, and organizations in the community. The ecological perspective also encompasses the physical environment as well physiological factors and time (Bloom, 1996; Sallis & Owen, 1997). The four major categories that emerged, based on the ecological perspective were: psychosocial, physiological, environmental, and time. Because the issue of money and resources emerged as a strong theme among all focus groups, researchers added a fifth category, economic, to include such themes. The categories and themes were then combined into three large tables, specific to each ethnic group (Appendices F, G, H). Color coding was used to identify the different focus groups once the themes were devised for the purpose of developing frequency tables.

The purpose of the frequency tables was to illustrate a summarized view of the different themes that emerged from the transcripts through coding. The tables were divided into the frequency with which the themes emerged on an individual basis and a group basis. The percentage to which the group themes emerged was then calculated in another column. These tables are presented in the results section.

Additionally, three core framing processes (Snow and Benford, 1988) were applied to the results of participant's views of overweight and obesity. These processes included: a) diagnostic framing for the identification of why obesity exists, b) prognostic framing to suggest solutions, strategies, and tactics to remedy the problem of obesity and c) motivational framing that serves as rationale for action to address obesity. Results are presented within the scope of this framework.

CHAPTER IV

RESULTS

Demographics

The demographic characteristics for each ethnic group are illustrated in Table 1. Thirty-one participants completed a demographic questionnaire (Appendix D) to participate in the study. Three participants, 1 Native American and 2 whites, did not complete the marital status question. The majority of participants reported being single or divorced/separated for both the white (54.5%), and African American (88.9%) groups. The Native American group had an equal number of married versus single or divorced women. For all ethnic groups, the majority of participants had at least a high school education or above, but very few had completed a college degree. The majority of white (61.5%) and African American (55.6%) participants reported income as less than $10K a year, while the majority of Native American (66.7%) participants reported an annual income between $10K and $24.9K per year.

Table 1. Demographic characteristics of the sample population

Race	Frequency	%		Race	Frequency	%		Race	Frequency	%
African American				**Native American**				**White**		
Marital Status				**Marital Status**				**Marital Status**		
Married	1	11.1		Married	4	44.4		Married	5	38.5
Single	5	55.6		Single	2	22.2		Single	5	38.5
Divorced	3	33.3		Divorced	2	22.2		Separated	1	7.7
Total	9	100		Total	8	88.9		Total	11	84.6
Missing	0	0		Missing	1	11.1		Missing	2	15.4
Total	9	100		Total	9	100		Total	13	100
Education				**Education**				**Education**		
9-12th grade	1	11.1		9-12th grade	1	11.1		9-12th grade	4	30.8
High School Grad	1	11.1		High School Grad	2	22.2		High School Grad	3	23.1
Technical School Grad	2	22.2		Technical School Grad	1	11.1		Technical School Grad	2	15.4
Some College	4	44.4		Some College	3	33.3		Some College	3	23.1
Bachelors Degree	1	11.1		Associates Degree	2	22.2		Associates Degree	1	7.7
Total	9	100		Total	9	100		Total	13	100
Income				**Income**				**Income**		
Less than 10K	5	55.6		Less than 10K	2	22.2		Less than 10K	8	61.5
10K-24.9K	4	44.4		10K-24.9K	6	66.7		10K-24.9K	4	30.8
25K-39.9K	0	0		25K-39.9K	1	11.1		25K-39.9K	1	7.7
Total	9	100		Total	9	100		Total	13	100
Age				**Age**						
25-44	9	100		25-44	9	100		**Age**		
								25-44	13	100

Body Mass Index

Participants self reported height and weight. BMI was calculated using Quintelet's index (weight in kg/height in meters^2). Although BMI varied among ethnic groups, all had means above the range that is considered normal (18.5-24.9). Whites were the only ethnic group to report BMIs in the underweight range ($\leq$ 18.4 kg), while Native Americans and African Americans had the highest reported BMIs in the Class III obesity range ($\geq$ 40 kg).

Table 2. Body Mass Index (BMI) of the population calculated from self reports of height and weight.						
Race	**N**	**Min.**	**Max.**	**Mean**	**Median**	**Standard Deviation**
African American BMI (kg/m^2)	9	21.35	44.38	27.38	29.74	6.97
Native American BMI (kg/m^2)	9	19.98	68.58	32.99	38.52	14.47
White BMI (kg/m^2)	13	17.22	38.85	29.76	29.29	5.77
Total	31	17.22	68.58	30.73	32.10	9.98

African American Focus Groups

Diagnostic: Contributing Factors to Overweight and Obesity

When asked whether or not participants felt that overweight and obesity was a problem among African Americans in their community, for the most part, African American participants agreed that it is a problem. Reasons reported for overweight and obesity as issues among African American participants were primarily attributed to environmental factors (Tables 3, 4, 5 & 9). Cultural expectations and norms were discussed as contributors to overweight and obesity as an issue. Cultural food preferences, acceptance of larger body size, negative parental influence and food availability at family gatherings were all reported by participants influencing overweight and obesity in the African American population. When further questioned about reasons why they felt overweight and obesity is an issue, participants referred to cultural food preferences as significantly contributing to the problem. One participant stated "…with us, with the African American, with us as far as our community is concerned I think that our upbringing should be different because we're raised on a lot of that food that puts on a lot of that weight."

Participants felt that the cost of healthy foods and time were also major factors that contributed to food choices. Participants indicated that time contributed to both unhealthy food choices, as well as the inability to work out as participants busy schedules involving school, work, and family were conflicting priorities with healthy lifestyle choices. Participants also indicated that convenience foods, such as fast food or "microwaveable stuff" were often the easiest options, not only for time, but also for budgets as indicated by one participant who said:

> "Cost is always one of these things that keeps us from doing the right thing. Because it's expensive- it's expensive to eat healthy. It is really expensive to eat healthy. I mean, I've tried it, and I'm like, wow, it really is…because it goes so fast, and then you know, it's expensive to eat healthy."

Fast food was the most commonly mentioned "easy" and "cheap" form of food purchases. Many times this was attributed to "fast-paced lifestyles"; even though most participants were knowledgeable that fast food is generally an unhealthy option and contributes to weight gain when eaten frequently. Cost was also a common issue when it came to paying for recreational activities, such as working out at fitness centers or gyms.

Cultural acceptance of large body size was one of the most expressed contributors to overweight and obesity among African American participants as expressed by an individual who stated: "In the African American society for women to be thick is

considered to be healthy." Another participant even differentiated between the types of fat saying "…I don't know with African Americans there is different kind of fat people or big boned or whatever. You have got your shaky fat or you have got your solid fat." "Shaky" or "jiggley" fat was viewed as not very good for health while "solid" fat was described as being healthier. The term "thick" was often used to describe larger sizes. Participants felt that African American men are most attracted to "thick" women. Participants described being skinny as abnormal and speculated that if a person was skinny that meant that they were either sick or using drugs. Furthermore, one person stated "…in other races, thin is considered something of beauty. The thinner you are the better they consider you look." Another participant felt that preference for larger body sizes is a product of being raised in an environment that promotes bigger women as expressed by the following statement:

> "And then how we're viewed from young up until adulthood as far as the way that we're built has an affect on us also. So if in school we're getting teased about being skinny, anorexic… anorexic, things of that nature versus the girl over here that's a little bit thicker than you are and all the guys are talking to her they're treating you like an outsider. Because I was a real skinny kid and I got teased a lot because I was skinny and I think that how we're raised should be different."

However, as far as men's physical attractiveness to African American women was concerned, the women did not share the same idea of bigger men being more attractive:

> "Yeah, but African American men… if they're, if they're big men then we're not attracted to them. The bigger… you know with the belly and all that… you know we're like "huh-uh". Or even if they're a little overweight, we're still… and they take off their shirt, we're like "huh-uh, he can keep going with that." (Laughs) But if he has a nice body, he can be thin. We're attracted to that versus us; they're not attracted really to us being thin. They're attracted to us being a little thicker. And we're attracted to them being a little thinner."

Physiological factors such as bearing children, aging and metabolism were mentioned as contributors to overweight and obesity. Child bearing was mentioned in 3 of the 4 focus groups as a contributor to weight gain. Participants reported being thin before pregnancy and then having problems with weight gain post-pregnancy, especially after multiple pregnancies.

Psychosocial factors, such as eating to cope with depression, were cited when participants were asked why they thought that their friends or family members might be overweight. Some participants told stories of friends or family members who used food to cope with their depression issues, as well as other negative emotional issues such as

anger. Feelings of social stigma and embarrassment were also mentioned as negative psychosocial affects that may contribute to overweight and obesity, as expressed by one participant when talking about her friend: “I have a huge friend, she’s like 6’ 2” and she’s overweight and everywhere she goes someone has something to say. She really doesn’t let it get to her, but you know you can tell that it gets to her.”

Additional psychosocial factors such as fear and apathy were reported by women as issues when dealing with their weight as expressed by one participant:

> “I think that it all boils down to like she said, people, we get into denial about what the truth really is, you know and we are afraid to go to the hospital and find out the bad report, you know? So therefore, it’s like, ok I’m gaining this weight, I know I’m doing something to gain I, you know? But it’s like either I’m afraid to find out what the truth is or I just don’t care.”

Although most participants agreed that obesity is an issue among African Americans, they also expressed that the problem is not isolated to the African American population:

> “I kind of believe that it is African Americans and the reason why I say that is I mean because as far as obesity, I know in my family we eat a lot of fried foods. I know for a

fact that it comes from fried foods. But I mean I have people in my family who are obese. So as far as like the African Americans being the highest population for it, I can see it but then again I am just not sure that it is just African Americans at the high point."

Table 3. Responses by African American participants to Question 1 categorized by the socioecological model factors.

Q1. Some news reports that overweight and obesity are problems among African Americans in your community. What do you think about these reports?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- differences in types of fat/good vs. bad	2	1	25%
- taste (sense)	1	1	25%
- underlying medical issues	2	1	25%
- health issues/fast food	1	1	25%
Psychosocial			
- values	1	1	25%
- personal issues/depression	1	1	25%
- social stigma/depression	1	1	25%
- body acceptance	1	1	25%
- boredom/quit smoking	1	1	25%
- not just African Americans	2	2	50%
- depression/weight gain	1	1	25%
Environmental			
- family experience/no obesity	1	1	25%
- fast food more popular	1	1	25%
- dietary habits/cultural food preferences	4	3	75%
- cultural acceptance/norm of large body size	8	2	50%
- family gatherings	1	1	25%
- inactivity/no extracurricular activities	1	1	25%
- media	2	1	25%
- negative parental influence	1	1	25%
- poor food choices at school	1	1	25%
Economic			
- cost of healthy food vs. unhealthy foods	3	1	25%
- cost of medical			
- lack of money/health insurance not a priority	1	1	25%
- lack of money/recreational facilities	1	1	25%
- lack of money/healthy eating	1	1	25%
	1	1	25%
Time			
- boredom/too much time	1	1	25%
- lack of time/fast paced lifestyle	1	1	25%
- lack of time/work/fast food easiest choice	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 4. Responses by African American participants to Question 2 categorized by the socioecological model factors.

Q2. Others think obesity isn't that much of an issue. Do you personally consider obesity a problem for African Americans in your community? What are some of the reasons for your thoughts?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- weight loss = sick	1	1	25%
- weight loss = drugs	1	1	25%
- weight gain due to health problems	1	1	25%
- inactive lifestyles/lack of physical activity with age	1	1	25%
- bearing children	2	2	50%
- aging	3	1	25%
- metabolism	1	1	25%
Psychosocial			
- laziness	1	1	25%
- comfort zone	1	1	25%
- more concern for children	2	1	25%
- self acceptance of body size	1	1	25%
- high body esteem/aware of health risks	2	2	50%
Environmental			
- lack of health education/awareness	4	1	25%
- dietary habits/portion control	1	1	25%
- dietary habits/junk food	1	1	25%
- parental influence/forced to eat	1	1	25%
- cultural acceptance/norm of large body size	9	2	50%
- thin = pretty with other ethnicities	1	1	25%
- media/marketing for fast food	2	1	25%
Economic	----------	----------	----------
Time			
- inadequate time (want to spend time with family)	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 5. Responses by African American participants to Question 3 categorized by the socioecological model factors.

Q3. What are some of the reasons you think people like your friends or family members are overweight or obese?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- diabetes	1	1	25%
- bearing children	1	1	25%
Psychosocial			
- inadequate knowledge of available resources	1	1	25%
- eating to cope with depression			
- eating to cope with emotions	2	2	50%
- lack of motivation until health problems	1	1	25%
appear	1	1	25%
- scared to confront health issues			
- denial/apathy	2	1	25%
- unwillingness to get help	5	1	25%
- do not like to cook/fast food easier	1	1	25%
	1	1	25%
Environmental			
- dietary choices/unhealthy/fast food	5	2	50%
- loose parental boundaries/do not want to be bothered	3	1	25%
Economic			
- lack of medical resources	1	1	25%
Time			
- inadequate time/convenience	3	2	50%
- inadequate time due to work/convenience	3	2	50%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Prognostic and Motivational Factors to Address Overweight and Obesity: What Can Be Done to Decrease Obesity?

When discussing what can be done to decrease obesity with African American participants, environmental factors (Tables 6 & 7) were discussed most frequently and included addressing obesity through education, more healthful food options and social support. Participants stated that lack of education or knowledge may be partially to blame for high rates of obesity; many reported that educational opportunities would be useful in promoting obesity awareness. “Testimonials” from those who have had success with weight loss, educational videos concerning nutritional information and exercise, and learning new and healthier options in preparing foods were ideas shared by participants who felt these would be beneficial to them and their community.

Others felt that healthier options in public arenas would help with decreasing overweight and obesity. Vending machines were mentioned as a place where participants felt that unhealthy food was purchased, especially by their children at school. One participant stated:

> "…we have to take the time out and be more considerate about what we're feeding you know each other and feeding our children and things like that and like even with the snack vending machines, I don't think there is nothing wrong with having the snack machines but we need to put some healthy stuff in them things."

Having healthier restaurant options available was the most common idea shared among 3 of the 4 groups. Shared ideas included taking the "fattening" out of fast food, adding diabetic friendly foods, more home cooked meals instead of fast food all the time, and replacing "all this fast food, all the chips, snacks, and goodies" with more healthier food options.

Participants in the African American focus groups indicated a need for social support, not only with friends but also community support. One group in particular felt that going out and educating others in the community about the benefits of a healthy lifestyle and communicating with them through meetings and "group-think" activities may help motivate people to adopt healthier habits:

> "I just think that you have to really educate people and I mean it's just takes to sit down and show people you know, if I want to come next door and tell you need to walk, that's not as good if, the thing I need to get out there and show you and do it. And like I said, that's how you draw people and then like I said um, a little community place where you can teach the different cooking techniques and you know, that's one thing about WIC. You know, I used to hate nutritional classes, but then when I was starting to go and I really just started learning different things I could do for my kids to feed them and you know like Juicy Juice, a lot of people never really knew that the Juicy Juice is like so damaging to the kids teeth."

This same group also felt that gathering people within neighborhoods to participate in community programs and activities together, such as cooking classes or food preparation techniques, may provide another type of social support to increase motivation for improved health. Ideas such as more education, word of mouth, and advocacy of health awareness were also mentioned by participants when asked what could be done to improve the general health in their community.

Addressing economic issues were frequently mentioned as means to improve overall health as well as overweight and obesity. Some participants felt that free educational materials such as handouts, brochures and other materials should be made

available at places such as the doctor's office and daycare centers, as well as offering incentives to attend nutrition classes. Mandatory classes were also mentioned as a way of promoting better health choices among food stamp recipients as illustrated by one participant who stated:

> "Amongst African American, a lot of them get assistance, food stamp benefits, so I believe that when they give to us so freely it's like, ok, you got your food stamps buy what you want to buy with them, but I believe that they should host or have seminars or classes you know that maybe we have to attend maybe every 6 months or every 4 months about nutrition, about you know, how we feed our children and things like that because you know, that's the root right there."

The participants also felt that lowering the cost of healthy foods may encourage people to eat healthier: "I feel like one time, well at least lower the price. Just switch it around. You know have it cost less to eat healthier. And make it cost more to eat fattier. See what it does for at least a year." Furthermore, having access to free health or wellness centers would also help motivate and improve health habits, as reflected by one participant:

"…first to be active, so I would call on someone, or create a free wellness center, where you could come in and you would have access to all of the things that are vital to your health. There would be a fitness center there, there would be a nutrition center there that was free. Um, to the public, and free for anyone to use and to utilize. To get in shape, to get the knowledge and the information about health. But I think just to offer the free fitness thing, and then offer free classes for fitness, aerobics, kickboxing, anything that is kind of, that motivates."

Table 6. Responses by African American participants to Question 4 categorized by the socioecological model factors.

Q4. Let's say you and people in your community decided to do something to decrease obesity. What do you think could be done and how do you think we can do this? Think big.

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- promote physical attributes of healthful choices	1	1	25%
- surgery	1	1	25%
- exercise	1	1	25%
Psychosocial	----------	----------	----------
Environmental			
- educational videos	1	1	25%
- testimonials/shared experience	2	2	50%
- family support	1	1	25%
- convenient location of resource center	1	1	25%
- regulation policy/fast food	1	1	25%
- healthy restaurant options	4	3	75%
- healthy food options/vending machines	2	2	50%
- community programs within neighborhoods/social support	1	1	25%
- communication/social support	1	1	25%
- education as social support • door to door recruiting • nutrition classes	1	1	25%
- social support/group think • door to door recruiting	1	1	25%
- healthy food prep for family	1	1	25%
- education on health risks/social support groups	1	1	25%
- advertising/media	1	1	25%
Economic			
- lower cost of healthy foods	1	1	25%
- free health/wellness center	2	2	50%
- incentives for nutrition education	1	1	25%
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 7. Responses by African American participants to Question 5 categorized by the socioecological model factors.

Q5. What could be done to improve the general health of African Americans in your community and how can this be done?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent[3]
Physiological			
- regular doctor's visits	1	1	25%
Psychosocial			
- address denial/scared	1	1	25%
- proper nutrition/family values	1	1	25%
Environmental			
- education	2	1	25%
- word of mouth	2	1	25%
- services in the community/come to them (mobile health vans)	2	1	25%
- advocacy/awareness	2	1	25%
- healthier food options/vending machines	2	1	25%
Economic			
- free services	1	1	25%
- mailed handouts/brochures	1	1	25%
- mandatory classes	3	1	25%
- free materials at doctors office	1	1	25%
- free materials at daycare centers	1	1	25%
- free fun & healthy recipes to do with children	1	1	25%
- affordable physical activity	2	1	25%
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Agents of Change Identified to Address Overweight and Obesity

When asked who could help improve the health of African Americans (Table 8), participants cited a variety of people and organizations in the community who they felt could make a difference as far as increasing health awareness. Participants felt that community leaders may be able to raise money and donations to help fund a fitness or wellness center with affordable or free membership fees. Medical professionals were viewed as authoritative figures in the community who may be able to reinforce the importance of health along with community members. Schools were also mentioned as source of health promotion in that members reported a high school having an "African American Nutri-Club". Participants felt that the advocacy of clubs and extracurricular activities such as these, as well as school policy issues such as forging initiatives to ban

soda machines and replace unhealthy food would help to encourage more healthful behaviors. One participant also felt that the help of pastors and churches may be beneficial in health promotion, as Sunday dinners and church are such a large part of the African American culture.

Furthermore, participants felt that self motivation was vital to healthy behaviors. One participant stated:

> "I just feel that motivation is really just the key. I mean you have to have motivation. If you want to change then you have to do it. No one can do it for you."

Personal goal setting, high self esteem, and perseverance were viewed as important means of facilitating self-motivation and "[having] that change of heart and that change of mind frame" in order to achieve personal goals. Having the knowledge and education to adopt healthier behaviors was important, however, participants felt like the person must ultimately make their own decision to change as expressed by one participant:

> "I think what it really takes though and I mean everything we all say is good about the information and education or whatever, but what it takes is the individual mentality change. You can come again and get al.l the information, you can show me, but until I make up in my mind, ok I want be better, I want to help myself and that's what it's

going to take, for that individual to say I want a better health, I want my children to have a better health."

Table 8. Responses by African American participants to Question 6 categorized by the socioecological model factors.

Q6. Who do you think could help improve the health of African Americans in your community? What do you think these people could do to help improve health? What are some of the reasons you chose these people?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological	----------	----------	----------
Psychosocial			
- self esteem	1	1	25%
- personal goal setting/want to change	1	1	25%
- self motivation	2	1	25%
Environmental			
- community leaders need to advocate	1	1	25%
- involve medical professionals	2	1	25%
- social support/friend	1	1	25%
- outside leaders	2	1	25%
- schools/clubs	1	1	25%
- schools/healthier options in vending machines	1	1	25%
- the community	1	1	25%
- religion/pastors	1	1	25%
- community leaders	1	1	25%
- news stations	1	1	25%
- recreational centers	1	1	25%
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Additional Emergent Themes Related to Overall Health

It is important to note that health issues other than that of overweight and obesity were mentioned as important to African American participants in this study (Tables 9 & 10). Diabetes and other health issues were mentioned several times throughout the 4 focus groups. One group in particular continuously mentioned diabetes as a major disease associated with being overweight or obese among family members and friends. Among the participants themselves, gestational diabetes was the predominant form. Other health

issues, such as gastrointestinal effects of certain types of foods and high blood pressure were also negative effects associated with poor nutrition, inactive lifestyles, and ultimately overweight and obesity.

Trust issues also emerged as an additional theme. Some participants indicated that in order to make a difference in the African American community, trust must be built in order to communicate effectively. As expressed by one participant:

> "I definitely believe that it takes to get out and to reach out to people, really communicate it. Because you know people, it's hard to trust people now these days so you have to really get out and communicate and get people to learn how to trust you."

Table 9. Responses by African American participants to Question 7 categorized using factors of the socioecological model.

Q7. Share a story about someone you know who is overweight or obese.

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- personal health issues	2	1	25%
- bearing children	1	1	25%
- family medical issues	1	1	25%
Psychosocial			
- social stigma/emotional issues	1	1	25%
- just likes eating	1	1	25%
Environmental	----------	----------	----------
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 10. Responses by African American participants to Question 8 categorized using factors of the socioecological model.

Q8. Is there anything else about overweight or obesity you'd like to talk about?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- diabetes	5	1	25%
- health issues	3	1	25%
- aging	1	1	25%
- longevity & diet	1	1	25%
Psychosocial			
- hierarchy of needs/conflicting priorities	3	1	25%
- trust	2	2	50%
- self motivation	2	2	50%
Environmental	----------	----------	----------
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Native American Focus Groups

Diagnostic: Contributing Factors to Overweight and Obesity

Responses to the discussion as to whether obesity is an issue among Native Americans were primarily categorized and environmental factors as influenced by culture such as parental influence, cultural acceptance of larger body sizes and dietary habits (Table 11, 12 & 13). Native American participants implied that there is some cultural acceptance of overweight and obesity as expressed by one individual who stated: "All the ones [Native Americans] that I know are overweight some how, some way, they are overweight. So it is just kind of normal…" Overweight and obesity was not viewed as a negative characteristic, because participants had grown up with friends or family members who were overweight or obese: "I'm Indian too and almost everybody in my family is short and pudgy…" Furthermore, participants also felt that cultural food preferences contributed as well to some of the overweight and obesity amongst Native

Americans, such as fry bread, fried potatoes and "corn soup." Participants did associate overweight and obesity as being unhealthy and with potential for more health risks. Furthermore, participants were aware of what behaviors put them and their friends and family members more at risk for becoming overweight or obese as exhibited by one participant who said: "And it's just like exercise and the way they [overweight people] eat and that just contributes to it if they don't exercise or anything." A few participants also mentioned social stigma as a result of being overweight and obese. One participant in particular seemed to express her own views of social stigma towards the overweight and obese:

> "I don't really have a story about anybody in particular, but I work at a restaurant where I see bigger people come in sometimes and they, I think they enjoy being bigger because they get paid, they get a check, it's a disability for them to be obese and they come in there and they brag about that. Oh I can sit here and eat, sit on my butt because I get a check. And I think that's a lot of it, people are just lazy and they don't want to work, they don't want to get up because if they get to a certain point in weight, they don't have to work they get a disability check and different things like that."

Economic factors were mentioned frequently as contributing to overweight and obesity (Table 11, 12 & 13). Financially, participants felt healthier lifestyles were more costly, such as healthier food choices and weight loss or fitness programs. These healthy lifestyle options were considered hard to include in a limited budget. Participants felt that the cost of buying the healthier foods outweighed the benefits as expressed by one participant below:

> "I know my daughter she has gained weight too, and she keeps telling me, mom, I want to lose weight and be little like I used to you know. But, I told her maybe you need to look at, could start losing weight and eat more vegetables or something. But like we was talking about earlier, if you buy all the healthier foods and stuff it is more expensive and if you are just on a set budget you can't do that."

Furthermore, because gym memberships and weight loss programs, such as Weight Watchers, cost money, participants felt that these were not within their economic means either, especially when raising a family as noted below by one individual:

> "Then I went to weight watchers with <first name> and them, and I'd lost 42 pounds, but then it got too expensive, and like I said I'm disabled, you can't afford a lot and I

> have a kid to raise too, and you just can't afford stuff like that."

Participants also expressed that there is not adequate time in the day to devote some of it to healthy eating and exercise: "… everything is just so busy in our generation and in our day and age that you just don't find time to exercise, you just have too many other things to do that you only have time to eat and sit down." Work contributed to lack of time in that participants often felt that once they got home, they did not feel like exercising or cooking a healthy meal. When talking about a friend, one participant stated:

> "I have a friend that's umm, he doesn't eat a lot of junk food like that but he used to play baseball in college and everything, so he's been active, he's always been active and thin, not thin, but you know just decent. And now he weighs probably about 300 pounds and I just don't see how you can, I don't know just let yourself, not let yourself go but just you know to be active and to know how your body is and you know how to take care of yourself and then just let it go like that. But then you know he works all the time, there are shifts where I can see where you don't have time to exercise, that's where he doesn't have time to do stuff and go home and fix a nice healthy meal. He'll just grab some crawfish or something from anywhere and eat it, and

then he's off to bed. And then there you go, eating and just sleeping."

Family roles and obligations were noted by participants as reasons for no personal time, especially after working all day. Raising children contributed to the feeling of physical exhaustion as noted by one individual who shared:

"I know whenever I get off work I don't, I just want to go home and sit on the couch, you know (laughing). You know and I've got four kids and three of them are under the age, they're 2 and under and so I just feel like there is not even enough time for me to even, that is my exercise. I'm lifting them in and out of the bathtub and putting them at the table and everything, you know so. And by the time that I put them down at 8 o'clock, I'm ready to lay down myself."

Psychosocial factors such as emotional issues were also related to eating habits and the increase in overweight and obesity. Food was mentioned as a means to cope with stress and emotional issues as mentioned by one participant:

"I used to be a lot bigger than I am now and it was because whenever I would get happy I would go to the refrigerator

and when I was sad, I was at the refrigerator, when I was mad, I was baking a cake (laughing) and eating the whole thing. And no matter how many times I tried to diet I could not loose weight, if I exercise, if I diet, walk, it doesn't matter I can't loose the weight."

Table 11. Responses by Native American participants to Question 1 categorized by the socioecological model factors.

Q1. Some news reports that overweight and obesity are problems among Native Americans in your community. What do you think about these reports?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- diabetes among the Native American community	1	1	25%
- overweight is unhealthy	2	1	25%
Psychosocial			
- family experience	1	1	25%
- cultural norm/body size	1	1	25%
Environmental			
- parental influence	1	1	25%
- children	1	1	25%
- quality of commodity food	1	1	25%
- cultural acceptance	3	1	25%
Economic			
- cost of healthy food	1	1	25%
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 12. Responses by Native American participants to Question 2 categorized by the socioecological model factors.

Q2. Others think obesity isn't that much of an issue. Do you personally consider obesity a problem for Native Americans in your community? What are some of the reasons for your thoughts?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- health effects	1	1	25%
- harder to lose weight as you get older	1	1	25%
- diabetes	1	1	25%
- alcoholism	1	1	25%
Psychosocial			
- not isolated to Native Americans	1	1	25%
- lack of success with weight loss	1	1	25%
Environmental			
- dietary habits/family	1	1	25%
- dietary habits/community functions	1	1	25%
- lack of grocery stores	1	1	25%
Economic			
- lack of money	1	1	25%
Time			
- lack of time/parental influence	1	1	25%
- lack of time/work	1	1	25%
- lack of time/family	1	1	25%
- lack of time/healthy lifestyle hard	2	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 13. Responses by Native American participants to Question 3 categorized by the socioecological model factors.

Q3. What are some of the reasons you think people like your friends or family members are overweight or obese?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- genetics	1	1	25%
- lifestyle behaviors including activity/inactivity & diet	6	3	75%
Psychosocial			
- emotional issues/stress	1	1	25%
- emotional issues/depression	1	1	25%
- laziness	1	1	25%
Environmental			
- dietary habits/vending machines	1	1	25%
- dietary habits/parental influence	1	1	25%
- fast paced lifestyle	1	1	25%
- cultural food habits	1	1	25%
- seasonal eating habits	1	1	25%
- unemployment/boredom	1	1	25%
- lack of physical activity due to lack of transportation	1	1	25%
- negative parental influence/father	1	1	25%
- lack of activities/recreational facilities	4	1	25%
Economic			
- lack of money for exercise facilities	1	1	25%
- cost of healthy foods	4	1	25%
Time			
- lack of time/work	2	1	25%
- physical exhaustion from daily life due to lack of time	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Other interesting reasons contributing to weight problems (Tables 14 & 15), according to participants included disabilities limiting physical activity, medications, aging, laziness, lack of self control, apathy, parental influences and boredom due to lack of entertainment. One participant also brought up the fact that their community had only one grocery store, leaving them with limited access to broader food choices and lower prices sometimes offered by larger grocery stores.

Table 14. Responses by Native American participants to Q7 categorized using factors from the socioecological model.

Q7. Share a story about someone you know who is overweight or obese.

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- quick fixes/gastric bypass	1	1	25%
- aging	1	1	25%
Psychosocial			
- body esteem	1	1	25%
- apathy	1	1	25%
- lack of self control	1	1	25%
- lack of knowledge related to wt management	1	1	25%
- wt is not a priority	1	1	25%
- lazy	1	1	25%
- social stigma	1	1	25%
Environmental			
- receive disability	1	1	25%
- overweight as norm	1	1	25%
- social stigma/peers	1	1	25%
- cultural food preferences	1	1	25%
- night snacking/lack of entertainment/boredom	1	1	25%
Economic	----------	----------	----------
Time			
- lack of time/work	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 15. Responses by Native American participants to Q8 categorized using factors from the socioecological model.

Q8. Is there anything else about overweight or obesity you'd like to talk about?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- medications cause weight gain	6	1	25%
- lack of exercise due to physical ailments	1	1	25%
Psychosocial			
- emotional issues/emotional eating	1	1	25%
- hard to motivate people	2	1	25%
Environmental			
- encourage activity in children	1	1	25%
Economic			
- free services/state	1	1	25%
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Prognostic and Motivational Factors to Address Overweight and Obesity: What Can Be Done to Decrease Obesity?

Participants primarily identified environmental factors when discussing what could be done to decrease overweight and obesity in Native American communities (Tables 16 & 17). To help increase physical activity, participants felt that having safer and better quality parks and recreational areas might increase the amount of time that people spend outside and also increase the outdoor playtime for children. Merely having a park or recreational area within close proximity was identified as an issue:

> "… if we had something nice to go to, maybe have a picnic maybe have the kids out to play or something. More people would get out. But, right now, you have to drive, what is it? 12 miles to [city], but even [city] doesn't really have a good park."

Offering more activities, such as sports or other physical activities, for children was also mentioned as a possible option. For working adults, participants felt that extra breaks at work would help increase physical activity by providing workers extra time, other than lunch breaks, to take a short walk.

Social support was also discussed as a means to address overweight and obesity. Participants discussed individual support in terms of having a "buddy" as well as group support. Many participants felt social support was necessary for motivation and accountability as indicated in the following comment: "Your diet plans and stuff like that, you follow them a lot better if you got people there to support you and stuff like that." One participant even felt that having a "buddy" or friend to exercise with was even more important than money, saying:

> "I think, I think it's important to have someone who you know, might be upbeat and set goals and learning to exercise right. I don't think money would have to go into all that much. It's all about the person."

Ideas to improve food choices ranged from controlling the serving sizes at fast food restaurants to modification of cooking techniques at restaurants such as having restaurants cook with ingredients, such as olive or canola oil or offering healthier restaurant options, such as Subway's food options. Other participants felt that learning to cook healthy foods at home was important and could be accomplished by taking classes that focused on cooking with healthy ingredients. Participants expressed that these classes

should be focused on quick and easy recipes. One participant felt that there should also be classes that teach people to cook with commodity food items.

Economic factors were commonly mentioned by participants (Tables 16 & 17). Financially, participants felt that rewards or incentives for healthier behaviors should be offered. Ideas for incentives included free food, t-shirts or participation in shows such as "The Swan". Because income was identified as being prohibitive to healthy lifestyles, free education classes and free access to gyms and fitness centers were mentioned, as were cheaper or free access to weight loss groups.

Education as a Means to Decrease Overweight and Obesity

Education (Table 16 & 17) was mentioned several times by participants, either about nutrition education or for raising awareness about the consequences of overweight and obesity in general. More widespread availability of nutrition services to help with meal planning or diet education was important to one participant, while another suggested nutrition classes in which participants would learn what types of foods were most beneficial, how to grocery shop, and how to prepare healthy meals. An important aspect brought up by one participant was to make nutrition classes available at extended hours, as many people work during normal class hours. Some participants felt that this type of health promotion and education should be promoted by tribal centers and that cultural activities should be included as well.

Table 16. Responses by Native American participants to Question 4 categorized by the socioecological model factors.

Q4. Let's say you and people in your community decided to do something to decrease obesity. What do you think could be done and how do you think we can do this? Think big.

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- makeovers	1	1	25%
- meal plans	1	1	25%
- improve dietary habits	1	1	25%
Psychosocial			
- health training	1	1	25%
- motivation	2	1	25%
- motivation from cultural role models (i.e. dancers)	2	1	25%
Environmental			
- neighborhood exercise groups	1	1	25%
- group exercise at work	1	1	25%
- onsite childcare	1	1	25%
- better/safer parks/recreational areas	4	2	50%
- extra breaks at work to exercise	2	1	25%
- no super size at fast food restaurants	1	1	25%
- cooking classes	4	2	50%
- social support/buddy	2	2	50%
- social support/groups	1	1	25%
- sports/activities for children	2	1	25%
- healthier restaurants/food	3	1	25%
- more nutrition services	1	1	25%
Economic			
- rewards	2	1	25%
- free classes	1	1	25%
- free gym	1	1	25%
- cheaper/free weight loss groups	1	1	25%
Time			
- classes at extended hours	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 17. Responses by Native American participants to Question 5 categorized by the socioecological model factors.

Q5. What could be done to improve the general health of Native Americans in your community and how can this be done?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent[3]
Physiological	----------	----------	----------
Psychosocial			
- consciousness raising about causes of obesity & consequences	1	1	25%
- consciousness raising about consequences of actions	1	1	25%
Environmental			
- ban smoking	1	1	25%
- smoking cessation classes	1	1	25%
- social services	1	1	25%
- alcohol ban	1	1	25%
- health promotion at tribal centers	2	1	25%
- cultural activities on daily basis	1	1	25%
- community building	2	1	25%
- pamphlets/fliers	1	1	25%
Economic			
- offer incentives • free food • t-shirts	1	1	25%
- free mammograms/breast cancer information	1	1	25%
Time			
- extended hours at community centers	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Agents of Change Identified to Address Overweight and Obesity

Participants indicated that motivation was key to successful weight loss (Table 18), especially self-motivation:

> "…my Mom you know, she's more of a, she don't really got anything to motivate herself except she wants to fit in those size 9 jeans and you know. I guess people have their own little motivational you know, what they want to do."

One Native American participant personally felt that her culture was an important motivating factor: "I like to pow-wow you know, and what keeps me motivated is that

I'm a jingle dancer." This particular participant felt proud of this activity as many children looked to her as a role model.

Community leaders and tribal government were included as others that might be able to make an impact among people in the community and set a good example:

> "…you know just the mayor and city officials, you know if they start doing something to show you know, give us some examples, it might encourage people to do it more, you know be active like they are. You know even getting involved more with the city too, get them involved and they can get other people they know, town people involved too."

Participants also felt that medical professionals and nutrition experts, such as dietitians, may be able to provide programs and educational opportunities, especially at community centers.

Table 18. Responses by Native American participants to Question 6 categorized by the socioecological model factors.

Q6. Who do you think could help improve the health of Native Americans in your community? What do you think these people could do to help improve health? What are some of the reasons you chose these people?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological	----------	----------	----------
Psychosocial			
- self motivation	2	1	25%
Environmental			
- physical educators	1	1	25%
- doctors/medical personnel	2	1	25%
- community leaders			
• mayor	2	1	25%
• city officials			
- businesses	1	1	25%
- family	1	1	25%
- tribal government	1	1	25%
- state	1	1	25%
- nutrition experts	2	1	25%
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

White Focus Groups

Diagnostic: Contributing Factors to Overweight and Obesity

Psychosocial and environmental factors were commonly identified as factors contributing to overweight and obesity among white participants (Tables 19, 20 & 21). White participants felt that although there may be a problem with overweight and obesity, they did not feel that it was specific to their part of the country, but was equally a problem throughout the United States and other parts of Oklahoma. One participant reported that, although she was new to this area, she had not noticed a lot of "bigger people". Additionally, another participant did not feel that overweight and obesity was just a problem among whites and went on to say that the problem is largely a concern for

children. Some participants also felt that overweight and obesity was a norm amongst family and friends despite the fact that it was noted as a problem.

Emotional problems, such as stress and/or depression, were reported as a contributor to weight gain in that food may be used to cope with emotional issues. Depression was also described as a consequence of being overweight or obese. Overeating and eating junk food were frequently cited as coping mechanisms for stress or depression. “One of the most common side effects of depression is overeating…” Another participant stated: “I’m constantly stressing right now with everything going on. But, I’m always grabbing something and shoving it in my mouth, junk food, food, whatever I can get my hands on.” Poor eating habits were also attributed to boredom and using food as an alternate to entertainment. Parental influence to keep children happy was also cited as a source of emotional conflict with food, as was an overall poor parental role modeling with respect to food choices.

> “But some parents will just say the child is emotional and they use food to cope with it. And I’ve noticed kids will do that, they just eat because it makes them happy because I don’t know, it’s like a comfort for them. Their parents go here, have a snack instead of bothering them, you know with something else. Can you take me to the zoo? Well, let’s have a piece of cake instead, it’s like you know they keep eating it and that’s how they get overweight too. It’s

> a lot of emotional; it's a lot of boredom, this association on the parent's part for kids."

Participants attributed environmental factors (Tables 19, 20, 21) to increases in weight. Fast food, junk, sedentary behaviors, and media were all linked to overweight and obesity by white participants. Media, in particular, was associated with both an increase in sedentary behaviors due to watching TV and the advertisement of fast foods and junk foods. Commercials that tried to dissuade people from buying fast foods or junk foods were seen as helpful, such as those that those that made people visualize what high fat foods can do to some one's body over a period of time. Video games and computers were also mentioned as other types of media contributing to obesity, especially amongst children.

One focus group identified that the government was at fault for showing little support or sympathy for people of lower socioeconomic status. Lawmakers were described as being oblivious of the experience of poverty as expressed by one participant who stated:

> "And you know what the problem is? The people that are making these laws have no idea what we're going through down here, on the lowliest society. That's why we have a higher obesity rate. That's why, I mean they're going to the gym every morning, they're waking up and jogging their poodles and Shih Tzu's and you know. (Laughter) In

> a beautiful, clean, wonderful neighborhood that they have no idea what we deal with everyday. And we're put here by them, because they let the men who put us in this place, run free."

Men were also considered a positive contributor to the development of overweight and obesity amongst women, largely because participants felt that they were allowed to get away with little to no child support payments: Furthermore, one participant felt that disability, coupled with inadequate government resources and little or no child support, contributed to a lack of time and money:

> "One thing that it boils down to is the time that we don't have. And being that I'm on disability, I don't even get child care, I don't get nothing to help me with, I have to find somebody to take care of my kids and do you know how much disability pays me? 534 dollars, you try to survive on that. And I do, 200 dollars coming from child support for 5 kids. How do I manage that? Don't ask me, that's what the government did to me. And as for obesity, I've, like I said, I probably would be there right now if I didn't have the chemotherapy or the blood transfusions or something of that sort. We need more resources; we need a lot more resources."

Economic factors were considered important, and participants felt that they are not provided adequate resources by the government to have the financial means to work less and spend more time with family. One participant indicated that she felt that financial instability leads to less free time, thus contributing to a rise in obesity amongst those of lower socioeconomic status:

> "We need and moms need free time and if we just had, just an hour to just walk around the block, the middle class wouldn't be overweight; the lower class wouldn't be overweight. But you see, you tell me one person that's got money that's overweight? I haven't met anybody have you?"

Dietary habits were also described as being dependent on financial means. Fast food were described as cheap, less time consuming and easier to feed a family than buying groceries and preparing a meal. The costs of fresh foods were particularly hard for one participant to spend extra money and she described the impediment of living on a fixed budget:

> "Uh, as myself, I rely mostly on my food stamps to provide most of the meals for my child, our children, and it's hard, like I said before, to stretch that dollar to be able to buy the fresher vegetables, and instead of buying everything like

> canned pineapple or peaches or something like that, to be able to give them that fresh thing that doesn't have all that processing and sugars and syrups and all that stuff added into it. It makes it really difficult, and the preprocessed things are always cheaper, and, ya know, when you're trying to stretch that dollar as far as it will go, it's a lot easier to say, well, ya know, we'll, I would rather have these fresh beans, and to break them like I use to when I was little, but to I have to buy the green beans, uh in the can, because it's more economical for me, umm, I feel that is one of biggest problems with the lower income, and being overweight is, because that buying fresher foods and things that are better for you are so much more expensive."

The ability to exercise was also described as being dependant on financial stability, as some participants felt that they did not have enough money for gym memberships or weight loss groups.

Social expectations for women, such as cooking and cleaning and keeping up with jobs outside of the home left some participants feeling like there was just not enough time to spend on healthy behaviors such as healthy eating and exercise. Physical exhaustion due to busy lifestyles was reported as a result of these time constraints. One participant felt that the change in family dynamics over the last 50 years has contributed to problems between male and female roles in the home and less personal time for women:

> "…as a rule, I mean, the men that I know do generally expect more, not maybe not as much as they did in the 50's. But in the 50's women didn't work as much. And I think with the transition between um, the dependency to now the independency of women, particularly in our age group, um I think that its conflicting with the beliefs of old and new. And so now, um the men are having a hard time transitioning into believing that, yes I can help around the house, yes I can prepare dinner once in awhile. Because um, there is so much more to do now, there's you know, there's no family time, there's no extra hours in the day."

Conflicting priorities such as current health status in coordination with other household roles also contributed to a lack of time:

> "Even with me being at home I have doctor's appointments, chemotherapy, I have, you know, medication to take, kids to take care of and of course you have kids that have doctor's appointments. I'm not, I'm barely at home."

Physiological factors (Table 19, 20 & 21) associated with overweight and obesity included disability, injuries sustained at work, cessation of smoking, weight gained

during pregnancy, genetics and metabolism. These issues were often described in coordination with overeating or lack of physical activity.

Table 19. Responses by White participants to Question 1 categorized by the socioecological model factors.

Q1. Some news reports that overweight and obesity are problems among African Americans in your community. What do you think about these reports?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- underlying health issues	1	1	25%
- dietary habits/diet/health consequences	1	1	25%
Psychosocial			
- have not noticed/not an issue	2	1	25%
- slightly overweight = healthy	1	1	25%
- social stigma/public embarrassment/hurtful comments	1	1	25%
- eating to cope with stress	1	1	25%
- eating to cope with depression	1	1	25%
- not isolated to whites	1	1	25%
- problem for children	1	1	25%
Environmental			
- social stigma/underweight	1	1	25%
- lifestyle choices/sedentary	1	1	25%
- lifestyle choices/fast food	1	1	25%
- not specific to community	3	2	50%
- lifestyles/media & TV	1	1	25%
- dietary habits/fast	1	1	25%
- overweight society/cultural norm friends	1	1	25%
- overweight/family norm	1	1	25%
- lack of parental role models for food preparation	1	1	25%
- lack of understanding/support by lawmakers/government officials	7	1	25%
- think about the future/focus less on the wealthy older population	1	1	25%
- social classes/wealthy vs. low socioeconomic classes	1	1	25%
Economic			
- lack of money/financial resources	4	1	25%
- dietary habits/financial	2	1	25%
- lack of money/cost of fresh fruits and veggies	2	1	25%
- lack of health insurance for parents	4	1	25%
- wealth = healthy weight	1	1	25%
Time			
- hectic schedules/social expectations of women	2	1	25%
- hectic schedules/changes in gender roles and family dynamics	2	1	25%
- hectic schedule/physical exhaustion	1	1	25%
- lack of time/work	1	1	25%
- dietary habits/time	1	1	25%
- need for more free time to exercise	2	1	25%
	1	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 20. Responses by White participants to Question 2 categorized by the socioecological model factors.

Q2. Others think obesity isn't that much of an issue. Do you personally consider obesity a problem for Whites in your community? What are some of the reasons for your thoughts?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- age/children	1	1	25%
- inactivity	1	1	25%
- advancing age	1	1	25%
- drugs for weight loss	4	1	25%
- obesity as a health issue	1	1	25%
- exercise as it relates to mood/emotions	1	1	25%
Psychosocial			
- boredom/food as alternate to entertainment	1	1	25%
- food to cope with emotional issues			
- eating to cope with stress	1	1	25%
- scared of rejection due to weight	3	1	25%
- body esteem/media	2	1	25%
- self acceptance	3	1	25%
- depression as influenced by social	1	1	25%
expectations of body size	1	1	25%
- inadequate knowledge about physical consequences of obesity	1	1	25%
Environmental			
- male preference for smaller body size	2	1	25%
- marketing of fast food	2	1	25%
- life stressors/food choices	1	1	25%
- depression as influenced by social expectations of body size	1	1	25%
- inactivity/video games/TV	2	1	25%
- dietary habits/college food options	1	1	25%
- marketing healthy food vs. junk food prices/bargains	2	1	25%
- peer humiliation/thinner is prettier/social stigma	4	1	25%
- thin conveys drug problems/cultural acceptance	4	1	25%
- thin = sick/cultural acceptance	1	1	25%
- dietary options/schools	2	1	25%
- lack of physical activity/schools	1	1	25%
- dietary habits/vending machines	1	1	25%
- dietary habits/food choices	1	1	25%
Economic			
- lack of money for exercise facilities	2	1	25%
- cost of healthful food options	1	1	25%
- lack of money	1	1	25%
- inadequate resources	1	1	25%
Time			
- lack of time/conflicting priorities	2	1	25%
• conflicting priorities/health			
• conflicting priorities/care for children			
- busy schedules/hectic lifestyle	2	1	25%

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 21. Responses by White participants to Question 3 categorized by the socioecological model factors.

Q3. What are some of the reasons you think people like your friends or family members are overweight or obese?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- lack of physical activity due to health problems	3	1	25%
- quit smoking	1	1	25%
- injury at work prohibits activity	1	1	25%
- lack of physical activity	1	1	25%
- weight gained during pregnancy	1	1	25%
- genetics	2	1	25%
- metabolism	1	1	25%
Psychosocial			
- depression	1	1	25%
- dietary habits/restriction	1	1	25%
Environmental			
- inactivity/TV	1	1	25%
- inactivity/computer	1	1	25%
- give up/no opportunities without education	1	1	25%
- lack of parental control/food choices	1	1	25%
- lack of physical activity with parents leads to lack of physical activity in children/modeling	3	1	25%
- TV & video games	1	1	25%
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

The Social Stigma of Overweight and Obesity

The emphasis to be thin and the social stigma of overweight and obesity were also mentioned by participants (Tables 19, 20 & 22). Participants shared stories of family members and friends being ridiculed and made fun of by others because of their weight. One participant reported her father was terminated from his job with the army because he was unable to lose the weight specified by his superiors. Media emphasizing smaller sizes also appeared to contribute to low body esteem:

> "But we're not told that, you see the commercial, this car and fancy little beautiful thin woman walks by and you're

> like, I want her stomach or I wouldn't mind that butt of hers or you know or she's only got that because she's got surgery or something. That's what we think about when we see that, we don't think, she doesn't like herself or she likes herself. We think, gah, that would be nice to have that kind of body again or what happened to mine when I was 16, you know?"

Moreover, the fear of being rejected by mates due to body size and male preference for a smaller body size were also contributors to lower body esteem. However, some participants still felt that being overweight emphasized health and being "skinny" may convey either a drug problem or sickness. Participants felt that healthy weights should be emphasized with all body types, not just with thin as the ideal (Table 23).

Table 22. White participant responses to Q7 categorized using factors from the socioecological model.

Q7. Share a story about someone you know who is overweight or obese.

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- child bearing changes body size	1	1	25%
- termination from job due to weight	1	1	25%
- continuous unhealthy lifestyle	1	1	25%
- large children	1	1	25%
- genetics	1	1	25%
- death	1	1	25%
- medical problems	1	1	25%
- easy fixes/surgery/drugs	2	1	25%
Psychosocial			
- need for self discipline	2	1	25%
- food to cope with depression	2	1	25%
- ideal body ("Barbie doll figure")	1	1	25%
- eating to cope with stress	2	1	25%
- self acceptance	1	1	25%
- lack of success with weight loss	1	1	25%
Environmental			
- need for social support for lifestyle changes	1	1	25%
- picky eaters/parental influence	1	1	25%
- social stigma/obesity impeded ability to attract mate	1	1	25%
- social stigma/friends rejection due to weight gain	1	1	25%
- social stigma/peer humiliation	1	1	25%
- good examples of health/peers	1	1	25%
- good examples of health/TV	1	1	25%
- good examples of health/family	1	1	25%
- parental influence	1	1	25%
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 23. White participant responses to Question 8 categorized using factors from the socioecological model.

Q8. Is there anything else about overweight or obesity you'd like to talk about?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- child bearing changes body	2	1	25%
- portion control	1	1	25%
- uncontrollable appetite	1	1	25%
- advancing age	1	1	25%
- diabetes	1	1	25%
Psychosocial			
- acceptance/depression/frustration	1	1	25%
- self esteem/need for social support	1	1	25%
- life experience/age/self acceptance	2	1	25%
- body dissatisfaction (self)	1	1	25%
- need for more personal time	1	1	25%
- respect body	1	1	25%
- picture of health/health at any size	1	1	25%
Environmental			
- parental control/influence	1	1	25%
- social support/friends	2	1	25%
- remarks made by men	3	1	25%
- emphasize healthy weight with all body sizes	1	1	25%
- instill healthful habits at a young age	1	1	25%
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Prognostic and Motivational Factors to Address Overweight and Obesity: What Can Be Done to Decrease Obesity?

Environmental changes (Tables 24 & 25) were most commonly identified by participants as a means to improve the state of overweight and obesity. Participants felt that more education about the negative affects of obesity and the positive affects of healthier lifestyles should be emphasized: "What they're telling you is hey, it's bad to be fat. But they're not telling you why." Mentioned also were mandatory classes for food stamp participants that would help people to make healthier food options and spend their money more wisely:

> "I think they definitely, especially people who are on food stamps because they are all on a limited budget and I think they really need to have some kind of class for when they issue those for what kind of shopping to do and where's the best place to shop. You know, looking for the best deals to make it go further."

Some participants felt that the food stamp program should have limits on the types of foods that they are able to purchase in order to limit the amount of "junk food" bought by individuals.

Healthier food options at lower prices, more bargains, and marketing towards healthier food items instead of unhealthy foods were also ideas mentioned by participants. Participants felt that media would be helpful if it encouraged healthier choices:

> "I just think that if we put more emphasis on, ya know, exercising and taking the fast food commercials from our lives, especially our children's programming and things like that, and make it not cool to eat at McDonald's that would be a lot easier to be healthier."

Participants felt that incentives for promoting physical activity, such as money or small prizes such as food baskets, may help people who are low on money.

Having more healthful food options in cafeterias and vending machines, as well as offering more physical activity opportunities in schools were mentioned as ways to help improve the health of children. Participants felt that a healthier parental role modeling through exercise and healthful food choices would help children develop healthier lifestyles. Furthermore, more family outings and places where adults could simultaneously exercise and children could play were described as beneficial to promoting physical activity and lead to less time spent watching TV and playing video games.

Participants identified social support as important to healthy living and helps build self esteem. Not only did participants feel that social support would offer a means of accountability for behaviors, but also safety when exercising outdoors. Healthy cooking strategies were also mentioned as something that could be obtained from social support networks.

Economic assistance was mentioned as a means to promote healthy lifestyles. Participants felt that a community weight loss program sponsored by taxes may help some people to become more proactive in weight loss and healthier living. Tax free groceries were another idea to help cut cost. Another suggestion was the donation of good fitness equipment by gyms when they updated equipment. Others felt that people of lower financial means should have access to gym memberships that are adjusted to fit their income:

> "Well, we have several fitness centers in town and I would get a group together of business people together and go and talk to the community's fitness centers and ask them about having a, um, lower bracket, of exercise where you could come in for less money or startup with less money, to be able to use the facilities…"

Free insurance and free counseling services were also ideas that could help improve overall health.

Table 24. Responses by White participants to Question 5 categorized by the socioecological model factors.

Q5. What could be done to improve the general health of Whites in your community and how can this be done?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent[3]
Physiological	----------	----------	---------
Psychosocial			
- perceptions of reverse discrimination with respect to social services	3	1	25%
Environmental			
- equal opportunities	3	1	25%
- farmers markets	1	1	25%
- better produce	2	1	25%
- improved marketing of healthful options	2	1	25%
- health television shows/children	3	1	25%
- education in schools	1	1	25%
Economic			
- gardens	1	1	25%
- tax free groceries	1	1	25%
- free health insurance	2	2	50%
- free counseling services	1	1	25%
Time	----------	----------	---------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Table 25. Responses by White participants to Question 4 categorized by the socioecological model factors.

Q4. Let's say you and people in your community decided to do something to decrease obesity. What do you think could be done and how do you think we can do this? Think big.

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological			
- walk instead of drive	1	1	25%
- adopt healthier lifestyles	1	1	25%
Psychosocial	----------	----------	----------
Environmental			
- free group activities/community opportunities	1	1	25%
- activities for both adults and children	1	1	25%
- social support/friends to exercise with/accountability	1	1	25%
- social support/friends exercise for safety reasons	1	1	25%
- social support/learn successful strategies from friends	1	1	25%
- family outings/exercise opportunities	1	1	25%
- competitions/games	3	1	25%
- food stamp card requirements/limit food options	3	1	25%
- mandatory classes before benefits/food budget skills	1	1	25%
- teach how to make home cooked meals	2	1	25%
- take away commodities	3	1	25%
- restrictions/TV	2	1	25%
- restrictions/video games	1	1	25%
- restrictions/junk food	1	1	25%
- fun cooking with kids	1	1	25%
- women's health/wellness center	1	1	25%
- family friendly (daycare)/wellness center	1	1	25%
- social support/personal trainer	1	1	25%
- social support/groups	3	1	25%
- supportive media/commercials	6	2	50%
- exercise videos with people who are going through the same issues	1	1	25%
- subliminal messaging/suggestions/encourage vs. telling	3	1	25%
- health education			
- socially responsible food promotion	1	1	25%
- ride your bike day	1	1	25%
	1	1	25%
Economic			
- incentives for activity/lack of money	1	1	25%
- free wellness center	1	1	25%
- community weight loss program/supported by taxes	3	1	25%
- city sponsorship because cannot afford memberships	2	1	25%
- donated exercise equipment	2	1	25%
- healthy/affordable recipes	1	1	25%
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

Agents of Change Identified to Address Overweight and Obesity

Participants felt help could come from a variety of sources throughout the community (Table 26). Community programs such as WIC, Food Stamps, and agricultural businesses were cited as places where awareness of health issues could be emphasized. Medical professionals, such as physicians and other health care providers, were mentioned as those people who could offer weight loss advice and meal planning options, as well as advocate for better and more affordable healthcare amongst those of lower socioeconomic status.

Making informed food choices for oneself and having self discipline were also suggestions when participants were asked who could help to improve the general health in their community. Others mentioned included grocers, farmers and gardeners, and newspapers whereby free and healthy recipes could be printed.

Table 26. Responses by White participants to Question 6 categorized by the socioecological model factors.

Q6. Who do you think could help improve the health of Whites in your community? What do you think these people could do to help improve health? What are some of the reasons you chose these people?

Major Themes	Frequency/ Individually[1]	Frequency/Group[2]	Percent/Group[3]
Physiological	----------	----------	----------
Psychosocial			
- informed food choices	2	1	25%
- inadequate knowledge of available resources	1	1	25%
Environmental			
- grocers	1	1	25%
- farmers/gardeners	1	1	25%
- community programs/WIC	1	1	25%
- community programs/FS	1	1	25%
- community programs/Ag	1	1	25%
- state government/nutrition education/recipes	1	1	25%
- dissemination of healthy cookbooks	1	1	25%
- newspapers/recipes	1	1	25%
- medical professionals/weight loss advice	1	1	25%
- medical offices/meal planning advice	1	1	25%
- provide daycare			
- educational advancement opportunities	1	1	25%
- policy makers/gov't officials	1	1	25%

- medical professionals/doctors - healthcare providers	 3 4 1	 1 1 1	 25% 25% 25%
Economic	----------	----------	----------
Time	----------	----------	----------

[1] Refers to the number of times theme was mentioned by participants in all focus groups.
[2] Refers to the number of focus groups in which the theme was mentioned.
[3] Refers to the percent of focus groups the theme was mentioned (N=4).

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR RESEARCH AND PRACTICE

Summary

The aim of the current research was to identify socioecological factors that influence obesity from the perspectives of limited resource women of different racial/ethnic groups and to determine whether perceptions of obesity vary by racial/ethnic group. A discussion of the results for each racial/ethnic group follows.

African Americans

Cultural acceptance of and identification with larger body sizes, emerged as notable themes in terms of African American women's views of overweight and obesity in this study. Participants cited "thickness" and "curves" as being "healthy" and "normal" amongst African American women. Furthermore, participants seemed to identify more with larger body sizes because this is reportedly the norm among their family and friends. Our findings are consistent with previous literature. Lynch et al. (2007) found that many female African American participants "indicated their female relatives were consistently of a larger body size, and mirroring the appearance of these relatives brought them a sense of belonging." Many of our participants also reported that African American men

are not attracted to “thin” or “skinny” body types among African American women. Blixen et al. (2006) reported similar findings in that their participants reported receiving more attention at heavier weights from men, even if they were not content with their personal body weight.

Cultural food practices emerged as a notable theme among African Americans in our study. Participants attributed cultural food practices, such as large dinners and fried foods, as factors contributing to overweight and obesity among the African American populations. Again, our findings are supported by previous literature that has found African American women citing “culture, ethnicity, food cravings and family influences as strongly influencing their eating habits.” (Blixen, 2006). Furthermore, James (2004) supports this idea of cultural influence on eating behaviors as her research found that “certain foods [are] expected at gatherings and ‘low fat’ and ‘diet foods’ would not be well received.” Thus, it appears cultural beliefs, practices and preferences contribute largely to overweight and obesity amongst the African American community and impede the ability to lose weight. Because food choices are rooted in cultural norms, James recommends that, “the cultural value of traditional African American foods, they [cultural foods] should not be eliminated from the diet, but rather should be eaten less frequently, in smaller amounts, or recipes may be modified with respect to sodium, fat, saturated fat, cholesterol, and sugar.” (James, 2004).

Also consistent with previous literature (James, 2004; Lynch et al., 2007) were the reported constraints of time, money and access to resources with regards to healthier eating and physical activity. These participants, like African American participants in our study, felt that healthier foods are often more costly and time consuming to prepare than

convenience and fast foods. Thus, food choices are dependant upon time and budgets. Lynch et al.'s (2007) results showed that African American women reported their time was often limited by obligations to family, friends, and work. Lynch et al. (2007) reported that food choices were limited by economic resources. Limited access to physical activity resources, such as equipment or availability of classes, was stated by participants in our study and is also consistent with findings in other research studies focusing on African American women's barriers to weight loss (Lynch et al., 2007).

Another notable contributor to overweight and obesity, as reported by African American participants, included the use of food to cope with emotions. The use of food to deal with emotional and psychological stressors amongst African American women has been well documented by previous research (Zhang & Snowden, 1999; Lynch et al., 2007). However, some research suggests that eating because of depression may be more common among White than African American women (Blixen et al., 2006). Food as a coping strategy was notably more common among white participants in our study, when compared to the African American and Native American focus groups.

Social support in the African American community was one of the most frequently cited strategies to address overweight and obesity in our study. Multiple sources of support were indentified including friends, family members, support groups and community programs. Blixen et al. (2006) reported that African American female participants felt that support groups and testimonials from those who have struggled to lose weight would be beneficial, as well as more support from physicians and other health professionals. Although African American women in our study cited health professionals as people who could help raise awareness and also as sources of nutrition

and health information, physicians were the only specific health care professional mentioned; none of our participants mentioned dietitians specifically as a source of nutrition information. This is inconsistent with previous literature in which dietitians were cited by African Americans as a credible source of nutrition and health information (James, 2004). The findings from our study may indicate that participants are not aware of support services in the community, outside of community programs such as WIC.

Native Americans

Like the African American participants in our study, Native American women cited cultural norms and identification with larger body sizes. This is consistent with Thompson et al.'s (2002) findings in which Native American female participants reported cultural acceptance of larger body types. However, unlike participants in our study, Thompson et al. (2002) found that participants compared themselves and their cultural ideas of larger body acceptance to non-Hispanic white women; saying that Native American women are less "competitive" about physical appearance than non-Hispanic white women. Participants in our study were more accepting and identified more with larger body sizes because of family and friends, however, none of them expressed the idea that they were any less concerned with how they look than other racial/ethnic groups. Furthermore, many of Native American participants in our study were aware of the health implications of overweight and obesity.

Cultural and family food practices were reported as primary contributors to overweight and obesity among the Native American community. Broussard et al. (1995) identified several dietary components that may contribute to obesity amongst Native

Americans, such as the ample use of butter, lard, whole milk, fry bread, fried meats and vegetables, and the liberal use of fats in the preparation of beans. These findings are consistent with our study in that several foods Native American participants reported were considered as what “Indian families” cook as “Indian food”, including fry bread, fried potatoes, beans, and corn soup. Furthermore, in our study, the quality and quantity of commodity foods was considered in need of improvement .Story et al. (1999) report that “many of the commodity foods that are used widely in American Indian populations are high in fat as well as energy.” Findings by Thompson et al. (2002) also reflect cultural food practices as a contributor to overweight and obesity, in that participants reported pressure to conform “to social norms of eating large portions of heavy, fatty foods such as fried foods and fatty meats.”

Similar to African American participants, Native American participants also contributed a large part of unhealthy eating and weight gain or inability to lose weight to lack of time and financial resources. The lack of time for physical activity was supported by Thompson et al.’s (2002) findings, in that participants from their study also expressed problems balancing daily duties, such as caring for children and work, while also fitting in physical activity. Participants in Thompson et al.’s (2002) study reported lack of access to affordable and convenient physical activity facilities in their community, which was similar to what was reported by participants in our research. The lack of financial resources was mentioned several times throughout Native American focus groups in our research. Unfortunately, Native Americans are at a large economic disadvantage compared to the general US population (Story et al., 1999). Data from the 2000 US Census reported an average median income of $30,599 for Native American and Alaska

Natives alone, compared to the combined all-households average median income of $41,994 (US Census, 2000). The Native American average median income was less than all other racial groups, except for African American, which was $29,423 (US Census, 2000). However, this data reflects only 770 total Native American/Alaska Native households, compared to thousands of total households in the other racial groups, except for Native Hawaiian or other Pacific Islanders (US Census, 2000). To help alleviate some of the financial burdens, our participants idealized that free access to educational classes, gyms and cheaper or free weight loss groups would encourage more participation in healthy behaviors. More incentives, such as T-shirts, free foods and other rewards were also felt to contribute to the value of healthy behaviors, as supported by findings from Thompson et al. (2003).

Participants expressed that motivational strategies are key to promoting weight loss among the Native American culture. One participant felt that promotion of healthy activities using cultural role models, such as Native American dancers, may help motivate others to become physically active in cultural activities, especially if cultural activities were scheduled on a daily basis. Increased promotion of healthy behaviors at tribal centers and by tribal governments was also noted by participants. Traditionalism appeared to be important in playing a motivational role for healthier behaviors with the participants in our study. This is consistent with Coe et al.'s (2004) findings in which they found that negative health behaviors such as smoking, alcohol consumption, and obesity were inversely related with traditionalism among Hopi women. "Traditionalism" was defined by Coe et al. (2004) as the composite of traditional language usage, participation in cultural ceremonies, and percent of lifetime living on-reservation.

Furthermore, Coe et al. (2004) also found that "traditionalism was positively associated with practicing Hopi behaviors to keep healthy and seeking the services of a traditional healer." In contrast, Thompson et al.'s (2002) findings indicated that some Native American women feel that traditional cultural events prevent them from doing any physical activity because many of the events are time consuming. However, other women in Thompson et al.'s (2002) study reported traditional cultural events enabled them to participate in physical activity because of the work that goes into the events. Thus, it appears that among Native American women, overall, cultural traditions may play a large role in promoting healthy behaviors.

Although emotional issues and depression related to eating habits were mentioned by some of the Native American participants, it was not as pervasive among this group as it appeared to be among African American and White participants. However, social stigma towards obese individuals was more strongly identified by one Native American participant than was noted in either of the two other ethnic groups.

The need for social support to increase physical activity, either through neighborhood or work exercise groups or "buddies", was also vocalized by Native American participants. These findings are important when looking at previous literature on the lack of physical activity among the Native American population. Eyler et al. (1999) found in a telephone survey of Hispanic, Black, and American Indian/Alaskan Native women over the age of 40, as well as a comparison group of White women, that Native American/Alaskan Native women had the highest percentage of sedentary behavior compared to the other ethnic groups. Furthermore, Eyler et al. (1999) also found that, in women of all races, those with more social support were more likely to be more

active than those with low social support. This was supported by Thompson et al. (2002) in which their findings indicated that more social support, especially amongst the community, was associated with more interest in physical activity among Native American women. Thus, our findings agree with the notion set forth by Eyler et al. (1999) that "social support specific to physical activity may provide the initial motivation to increase physical activity levels."

Native American participants in our study also felt that access to better maintained and safer parks and recreational areas, within a short distance may help promote increased physical activity. The need for more accessible and safer recreational/physical activity facilities is supported by findings in by Thompson et al. (2002) and Thompson et al. (2003). Participants in our study further identified the work place as a place where more physical activity could be promoted, such as longer lunch breaks and group exercise at work which would provide an environment of social support. These findings are also consistent with Thompson et al. (2002) and Thompson et al. (2003). However, some participants in Thompson et al.'s (2002) study reported apathy towards physical activity from coworkers often made their own self-motivation difficult when there were physical activities that arose at work, because there was no support system.

Native Americans participants also mentioned doctors and other medical professionals in our research, as in the African American focus groups, as individuals who could help improve health. Native American participants indicated that support from family members, community leaders and physical educators are important to

improved health. Unlike the African American groups, the use of nutrition experts (i.e. registered dietitians), were also cited.

Whites

Although there were a few comments made by white participants that being slightly overweight was considered healthy, suggests a drug free lifestyle and was normal amongst some peer groups and family, the majority of the white participants in our study felt that a thinner body size was more socially acceptable. Reports of weight problems after pregnancy was also expressed a number of times, although lack of physical activity and poor eating habits were often cited along with postpartum weight problems. Moreover, white participants also reported less desirability and fear of rejection by men. This is in stark contrast to what the African American and Native American participants reported. White participants in our study reported more pressure for thinness from the media than did the other two ethnic groups. However, participants in two of the four focus groups also reported that motivating factors for improved health would include advertisements deterred them from buying unhealthy foods and promoted exercise and healthy foods. This desire to be thin, social pressures for thinness and influential media is supported by similar findings from previous research (Parker & Keim, 2004), and contributes to poor self body image and self esteem. Paeratakul et al. (2002) report that "erroneous perception of body size contributes to poor body image, with negative consequences. This is complicated by the fact that the norms of ideal body weight in Western societies are often unrealistic to achieve and at times even unhealthy."

White participants in our study also related overeating to depression and other emotional issues, such as stress. Parker & Keim's (2004) research supports our findings in that they found that food was often used "for emotional satiety and means of escape." This appeared to be true for our participants as well. These emotional triggers were reported more so by the White participants than by African American and Native American participants. These findings are consistent with Blixen et al. (2006), who also found that white women tended to report higher rates of depression and overeating when compared to African American women.

The social stigma of being overweight or obese was mentioned far more by white participants than by either African American or Native American participants. Many of the participants in our study reported overweight and obesity in association with the inability to attract a mate, rejection and humiliation from peers and friends and the loss of jobs. Again, these findings are consistent with previous research in which participants have reported cruelty from peers, job related problems due to bias, and the preference for thinner women by mates (Parker & Keim, 2004; Blixen et al., 2006). Moreover, participants reported that being thin is more often viewed as a sign of beauty than is overweight and obesity.

Lifestyle choices surfaced as a major theme amongst the White participants, who cited lack of physical activity, sedentary behaviors such as TV, computers and video games, and poor dietary habits as contributors to weight gain and the inability to lose weight. Furthermore, some participants felt that these behaviors were sometimes impressed upon children by their parents and other parts of society, leaving them to make unhealthy choices for themselves. Parental guidance, or lack there of, may in fact impact

health behaviors in their children. Klohe-Lehman et al. (2007) reported that when mothers made their own dietary changes in food choices and fat habits, they also made comparable changes for their children. However, although child and parental physical activity increased in their study, they were not related; indicating parents may not have as large of an impact on their children's physical activity as they do food choices (Klohe-Lehman et al., 2007). Like the African American and Native American groups, White participants cited lack of financial resources as a deterrent to adopting healthier behaviors. Most participants felt that they were not able to afford healthier foods or memberships to exercise facilities. Furthermore, one participant felt overweight and obesity was non-existent among people of wealth. Lack of support and financial resources from the government was not as strongly emphasized by the African American and Native American participants as it was by white participants. Stricter government program rules, such as mandatory classes to help them learn what healthy foods are and how to budget for them before receiving benefits, as well as requirements for food stamp cards that limited the amount of unhealthy foods were mentioned as possible solutions to the misuse of what resources are provided to them by the government. These may be useful ideas, in that research has reported that participation in food assistance programs, such as food stamps, is positively related to obesity in limited income women (Gibson, 2003). According to USDA surveys, many limited income respondents reported spending limited food budgets on high energy foods, largely made of added sugars and fats (Wilde et al., 2000). Others felt that taxes and city sponsorship should pay for community weight loss programs and gym memberships for those who cannot afford to buy them. Cost issues related to increased physical activity appeared to be congruent amongst all three of

the ethnic groups in our study. Like African American and Native American participants, the white participants in our study also felt that more incentives, such as prizes, food and/or competitions or games would help motivate themselves and others to participate in healthy activities and/or education.

Again, like African American and Native American participants, white participants reported unhealthy eating and sedentary behaviors were partially caused by the lack of time due to family, work and other obligations and the resulting physical exhaustion. White participants, however, appeared to put more emphasis on the social expectations of women and how these roles have changed, as women have taken on traditional female roles as well as now working a full time job. In a study conducted by Eyler (2003) on rural Midwestern white women and correlates to physical activity, women with only one child at home were more likely to perform some kind of physical activity a day than those with more than one child at home. These findings indicate that finding the time between balancing home and/or work duties may interfere with healthy behaviors.

White participants in our study mentioned reverse discrimination, whereas none of the other two ethnic groups mentioned anything about discrimination. Some participants in our study felt that government aid is hard to obtain if the person is White, compared to those of other ethnic groups. We could not find any research studies to support these remarks.

Social support was a dominant theme as to what can be done to improve healthy behaviors among whites, as was reported by African American and Native American participants as well. Social support was seen as a way of providing accountability, safety,

learning and acceptance to promote healthier living. Both friends and groups were mentioned as possible avenues for social support. The desire for group social support reported by participants in our study was inconsistent with research done by Blixen et al. (2006), in which White participants did not like the idea of talking about their weight in front of others. However, there is previous research that supports our findings, in which white women did report the need for social support from groups or from a "buddy"; like the participants in our study, these women also felt that they needed someone to provide accountability for them (Parker & Keim, 2004). Furthermore, Eyler (2003) found that white women belonging to community groups or who attended religious services were more likely to engage in physical activity than those who did not participate in anything.

Medical professionals were reported as a reliable source of health information, as was also reported by African American and Native American participants. Like African American participants however, physicians were the only specified medical professional. Thus, like African Americans, it is logical to assume that resources, such as dietitians and exercise specialists, are not widely known to be available in the community or participants may not feel that they can afford their services. However, community programs, such as WIC, Agricultural programs and Food Stamps were cited as readily available resources within the community. Participants in our study did report lack of insurance as a barrier to healthcare and resources. Furthermore, government officials and policy makers were mentioned as people who may be able to make healthcare more available to everyone, thus improving healthier behaviors.

Conclusions

Overall our study results indicate that psychosocial factors including those related to individuals, such as cognitive, affective, behavioral and physiological-biological aspects (Bloom, 1996) are not prevailing factors when utilizing a socioecological framework for the investigation of overweight and obesity. Our research supports that environmental factors are key factors leading to overweight and obesity among all racial/ethnic groups investigated. Cultural ties were most profound among Native American and African American participants as factors contributing to overweight and obesity. Common among all participants was financial insufficiency and inadequate social support. Our findings do not support an individualized approach to education and research, but rather an approach that fosters increased understanding of the environment in which individuals operate. Implications of how these findings apply to research and practice follows.

Implications for Research and Practice

This study actively embraced the concerns and beliefs as expressed by three different ethnic groups of low socioeconomic status and signifies an important step in addressing these ideas and concerns for the development of future programs and research. Through the use of focus group methodology, we were able to obtain and compare/contrast important information from the perspective of low socioeconomic women from three specific ethnic groups and categorize the results based on socioecologic influences.

While most appeared to understand the consequences of unhealthy behaviors and obesity, participants from all of the ethnic groups continued to participate in unhealthy behaviors, which is consistent with past research (Blixen et al., 2006). This supports that although individuals understand the personal consequences of obesity, environmental factors prevent them from undertaking behaviors that are more healthful. Because education about obesity was cited by all ethnic groups as a possible avenue to explore in promoting healthier lifestyles, it may beneficial to promote traditional values in health education and interventions among Native American groups (Coe et al., 2004), as well as other ethnic groups. By creating and promoting nutrition and health education targeted towards specific ethnic groups, instead of a population approach, it may be possible to integrate more culturally relevant information when facilitating the establishment of more healthful lifestyle choices among Americans.

It is also important to consider socioeconomic status in creating nutrition and health education programs. We created an economic factor as separate from environment because income and lack of financial resources was a factor identified throughout discussions among all ethnic groups and it was evident that resources need to be made more available among those of lower socioeconomic status. It appears that in order to promote physical activity, more areas and facilities that foster such behavior should be made available to everyone. The development of programs that promote physical activity in the workplace may also be beneficial for those who unable to exercise at home, but must be maintained for optimum participation.

Through this research, as well as through the review of past research, it is apparent that cultural beliefs and practices should be addressed when creating community

programs aimed at healthier lifestyles. As expressed by James (2004): “Individuals must believe nutrition education and health messages are relevant to them and their loved ones for them to want to make changes.” Furthermore, James (2004) indicates that to make programs and materials more culturally relevant, it may be necessary to hire more African American health professionals who likely identify more readily with African American clients; this may also be true for other ethnic groups. In addition, providing more diversity and cultural competency training to present staff, including more culturally relevant graphics and images, and creating national Food Guide Pyramids that integrate traditional foods into different cultural groups may also be necessary to improve the health of all Americans in a more culturally relevant manner (James, 2004). Programs targeting the need for tolerance may also be beneficial.

All three ethnic groups included in this study reported beliefs that physicians and other medical professionals are sources of health information and could serve as sources of change in their communities and to the people they serve. These findings are important, in that more health professionals need to be aware of the impact they may or may not have on the adoption of healthier lifestyles. More support and interest towards their clients may have positive effects. Likewise, more services need to be more widely advertised throughout communities to bring awareness that there are resources available.

The use of focus groups in this study allowed researchers to gather more in depth information than could have been deduced from surveys. Therefore, it is important for future research to consider the use of focus groups to inform the development of future health promotion programs, especially those targeted towards specific ethnic groups and limited income participants. This is important because focus group participants are able

to offer a first hand opinion of what areas need to be revised and what should be done to create culturally and economically focused programs to aide in the prevention of overweight and obesity. It is also important for these research studies to be conducted in areas throughout the United States, not just focusing on one area, because different environments foster different problems.

Limitations

This study was conducted using only limited resource women from Oklahoma. As a result, data obtained are reflections of a small sample of this population and are not representative of all women of African American, Native American, and White ethnic groups. Beliefs and perceptions of these racial/ethnic groups and other limited resource women may vary by geographic location.

There were not an equal number of participants for each ethnic group and for all ethnic groups there was a small sample size. Furthermore, in two focus group sessions there was only one participant, thus it was harder to brainstorm, as there were no other participants to allow a "groupthink" environment. In contrast, some of the opinions and attitudes expressed in the focus groups containing more than one participant may be the result of the focus group's progression, and are not representative of the full range and intricacy of the participants' opinions (Carey, 1994). Furthermore, it is possible that the participants could have been influenced by other participants' opinions and attitudes as well as the dynamics of the focus group as a whole (Carey, 1995).

In addition, because of time constraints, focus groups were not conducted with each ethnic group to the point of data saturation. Additional focus groups need to be conducted to the point of data saturation for each racial/ethnic group.

REFERENCES

Aaron DJ, Hughes TL. Association of childhood sexual abuse with obesity in a community sample of lesbians. Obesity. 2007;15:1023-1028.

Albu JB, Murphy L, Frager DH, et al.. Visceral fat and race-dependent health risks in obese non-diabetic premenopausal women. Diabetes. 1997;46:456-62.

Allison D, Fontaine K, Manson J, Stevens J, VanItallie, T. Annual deaths attributable to obesity in the United States. JAMA. 1999;282:1530-1538.

Basiotis PP, Lino M. Food insufficiency and prevalence of overweight among adult women. Family Economics and Nutrition Review; Washington (1085-9985). 2003;15:55-57.

Benford RD, Snow BA. Framing processes and social movements: An overview and assessment. Annu Rev of Sociol. 2000;26:611–639.

Blixen CE, Singh A, Thacker H. Values and beliefs about obesity and weight reduction among African American and Caucasian women. J Transcult Nurs. 2006;17:290-297.

Bloom M. Primary prevention practices: Issues in children's and families' lives. Thousand Oaks, Calif: Sage Publications; 1996.

Bray GA. Obesity: a disease of nutrient or energy balance? Nutr Rev. 1987;45:33–43.

Broussard BA, Sugarman JR, Bachman-Carter K, et al.. Toward comprehensive obesity prevention programs in Native American communities. Obes Res. 1995;3:289S-97S.

Brown PJ, Konner M. An anthropological perspective on obesity. Ann N Y Acad Sci. 1987;499:29-46.

Brown PJ. Culture and the evolution of obesity. Human Nature. 1991;2:31-57.

Burke GL, Savage PJ, Manolio TA, et al.. Correlates of obesity in young black and white women: the CARDIA study. Am J Public Health. 1992;82:1621-1625.

Carey M. Capturing the group effect in focus groups: A special concern in analysis. Qual Health Res. 1994;4:123-127.
Carey M. Comment: Concerns in the analysis of focus group data. Qual Health Res. 1995;5:487-495.

Carey VJ, Walters EE, Colditz GA. Body fat distribution and risk of non-insulin-dependent diabetes mellitus in women: The nurses' health study. Am J Epidemiol. 1997;145:614-619.

Carr D, Friedman MA. Body weight and quality of interpersonal relationships. Soc Psychol Q. 2006;69:127-49.

Carroll JF, Chiapa AL, Rodriquez M et al.. Visceral fat, waist circumference, and BMI: Impact of race/ethnicity. Obesity. 2008;

Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2006. Available at:
http://apps.nccd.cdc.gov/brfss/. Accessed November 29, 2007.

Centers for Disease Control and Prevention (CDC). Mental health in the United States: health risk behaviors and conditions among persons with depression – New Mexico, 2003. MMWR. 2005;54:989-91. Available at:
http://www.cdc.gov/mmwR/preview/mmwrhtml/mm5439a4.htm - Accessed May 20, 2008

Centers for Disease Control and Prevention. National Center for Health Statistics. Health Data for All Ages. 2007. http://www.cdc.gov/nchs/health_data_for_all_ages.htm. Accessed November 30, 2007.

Centers for Disease Control and Prevention (CDC). National Center for Health Statistics (NCHS). National Health and Nutrition Examination Survey Data. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003-2004. Available at:
http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overweight/overwght_adult_03.htm . Accessed November 30, 2007.

Centers for Disease Control and Prevention (CDC). Overweight and Obesity. 2007. Available at: http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm. Accessed December 27, 2007

Charles CZ. The dynamics of racial residential segregation. Ann Rev of Sociol. 2003;29:67-207.

Charmaz K. Constructing Grounded Theory. London: Sage Publications Ltd.; 2006.

Coe K, Attakai A, Papenfuss M, Giuliano A. Traditionalism and its relationship to disease risk and protective behaviors of women living on the Hopi reservation. Health Care Women Int. 2004;25:391-410.

Colditz, GA. Economic costs of obesity and inactivity. Med Sci Sports Exerc. 1999;31:S663-S667.

Cossrow NF, Jeffery RW, McGuire MT. Understanding weight stigmatization: a focus group study. J Nutr Education. 2001;33(4):208-214.

de Garine I, Pollock NJ. Social Aspects of Obesity. Amsterdam: Gordon & Breach; 1995.
de Onis M and Habicht JP. Anthropometric reference data for international use: recommendations from a World Health Organization Expert Committee. Am J Clin Nutr. 1996;64:650-658.
Dietz W. Focus group data pertinent to the prevention of obesity in African Americans. Am J Med Sci. 2001;322:286-289.

Dixon, JB, Dixon, ME, O'Brien, PE. Depression in association with severe obesity: Changes with weight loss. Arch Intern Med. 2003;163:2058-2065

Eyler AA, Brownson RC, Donatelle RJ, King AC, Brown D, Sallis JF. Physical activity social support and middle- and older-aged minority women: results from a US survey. Soc Sci Med. 1999;49:781-789.

Eyler AA. Personal, social, and environmental correlates of physical activity in rural Midwestern white women. Am J Prev Med. 2003;25:86-92.

Faith, MS, Matz, PE, Jorge, MA. Obesity-depression associations in the population. J Psychosom Res. 2002;53:935-942

Felitti VJ. Long-term medical consequences of incest, rape, and molestation. South Med J. 1991;84:328-331.

Felitti VJ. Childhood sexual abuse, depression, and family dysfunction in adult obese patients: a case control study. South Med J. 1993;86:732-735.

Finkelstein EA, Fiebelkorn IC, Wang G. National medical spending attributable to overweight and obesity: How much, and who's paying? Health Aff (Millwood). 2003 Jan-Jun;Suppl Web Exclusives:W3-219-26. Available at:
http://www.asu.edu/educ/epsl/CERU/Articles/CERU-0305-71-OWI.doc.
Accessed December 27, 2007.

Fitzgibbon ML, Blackman LR, Avellone ME. The relationship between body image discrepancy and body mass index across ethnic groups. Obes Res. 2000;8:582-589.

Fontaine KR, Faith MS, Allison DB, Cheskin LJ. Body weight and health care among women in the general population. Arch Fam Med. 1998;7:381-384.

French SA, Story M, Jeffery RW. Environmental influences on eating and physical activity. Ann Rev Pub Health. 2001;22:309-335.

Gambeineri A, Pelusi C, Vicennati V, Pagotto U, Pasquali R. Obesity and the polycystic ovary syndrome. Int J Obes Rel Metab Disord. 2002;26:883-896.

Gibson D. Food stamp program participation is positively related to obesity in low income women. J Nutr. 2003;133:2117-2118.

Gleick J. Faster: The acceleration of just about everything. New York: Pantheon; 1999.
Guenther PM, Reedy J, Krebs-Smith SM, Reeve BB, Basiotis PP. Development and Evaluation of the Healthy Eating Index-2005 Technical Report. Center for Nutrition Policy and Promotion, U.S. Department of Agriculture. 2007. Available at: http://www.cnpp.usda.gov/HealthyEatingIndex.htm.%20. Accessed May 20, 2008.

Gustafson TB, Sarwer DB. Childhood sexual abuse and obesity. Obesity Reviews. 2004;5;129-135.

Guthrie JF, Morton JF. Food source of added sweeteners in the diets of Americans. J Am Diet Assoc. 2000;100:43-48, 51.

Harris MB, Waschull S, Walters LC. Feeling fat: Motivations, knowledge, and attitudes of overweight women and men. Psychol Rep. 1990;67:1191-1202.

Harris MB, Walters LC, Waschull S. Gender and ethnic differences in obesity-related behaviors and attitudes in a college sample. J App Soc Psychol. 1991;21:1545-1566.

Healthy People 2010.
http://www.healthypeople.gov/Document/html/uih/uih_4.htm#overandobese. Accessed December 27, 2007.

Heble MR, Mannix LM. The weight of obesity in evaluating others: a mere proximity effect. Pers Soc Psychol Bull 2003;29:28-38.

Hill JO, Peters JC. Environmental contributions to the obesity epidemic. Science. 1998;280:1371-1374.

Hill JO, Wyatt HR, Reed GW, Peters JC. Obesity and the environment: Where do we go from here? Science. 2003:229;853-855.

Hu FB. Overweight and obesity in women: Health risks and consequences. J Womens Health. 2003;12;163-172.

James DC. Factors influencing food choices, dietary intake, and nutrition-related attitudes among African Americans*:* Application of a culturally sensitive model. Ethn Health. 2004;9:349-367.

Jeffery RW, French SA. Epidemic obesity in the United States: Are fast foods and television viewing contributing? Am J Pub Health. 1997;88:277-80.

Jilcott SB, Evenson KR, Laraia BA, Ammerman AS. Association between physical activity and proximity to physical activity resources among low-income, midlife women. Prev Chronic Dis. 2007;4(1):1-16. Available at: http://www.cdc.gov/pcd/issues/2007/jan/06_0049.htm. Accessed May 22, 2008.

Kessler RC, Berglund P, Demler O et al.. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). JAMA. 2003;289:3095-3105.

Kessler RC, Berglund PA, Demler O, Jin R, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Arch Gen Psychiatry. 2005;62:593-602.

Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Arch Gen Psychiatry. 2005;62:617-627.

King TK, Clark MM, Pera V. History of sexual abuse and obesity treatment: an outcome study. Addict Behav. 1996;21:283-290.

Kitzinger J, Barbour RS. The challenge and promise of focus groups. In R. S. Barbour & J. Kitzinger (Eds.), Developing focus group research: Politics, theory, and practice. London: Sage. 1999:1-20.

Klohe-Lehman DM, Freeland-Graves J, Clarke KK et al.. Low-income, overweight and obese mothers as agents of change to improve food choices, fat habits, and physical activity in their 1-to-3-year-old children. J Am Coll Nutr. 2007;26:196-208.

Kress VE, Shoffner MF. Focus Groups: A practical and applied research approach for counselors. J Counseling & Development. 2007;85:189-195.

Krueger, RA. Focus groups: A practical guide for applied research. 2nd edition. Thousand Oaks, CA: Sage Publications; 1994.

Krueger RA. Casey MA. Focus groups: A practical guide for applied research. 3rd edition. Thousand Oaks, CA: Sage Publications; 1995.

Kumanyika S, Wilson JF, Guilford-Davenport M. Weight-related attitudes and behaviors of black women. J Am Diet Assoc. 1993;93:416-422.

Kung HC, Hoyert DL, Xu JQ, Murphy SL. Deaths: Final data for 2005. National vital statistics reports; vol 56, no 10. Hyattsville, MD: National Center for Health Statistics, 2008.

Levitsky YS, Pencina MJ, D'Agostino RB et al.. Impact of impaired fasting glucose on cardiovascular disease: the Framingham study. J Am Coll Cardiol. 2008;51:264-270.

Lim K, Thomas KS, Bardwell WA, Dimsdale JE. Which measures of obesity are related to depression and in whom? Psychosomatics. 2008;49:23-28.

Lindsay AC, Hubley AM. Conceptual reconstruction through a modified focus group methodology. Soc Indic Res. 2006;79:437-454.

Lynch CS, Chang JC, Ford AF, Ibrahim SA. Obese African-American women's perspectives on weight loss and bariatric surgery. J Gen Intern Med. 2007;22:908-914.
Lynch, E, Liu K, Spring B et al.. Association of ethnicity and socioeconomic status with judgments of body size: The Coronary Artery Risk Development in Young Adults (CARDIA) Study. Am J Epidemiol. 2007;165:1055-1062.

Mack KA, Anderson L, Galuska D et al.. Health and sociodemographic factors associated with body weight and weight objectives for women: 2000 behavioral risk factor surveillance system. J Womens Health. 2004;13:1019-1032.

Manson JE, Spelsberg A. Risk modification in the diabetic patient. In: Manson JE, Ridker PM, Gaziano JM, Hennekens CH, eds. Prevention of myocardial infarction. New York, Oxford: Oxford University Press. 1996:241.

Massey DS, Fishcer MJ. How segregation concentrates poverty. Ethn Racial Stud. 2000;23:670-691.

Massey DS, Lundy GL. Use of black English and racial discrimination in urban housing markets: New methods and findings. Urban Aff Rev. 2001;36:470-496.

Massey DS. Segregation and stratification: a biosocial perspective. Du Bois Review 1, no. 1. 2004:7-25.

McCrory MA, Fuss PJ, Hays NP, Vinken AG, Greenberg AS, Roberts SB. Overeating in America. Association between restaurant food consumption and body fatness in healthy adult men and women ages 19 to 80. Obes Res. 1999;7:564-571.

McEwen B, Lasley EN. The end of stress as we know it. Washington, DC: The Joseph Henry Press. 2002.

Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000 [published corrections appear in JAMA 2005;293:293-294 and 298]. JAMA. 2004;291:1238-1245.

Morgan, D. Focus Groups. Annu Rev Sociol. 1996;22:129-152.

Morland K, Wing S, Diez Roux A, Poole C. Neighborhood characteristics associated with the location of food stores and food service places. Am J Prev Med 2002;22:23-29.

National Institutes of Health. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults – the evidence report. Obes Res. 1998;6:51S-210S.

Nishida C, Mucavele P. Monitoring the rapidly emerging public health problem of overweight and obesity: The WHO Global Database on Body Mass Index. SCN News. 2005;29:5-12.

Noll JG, Zeller MH, Trickett PK and Putnam PK. Obesity risk for female victims of childhood sexual abuse: a prospective study. Pediatrics. 2007;120:e61-e67.

Nord M, et al.. Household food security in the United States, 2003. Food Assistance and Nutrition Research Report No. 42. Washington, D.C: USDA, Economic Research Service (ERS), 2004.

obesity. (2007). In *Encyclopædia Britannica*. Retrieved December 23, 2007, from Encyclopædia Britannica Online: http://www.britannica.com/eb/article-9056643

Ogden CL, Carroll MD, McDowell MA, Flegal KM. Obesity among adults in the United States – no change since 2003-2004. NCHD data brief no 1. Hyattsville, MD: National Center for Health Statistics. 2007.

Olson CM. Nutrition and health outcomes associated with food insecurity and hunger. J Nutr. 1999;129:521S-24S.

Oster G, Thompson D, Edelsberg J, Bird AP, Colditz GA. Lifetime health and economic benefits of weight loss among obese persons. Am J Public Health 1999;89:1536-1542.

Paeratakul S, Lovejoy JC, Ryan DH, Bray GA. The relation of gender, race and socioeconomic status to obesity and obesity comorbidities in a sample of U.S. adults. Int J Obes Relat Metab Disord. 2002;26:1205-1210.

Paeratakul S, White MA, Williamson DA, Ryan DH, Bray GA. Sex, race/ethnicity, socioeconomic status, and BMI in relation to self-perception of overweight. Obes Res. 2002;10:345-350.

Pagan JA, Davila A. "Obesity, occupational attainment, and earnings. Soc Sci Quart. 1997;78:756-770.

Parker S, Keim KS. Emic perspectives of body weight in overweight and obese white women with limited income. Journal of Nutrition Education and Behavior. 2004;36:282-289.

Paul RJ, Townsend JB. Shape up or ship out? Employment discrimination against the overweight. Employee Responsibilities Rights J. 1995;8:133-145.

Pena M, Bacallao J. Malnutrition and Poverty. Annu Rev Nutr. 2002;22:241-253.

Perez-Lopez MS, Lewis RJ, Cash TF. The relationship of antifat attitudes to other prejudicial and gender-related attitudes. J Appl Soc Psychol. 2001; 31:683-697.

Pickett KE, Kelly S, Brunner E, Lobstein T, Wilkinson RG. Wider income gaps, wider waistbands? An ecological study of obesity and income inequality. J Epidemiol Community Health. 2005;59:670-674.

Pi-Sunyer XF. Medical complications of obesity. *In* Brownell K, Fairburn C (eds): Eating Disorders and Obesity. New York, Guilford Press, 1995;401-405.

Poskitt EM, European Childhood Obesity Group. Defining childhood obesity: the relative body mass index (BMI). Acta Paediatr. 1995;84:961-963.

Prentice AM, Jebb SA. Beyond body mass index. Obesity Reviews. 2001;2:141-147.

Puhl RM, Brownell KD. Bias, discrimination, and obesity. Obes Res. 2001;9:788-805.

Puhl RM, Brownell KD. Confronting and coping with weight stigma: An investigation of overweight and obese adults. Obesity. 2006;14:1802-1815.

Puhl RM, Moss-Racusin CA, Schwartz MB, Brownell KD. Weight stigmatization and bias reduction: perspectives of overweight and obese adults. Health Educ Res. 2008;23:347-358.

Reed J, Frazao E, Itskowitz R. How much do Americans pay for fruits and vegetables? AIB790. July 2004.

Register CA, Williams DR. Wage effects of obesity among young workers. Soc Sci Quart. 1990;71:130-41.

Roehling MV. Weight-based discrimination in employment: Psychological and legal aspects. Pers Psychol 1999;52:969-1017.

Rothblum ED, Brand PA, Miller CT, Oetjen HA. The relationship between obesity, employment discrimination and employment-related victimization. J Vocational Beh. 1990;37:251-266.

Sallis J, Owen N. Ecological Models. In: Glantz K, Lewis F, Riber B, eds. Health Behavior and Health Education. San Francisco, Calif:Jossey Bass: 1997:403-424.

Sanchez-Johnsen LP, Fitzgibbon ML, Martinovich Z, Stolley MR, Dyer AR, Van Horn L. Ethnic differences in correlates of obesity between Latin-American and Black women. Obes Res. 2004;12:652-660.

Schwartz MB, O'Neal H, Brownell KD, Blair S, Billington C. Weight bias among health professionals specializing in obesity. Obes Res. 2003;11:1033-1039.

Schwartz MB, Vartanian LR, Nosek BA, Brownell KD. The influence of one's own body weight on implicit and explicit anti-fat bias. Obesity. 2006;14:440-447.

Seidell, JC. The impact of obesity on health status: Some implications for health care costs. Int J Obes Relat Metab Disord. 1995;19:S13-S16.

Seidell, JC. Societal and personal costs of obesity. Exp Clin Endocrinol Diabetes. 1998;106:S7-S9.

Seo DC, Torabi MR. Racial/ethnic differences in body mass index, morbidity, and attitudes toward obesity among U.S. adults. J National Med Assoc. 2006;98:1300-1308.

Sigman-Grant M. Strategies for Counseling Adolescents. Supplement JADA. 2002;102:S32-S39.

Sobal J, Stunkard AJ. Socioeconomic status and obesity: A review of the literature. Psychol Bull. 1989;105:260-275.

Springs FE, Friedrich WN. Health risk behaviors and medical sequelae of childhood sexual abuse. Mayo Clin Proc. 1992;67:527-532.

Story M, Evans M, Fabsitz RR, Clay T, Holy Rock B, Broussard B. The epidemic of obesity in American Indian communities and the need for childhood obesity prevention programs. Am J Clin Nutr. 1999;69:747S-754S.

Strine TW, Mokdad AH, Dube SR et al.. The association of depression and anxiety with obesity and unhealthy behaviors among community-dwelling US adults. Gen Hosp Psychiatry. 2008;30:127-137.

Stunkard AJ. Factors in obesity: Current views. In:Pena M, Bacallo J, eds. Obesity and Poverty: A New Public Health Challenge. Washington, DC: PAHO;2000:23-28.

Stunkard, AJ, Faith, MS, Allison, KC. Depression and obesity. Biol Psychiatry. 2003;54:330-337.

Sturm R. The effects of obesity, smoking, and drinking on medical problems and costs. Health Aff. 2002;21:245-253.

Swinburn BA, Caterson I, Seidell JC, James WT. Diet, nutrition and prevention of excess weight gain and obesity. Public Health Nutr. 2004;7:123-146.

Tanumidardjo SA, Anderson C, Kaufer-Horwitz M et al.. Poverty, obesity, and malnutrition: An international perspective recognizing the paradox. J Am Diet Assoc. 2007;107:1966-1972.

Teachman BA, Brownell KD. Implicit anti-fat bias among health professionals: is anyone immune? Int J Obes Relat Metab Disord. 2001;25:1525-1531.

Testa M, Astone NM, Krogh M, Neckerman KM. Employment and marriage among inner-city fathers. In: Wilson WJ, ed. The Ghetto Underclass. Newbury Park, Calif: Sage;1993:96-108.

Thompson BW. "A Way Outa No Way": Eating problems among African American, Latina, and White women. Gend Soc. 1993;6:546-561.

Thompson JL, Allen P, Cunningham-Sabo L, Yazzie DA, Curtis M, Davis SM. Environmental, policy, and cultural factors related to physical activity in sedentary American Indian women. Women Health. 2002;36:59-74.

Thompson JL, Wolfe VK, Wilson N, Pardilla MN, Perez G. Personal, social, and environmental correlates of physical activity in Native American women. Am J Prev Med. 2003;25:53-60.

Townsend MS, Peerson J, Love B, Achterberg C, Murphy SP. Food insecurity is positively related to overweight in women. J Nutr. 2001;131:2880-2884.

Ulijaszek SJ, Lofink H. Obesity in biocultural perspective. Annu Rev Antrhopol. 2006;35:337-360.

U.S. Census Bureau. American Indian, Alaska Native Tables from the Statistical Abstract of the United States: 2004-2005. Table 663. Available at: www.census.gov/statab/www. Accessed June 19, 2008.

U.S. Department of Agriculture. Food and Nutrition Service. Promoting healthy eating: an investment in the future. Report to Congress. 1999.

U.S. Department of Agriculture. Healthy Eating Index. Available at: http://www.cnpp.usda.gov/HealthyEatingIndex.htm. Accessed May 18, 2008.

U.S. Department of Health and Human Services. The surgeon general's call to action to prevent and decrease overweight. Available at:

http://www.surgeongeneral.gov/topics/obesity/calltoaction/toc.htm. Accessed November 25, 2007.

U.S. Department of Health and Human Services. Healthy People 2010: Understanding and Improving Health. 2nd ed. Washington, DC: U.S. Government Printing Office, November 2000.

van Hanswijck de Jonge P, Waller G, Fiennes A, Rashid Z, Lacey JH. Reported sexual abuse and cognitive content in the morbidly obese. Eat Behav. 2003;4:315-322.

Wagenknecht LE, Langefeld CD, Scherzinger AL et al.. Insulin sensitivity, insulin secretion, and abdominal fat: the Insulin Resistance Atherosclerosis Study (IRAS) Family Study. Diabetes. 2003;52:2490-2496.

Wardle J. Sex differences in association with SES and obesity. Am J Public Health. 2002;92:1299-1304.

World Health Organization (WHO). 2000. Obesity: preventing and managing the global epidemic. WHO Tech Rep Ser. No. 894 Geneva.

World Health Organization (WHO) Expert Consultation. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. Lancet. 2004;363:157-63.

World Health Organization (WHO) Obesity. 2007 Available at: http://www.who.int/topics/obesity/en/. Accessed November 25, 2007.

Wiederman MW, Sansone RA, Sansone LA. Obesity among sexually abused women: an adaptive function for some? Women Health. 1999;29:89-100.

Wilde PE, McNamara PE, Ranney CK. The effect on dietary quality of participation in food stamp and WIC programs. Washington, DC: US Department of Agriculture, 2000. (Report no. 9).

Willett WC, Dietz WH, Colditz GA. Guidelines for healthy weight. Prim Care. 1999;341:427-434.

Williams DR, Jackson PB. Social sources of racial disparities in health. Health Aff. 2005;24:325-334.

Williamson DF, Thompson TJ, Anda RF, Dietz WH, Felitti V. Body weight and obesity in adults and self-reported abuse in childhood. Int J Obes. 2002;26:1075-1082.

Wolf AM, Colditz GA. Current estimates of the economic cost of obesity in the United States Obes Res. 1998;6:97-106.

Wolf AM. Economic outcomes of the obese patient Obes Res. 2002;10:58S-62S.

Young LE, Cunningham SL, Buist DM. Lone mothers are at higher risk for cardiovascular disease compared with partnered mothers. Data from the National Health and Nutrition Examination Survey III (NHANES III). Health Care Women Int. 2005;26:604-621.

Zhang AY, Snowden LR. Ethnic characteristics of mental disorders in five U.S. communities. Cultur Divers Ethnic Minor Psychol. 1999;5:134-146.

APPENDIX A

IRB Form

Oklahoma State University Institutional Review Board

Date:	Monday, February 11, 2008
IRB Application No	HE082
Proposal Title:	Cross-Cultural Framing and Deliberation of Obesity Among African American, White, Hispanic, and Native American Limited Resource Women
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 2/10/2009

Principal Investigator(s

Stephany Parker
419 HES
Stillwater, OK 74078

Keri Layton
11153 Springhollo Rd. Apt 271
Oklahoma City, OK 73120

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

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

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

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

APPENDIX B

Recruitment Letter

April 4, 2008

Dear PARTICIPANT NAME,

The Department of Nutritional Sciences at Oklahoma State University would like to invite you to participate in a group discussion about the body weight, health and nutrition of people who receive food stamps. You can participate because your family received food stamp benefits in the last year.

The information you give us will be used to develop policy to help people who receive food stamps. There are no risks or benefits to you for taking part in this study. You do not have to participate in this study. **If you choose to take part and complete the group discussion, you will receive cash in the amount of $25.00** as a special thank you for the information you provide.

Your personal information will be kept private. You will not be identified by name or description in any reports about this study. Instead, your answers will be grouped with those from other participants.

Taking part in this study is voluntary. You may choose not to take part at any time. If you have questions contact **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, you may contact **Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu .**

Thank you for helping.

Sincerely,

Stephany Parker

Stephany Parker
405-744-6821

APPENDIX C

Consent Form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY
OKLAHOMA STATE UNIVERSITY

PROJECT TITLE: Cross-cultural framing and deliberation of obesity among African American, White, Hispanic and Native American Limited Resource Women

INVESTIGATORS: Drs. Stephany Parker and Janice Hermann Department of Nutritional Sciences, Oklahoma State University and Dr. Sue Williams, Department of Human Development and Family Relations, Oklahoma State University

PURPOSE:
This study is being conducted through Oklahoma State University. The purpose is to learn from you what you think about body weight so we can help develop policy appropriate for people like you.

PROCEDURES:
The project involves completion of a one page information sheet and participation in a focus group. You will complete a one page information sheet about your family. Next, you will participate in a focus group discussion about your view of health and body weight. Focus groups are composed of a small number of people who are asked an organized set of questions in a consistent manner. The participant information sheet and focus group procedures will take about 1 hour.

RISKS OF PARTICIPATION:
There are no risks associated with this project, including stress, psychological, social, physical, or legal risk which are greater, considering probability and magnitude, than those ordinarily encountered in daily life. If, however, you begin to experience discomfort or stress in this project, you may end your participation at any time.

BENEFITS OF PARTICIPATION:
You may gain an appreciation and understanding of how others like you view health and body weight issues.

CONFIDENTIALITY:
All information about you will be kept confidential and will not be released. Questionnaires and record forms will have your name cut from the forms. The sign in sheet which has your name and phone number on it will be kept so that you can be contacted in the future to determine whether our impressions of what took place in the focus group were accurate. The attendance/sign-in sheet will be shredded following the second round of focus groups to be conducted to confirm findings . All study information will be kept in a file cabinet that is accessible only to the researchers and their assistants. This information will be saved as long as it is useful; typically, such information is kept for five years after publication of the results. Results from this study may be presented at professional meetings or in publications. You will not be identified individually; we will be looking at the group as a whole.

COMPENSATION:
You will receive $25 dollars for your participation. You must complete the information sheet **and** the focus group to receive the $25 dollars.

CONTACTS:
I understand that I may contact any of the researchers at the following addresses and phone numbers, should I desire to discuss my participation in the study and/or request information about the results of the study: Stephany Parker, Ph.D., 419 HES, Dept. of Nutritional Sciences, Oklahoma State University, Stillwater, OK 74078, (405) 744-6821. I may also contact Sue Jacobs, Ph.D., Institutional Review Board, 219 Cordell North, Oklahoma State University, Stillwater, OK 74078, (405) 744-1676 with any questions concerning participant's rights.

PARTICIPANT RIGHTS:
I understand that my participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time, without penalty

CONSENT DOCUMENTATION:
I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and the benefits of my participation. I also understand the following statements:

I affirm that I am 18 years of age or older.

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my participation in the study.

Signature of Participant Date

I certify that I have personally explained this document before requesting that the participant sign it.

Signature of Researcher (or authorized representative) Date

APPENDIX D

Demographic Questionnaire

Please provide us with a little information about yourself.

Are you?
☐ Caucasian/White
☐ African American or African American
☐ Hispanic
☐ Asian
☐ Native American

Are you?
☐ Married
☐ Single
☐ Divorced
☐ Separated

How old are you?
☐ 17 or less
☐ 8-24
☐ 25-44
☐ 45-59
☐ 60-74
☐ over 75

Education
☐ Less than 9th grade
☐ 9th to 12th grade, no diploma
☐ High school graduate
☐ Technical school graduate
☐ Some college, no degree
☐ Associate degree
☐ Bachelor's degree
☐ Graduate or professional degree

What is you income?
☐ Less than $10,000
☐ $10,000-$24,999
☐ $25,000-$39,999
☐ Over $40,000

Where do you live?
☐ Rural area
☐ Small town
☐ Large City

Height?
_____

Weight?
_____

How many children do you have under the age of 18?
_____

How many children live with you at home?
_____

APPENDIX E

Semi-Structured Focus Group Script

Beginning the Focus Group Discussion

The first few moments in focus group discussion are critical. In a brief time the moderator must create a thoughtful, permissive atmosphere, provide the ground rules and set the tone of the discussion. Much of the success of group interviewing can be attributed to the development of this open environment.
The recommended pattern for introducing the group discussion includes: (1) The welcome, (2) The overview and topic, (3) The ground rules and (4) The first question. Here is an example of a typical introduction:

> *Good afternoon/evening and welcome to our session tonight/today. Thank you for taking the time to join our discussion of overweight and obesity. My name is **your name** and I represent Oklahoma Cooperative Extension Service. We want to learn about what you think of some issues affecting body weight for folks like you in your community.*
>
> *We have invited people to share their ideas and opinions. There are no right or wrong answers we just want your opinions. Please feel free to share your point of view even if it is different from what others have said.*
>
> *Before we begin, let me tell you a little about how a focus group works. Only one person should talk at a time, but we will not go in any specific order. Let's try to talk just one at a time so we can hear everyone's views. Do not be shy about sharing your views because we will not share your individual thoughts with anyone. We're tape-recording the session because we don't want to miss any of your comments. You may be assured of complete confidentiality.*
>
> *Our session will last about an hour. Well, let's begin. Let's find out some more about each other by going around the room one at a time. Tell us your name and where you live.*
>
> *Well, it has been good to get to know a little more about each other, so let's move on now to our topic of discussion tonight.*

1. Some news reports that overweight and obesity are problems among **Ethnic Group** in your community.
    - What do you think about these reports?

2. Others think obesity isn't that much of an issue. What about you? Do you personally consider obesity a problem for **Ethnic Group** in your community?
    - What are some of the reasons for your thoughts?

3. Now I'd like for you to think a little bit about one of your close friends or family members who is overweight. What are some of the reasons you think people like your friends or family members are overweight or obese?

4. Let's say you and people in your community decided to do something to decrease obesity. What do you think could be done?
    - For this question, you can really think big. Anything you want to have done could happen. We are dreaming here.
    - How do you think we can do this?

5. Let's move on to thinking about health in general. What could be done to improve the general health of **Ethnic Group** in your community?
    - How can this be done?

6. Who do you think could help improve the health of **Ethnic Group** in your community?
    - What do you think these people could do to help improve health?
    - What are some of the reasons you chose these people?

7. Now I would like for you to share a story about someone you know who is overweight or obese.

I really appreciate all you have shared today and have learned a lot from you. Is there anything else about overweight or obesity you'd like to talk about?

VITA

Keri Lea Layton

Candidate for the Degree of
Master of Science

Thesis: SOCIOECOLOGIC FACTORS AFFECTING OVERWEIGHT AND OBESITY IN AFRICAN AMERICAN, NATIVE AMERICAN, AND WHITE LIMITED INCOME WOMEN

Major Field: Nutritional Sciences

Biographical:

Personal Data: Born July 15, 1984 in Enid, Oklahoma to Lea Ann and Richard Strait and one sister, Jill (Strait) Parker. Married Cliff Layton on October 6th, 2007.

Education: Graduated from Enid High School, Enid, Oklahoma in May 2002; received a Bachelor of Science degree in Dietetics from Oklahoma State University in May 2006; completed the requirements for the Master of Science in Nutritional Sciences at Oklahoma State University, Stillwater, Oklahoma in July 2008.

Experience: Employed by Stillwater Medical Center as diet clerk from December 2002 to February 2007; completed the Dietetic Internship at Oklahoma State University in June 2007; passed registration examination to become a registered dietitian in August 2007; employed by Oklahoma State University as graduate research assistant from January 2007 to December 2007; currently employed as a clinical registered dietitian at Integris Baptist Medical Center in Oklahoma City, Oklahoma.

Professional Memberships: American Dietetic Association, Oklahoma Dietetic Association

Name: Keri Lea Layton Date of Degree: July 2008

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: SOCIOECOLOGIC FACTORS AFFECTING OVERWEIGHT AND OBESITY IN AFRICAN AMERICAN, NATIVE AMERICAN, AND WHITE LIMITED INCOME WOMEN

Pages in Study: 137 Candidate for the Degree of Master of Science

Major Field: Nutritional Science

Scope Method of Study: The purpose of this study was to identify factors influencing overweight and obesity among limited income women and determine whether identified factors differ among different ethnic/racial groups. A total of 31 limited income women were recruited from a list of food stamp recipients provided by the Oklahoma Department of Human Services. Participants took part in a focus group with other limited income women of the same ethnic/racial group and from the same community. Trained moderators used a pretested, semi-structured script developed by principal investigators to explore diagnostic, prognostic and motivational aspects of obesity among African American, Native American, and White participants. Focus groups were recorded digitally and then transcribed verbatim. Content analysis of verbatim focus group transcripts was performed. Transcripts were independently coded by researchers and patterns were identified and isolated in common themes. Differences in themes amongst the different ethnic/racial groups were identified.

Findings and Conclusions: For all groups under study, environmental socioecological factors impacting overweight and obesity were most prominent. Among African Americans, cultural norms of overweight and obesity emerged as a predominant contributor. Cultural food preferences among Native American and African American women were also cited as perceived contributors, but not among White women. White women perceived more of a need for government support and resources than did the other two ethnic groups. Inadequate time and the cost of healthy foods were considered major factors when making food choices amongst all ethnic/racial groups. Participants in all ethnic groups felt that lowering the prices of healthy foods, cheaper access to fitness centers, more opportunities for nutrition and health education, and incentives may be beneficial in promoting healthier lifestyles. Findings suggest that identification of cultural differences and perceived needs from the perspective of limited income women may benefit the development of future programs. Furthermore, focusing on environmental factors, as opposed to individual factors, influencing developing programs to address overweight and obesity is supported by the results for this study.

ADVISER'S APPROVAL: Dr. Stephany Parker
