

Georgia State University

ScholarWorks @ Georgia State University

Anthropology Honors Theses

Department of Anthropology

Spring 4-25-2011

Socioeconomic and Cultural Aspects of Overweight and Obesity in Georgia's African American Community

Alicia C. Simpson

Follow this and additional works at: https://scholarworks.gsu.edu/anthro_hontheses

Recommended Citation

Simpson, Alicia C., "Socioeconomic and Cultural Aspects of Overweight and Obesity in Georgia's African American Community." Thesis, Georgia State University, 2011.
https://scholarworks.gsu.edu/anthro_hontheses/7

This Thesis is brought to you for free and open access by the Department of Anthropology at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Anthropology Honors Theses by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

**SOCIOECONOMIC AND CULTURAL ASPECTS
OF OVERWEIGHT AND OBESITY IN
GEORGIA'S AFRICAN AMERICAN
COMMUNITY**

By

Alicia C. Simpson

A Thesis Submitted in Partial Fulfillment of the Requirements for Graduation with
Undergraduate Research Honors
In Anthropology

Georgia State University

Honors Thesis Advisor

Honors Program Director

Date

GEORGIA STATE UNIVERSITY

ABSTRACT

Socioeconomic and cultural aspects of overweight and obesity in Georgia's African American Community

By Alicia C. Simpson

Chairperson of the Supervisory Committee:

Cassandra White, PhD
Department of Anthropology

According to the U.S. Department of Health and Human Services, Office of Minority Health and the Center for Disease Control (CDC), individuals who identified themselves as African-American or Black have the highest rate of obesity in the United States. The higher prevalence of overweight and obesity among the African-American population correlates to an increased risk for a number of diseases (including heart disease, diabetes, and several cancers) and an increased mortality rate for the African American population. Through focus groups and interviews, the research I will present focuses on perceptions of overweight and obesity among African-Americans, including any cultural beliefs associated with overweight, obesity and African-Americans. I examined cultural norms of body image, food preference (including "soul food" and other foods traditionally associated with African-American culture), and access to healthy foods and how the familial unit deals with issues of overweight and obesity. I also explored popular explanatory models surrounding the cultural acceptance of overweight and obesity in the African-American culture. Finally, I attempted to uncover the role that socioeconomic status plays in the acceptance, belief and/or knowledge of these models. A total of 80 participants who identify as African-American or Black were chosen using non-probability sampling techniques to participate in this research. I conducted 3 focus groups and 60 one on one interviews. Each participant in the focus group and one on one interview filled out a brief questionnaire about their perceptions of their own body image in conjunction with their interview. Varying socioeconomic status was sought amongst interview participants while similar socioeconomic status and education level were sought among focus group participants so that each person within the group felt as comfortable as possible sharing their experiences with weight and food. In my paper, I will discuss common themes that emerged in focus groups and interviews regarding perceptions of obesity among my participants.

TABLE OF CONTENTS

Introduction	1
Chapter I: Literature Review	3
Body Image.....	3
Structural Violence: Slavery and the Poverty Cycle	5
Socioeconomic Aspects of Obesity	7
Attractiveness	7
Chapter II: Methodology.....	10
Chapter III: Results	11
Chapter IV: Discussion.....	14
Chapter V: Conclusion.....	22
Appendix A: Pre-Interview Questionnaire for Interview and Focus Group	23
Appendix B: Focus Group Questions	25
Appendix C: Consent Form.....	27
Appendix D: Table 1 - Descriptive Statistics of the Study Population	30
Appendix E: Table 2 – Descriptive Statistics of the Study Population by Gender	32
Bibliography	35

ACKNOWLEDGMENTS

I wish to offer my sincerest gratitude to Dr. Cassandra white for not only mentoring me through the process of researching and writing this thesis but also sparking my interest in cultural and medical anthropology and affording me the tools to find my own passion within the field.

INTRODUCTION

According to the Centers for Disease Control and Prevention (CDC) and The Office of Minority Health, individuals who identified themselves as African-American or Black have the highest rate of obesity in the United States[1, 2]. Fifty-one percent of African-American women over 20 are obese, while 37 percent of African-American males over 20 are obese; in total 79.1 percent of African-American women are obese or overweight, while 71.8 percent of African-American males are obese or overweight[1, 3]. Overweight and obesity have been correlated to “lifestyle” diseases such as cardiovascular disease (including hypertension, coronary artery disease and stroke), type 2 diabetes, and some types of cancer including as well as osteoarthritis, sleep apnea, and gynecological problems such as infertility [4, 5]. This higher prevalence of overweight and obesity among the African-American population puts this cultural and ethnic group at an increased risk for these obesity related diseases and an increased mortality rate for the African American population[6].

Despite the increased risk of heart disease, diabetes, some cancers and mortality associated with overweight and obesity in the African-American community, the rates of overweight and obesity remain markedly higher than that of any other ethnic group in the United States[2]. Obesity has also been shown to shorten one’s lifespan up to 20 years for black men who are obese and 5 years for black women[6]. There appears to be a broader acceptance of overweight and obesity within the African-American culture that is stifling public health efforts to reduce weight and the overall incidence of overweight and obesity.

Overweight and obese body types are more desirable in the African-American culture, especially among women. Black females who are overweight or obese have a more positive view of their weight and their level of attractiveness compared to their white counterparts[7]. Within the African-American culture larger body types are preferred and sought by normal weight, overweight and obese individuals alike while normal weight body types among men and women are held in a less positive regard[8].

Socioeconomic status typically plays a key role in obesity issues. In general, those living in poverty tend to have poorer access to healthy foods and the ability to participate in physical exercise that facilitates weight loss. However, within each economic strata African-American women have been found to be

more likely to be obese than their white counterparts[7]. This points to a deeper, underlying cultural value system that influences a larger weight in the African-American culture more than the dominant American culture.

The current methodology behind treating and preventing overweight and obesity in the African-American community is focused on a predominately white American ethnocentric cultural methods which do not take into account the multi-layered cultural aspects of obesity in the African-American culture, including different perceptions of body type, wellness and health. Identifying these important cultural aspects of overweight and obesity might prove to be beneficial in creating public health initiatives that are targeted to meet the needs of the African-American community. This research study was conducted to uncover perceptions of overweight and obesity among African-Americans, including any cultural beliefs associated with overweight, obesity and African-Americans. Additionally this study examines perceptions of body image, food preference (including "soul food" and other foods traditionally associated with African-American culture) and access to healthy foods.

Chapter 1

LITERATURE REVIEW

Body Image

African-Americans are the third largest ethnic group in the United States; however, there appears to be a dramatic culture divide in terms of acceptable body weight and shape of white Americans versus black Americans. The greatest emphasis is placed on the female standard of beauty and how that relates to the American culture as a whole and subsequently how it relates to the African-American culture. In a study investigating body image and attitudes toward obesity at a historically black university Gipson et al.[6] found that black women are comfortable with a range of body sizes. Students who identified as black were asked to compare 9 images of various body types that correlated with a BMI's ranging from normal range (18-24.9) to obese or morbidly obese (30 or more). Students then choose, from the images, which body type they felt correlated most with their current body type and which image correlated more closely with their desired body type. Male and female participants chose body types that were close to their own when asked to choose their current body type in the images. The mean BMI's were 26 and 24.7 for male and female students, respectively. However, when males and females were asked to choose an image they preferred to be, both chose larger and heavier images than their current body type. Gipson et al. theorized that the larger body type seen amongst their female study participants could have perhaps occurred because of the broader social acceptance of larger body builds within the culture and also, perhaps, the enhanced sexual attractive of larger body types by black males[6]. It is important to note that the black female students in the study had higher BMI's than their male counterparts which is typical of the current statistics. This is a theme that is pervasive in the literature when BMI or weight information is collected from participants.

Overstreet et al.[9] explored the theory of normative discontent between black and white females in terms of two body ideals thinness and curvaceous. In recent years, curvaceous has begun to emerge as a socially acceptable body ideal. Although curvaceous has been added to the American cultural body ideal for women, variances between the meanings of this term among ethnic groups varies substantially. Women across both ethnic backgrounds preferred a curvaceous body type; however, the idea of curvaceous for white women was a slender build, with medium breast and small buttocks

whereas black women identified curvy as medium breast, “average” weight, and large buttocks. Many of the current images of the new curvaceous body ideal are of women with medium breasts and thin waists. These images focus more on the curvaceousness of a woman’s breast rather than her entire body. In this way, it appears that black women are less influenced by sociocultural pressures of ideal body types. However, is not to say that black women are protected from all sociocultural images of ideal body types. It appears that black women are affected by the images of other black women in the media. The types of bodies presented in the media are somewhat different when looking at white and black images. This difference oftentimes reflects the ideas of curvaceous that are highlighted in Overstreet’s research[9].

Flynn and Fitzgibbon reviewed the current literature to explore to perceptual and attitudinal body image findings of African-American females. When white and black women looked at the same silhouette, the black women perceived the silhouettes to be much thinner than the white women did. Additionally, black women were more apt to label themselves as thin, regardless of actual body size, than white women. Perceptions of weight were examined by comparing an individual’s perception of their weight category to the medical standard for a weight category. Black females were less likely to perceive their weight category accurately when compared to the medical standard. Looking across various studies up to 60 percent of overweight black females believed they were of normal weight while, in contrast, up to 8 percent of overweight white females believed the perceptions of weight were examined by comparing an individual’s perception of their weight category to the medical standard for a weight category. Black females were less likely to perceive their weight category accurately when compared to the medical standard. Black women 60 years of age or older tended to not care if they were or were not overweight. Looking across various studies up to 60 percent of overweight black females believed they were of normal weight while, in contrast, up to 8 percent of overweight white females believed they were of normal weight. Across multiple studies approximately 19 percent of black females believed they were thinner than what physicians told them they were. However, all obese black females in the literature reviewed correctly identified themselves as obese[7].

Taking both size perception and weight perceptions into account and looking at overall body satisfaction black women chose body ideals that were heavier than those chosen by their white counterparts and normal weight black women chose body images that were larger than their current

body type as the ideal. It is important to note that although participants chose heavier body types than their own as the ideal that these body types were still within the normal range for weight. White women did not show this preference. In questionnaires, black women reported being more satisfied with their bodies even when they were overweight while white women reported being dissatisfied with their bodies regardless of weight. There was a marked dissatisfaction among underweight and normal weight black women with their weight. Researchers found that approximately 53 percent of underweight black females were dissatisfied with their weight and 81 percent of normal weight black females were dissatisfied with their weight. The primary reason for this dissatisfaction was noted as a desire to be heavier than their current weight. In contrast to other studies looking at weight satisfaction in black women researchers found that 95 percent of overweight black women were dissatisfied with their weight[7].

Le et al. [10] examined the effects of perceptions of weight gain on the physical activity level and eating habits of black, white and Hispanic women using the Health Belief Model. Black women had the highest perceived weight gain out of all the ethnic groups represented in the study, additionally, black women had higher body esteem than white and Hispanic women. Overall, perceived weight gain over 36 months did not have any effect on the rate of physical activity or the eating habits of participants who perceived weight gain. Participants who perceived weight gain did not make an effort to reduce caloric intake and, in fact, were more likely to continue to increase their caloric intake over the duration of the study. Likewise, participants who perceived weight gain over 36 months did not increase their physical activity level.

Structural Violence: Slavery and the Poverty Cycle

Communities that have historically experienced poverty on a broad scale, such as African-Americans, have a tendency to idealize heavier body types. In societies where poverty is prevalent, and in turn disease is usually prevalent, heavier bodies are protective against famine and wasting illnesses. Additionally, excess weight is an outward symbol that one can afford good quality food and therefore excess weight represents health, wealth, and power which in turn all become attractive features. These ideas of beauty in relation to weight can be traced back to American slavery. From a modern perspective low-income black females have reported that the appearance of thin males or females gives

the perception that the thin individual is not eating, likely due to poverty and the inability to afford food, is addicted to drugs or has AIDS[7].

Individuals with low socioeconomic status, regardless of ethnicity, tend to have shorter life spans and increased disease risk than individuals living within a higher socioeconomic strata. In *Sick of Poverty* by Robert Sapolsky[11], the author explores the effects of psychological stress on the physiological being living in poverty. Socioeconomic status is a composite of educational level, income, occupation, and housing conditions. Sapolsky found that disease risk increased for health issues that would not be affected by inadequate healthcare like Type I diabetes or rheumatoid arthritis. Preventive medicine and access to healthcare prior to the onset of these disease would not prevent their occurrence, yet both diseases occur with more frequency within poor communities. What might be a more likely indicator of why such diseases are more prevalent in poor communities are the unhealthy lifestyle factors that are more common among Americas poor. Individuals with low socioeconomic status tend to smoke more, consume alcohol at a greater frequency, are more prone to obesity and it's related diseases, and also live in more violent and polluted neighborhoods. Access to healthy food, recreational centers and clean water is also limited as well as basic necessities like heating for the home in the winter and air conditioning in the home during the summer months.

Our bodies have a remarkable ability to cope with stress. The body reacts by increasing our heart rate, blood pressure, raising or lowering the blood sugar depending on the circumstance, slowing down digestion and a myriad of other protective mechanisms to allow the body to perform at its best even in times of stress. Poverty has been shown to be a constant stressor, meaning that those who live in poverty experience these flight or fight physiological responses to their environment on a daily basis. As the body tries to cope with the prolonged psychological stress of poverty the constant bombardment of blood glucose, stress-induced hypertension, retardation of tissue repair and digestion all lead to chronic illnesses like Type 2 diabetes and cardiovascular disease, both common in the African-American community. Feeling poor and being made to feel poor also increase these psychological responses to psychological stress. In American culture the poor are treated differently, house separately and tend to be employed in jobs that many in higher socioeconomic strata and have less opportunities for advancement. All these components of poverty, and the poverty cycle, have an adverse effect on the health and mortality of Americas poor.

Socioeconomic Aspects of Obesity

Akil and Ahmad examined the effects of socioeconomic factors on obesity in four southern states using Colorado, which has the lowest rate of obesity in the U.S., as a control. Through multiple regression analysis the authors were able to show an increased incidence of obesity that was linked to several socioeconomic factors including poverty/low-income, participation in the Supplemental Nutrition Assistance Program (SNAP), and unemployment. African-Americans had the highest rate of obesity and the southern state with the highest rate of obesity, Mississippi, also had the highest percentage of African-American residents. As unemployment rates and poverty levels increased so did the rates of obesity. Nearly 20 percent of African-American's have a bachelor's degree; however, the poverty rate for African-American's is over 24 percent and over 20 percent of African-American's are without health insurance. African-American families are also three times more likely than white families to have difficulty affording adequate food. Even with the assistance of programs like food stamps African-Americans still continue the cycle of poor eating habits which can be attributed to a number of causes including a lack of neighborhood groceries and supermarkets. Predominantly Hispanic and African-American neighborhoods have up to 70 percent fewer supermarkets than predominantly white neighborhoods[4].

Much of the data comparing perceptions about overweight and obesity with body image satisfaction is conflicting. Flynn and Fitzgibbons reviewed the current data that looked at socioeconomic status differences and women with lower socioeconomic status were more likely to prefer heavier body ideals, saw themselves as being thinner than what their physicians told them they were and were more satisfied with their bodies than women in with high socioeconomic status. However, other studies have found the polar opposite showing that women with high socioeconomic status were prouder of their bodies than women with medium socioeconomic status[7].

Attractiveness

Attractiveness to the opposite sex is often a key factor in determining the social and cultural norms around weight and body type. The dominant American culture projects a particular image of beauty that of a smaller body size for women. Webb et al. looked at the idea of perceptions of body figure

attractiveness in African-American men based on their level of acculturation into the dominant American culture. Acculturation was measured on the African-American Acculturation Scale (AAAS-33) which is a 33 question self-reported form that evaluates the participant's involvement in various practices common to the African-American cultural and their knowledge of certain cultural norms within the African-American culture. A high score on the AAAS-33 indicated full immersion in the African-American culture and a low-score indicated full immersion in the dominant culture. The sample of participants were taken from African-American students at a predominantly white university and found that those with the highest acculturation scores were not attracted to larger or heavier body figures. The authors believed that the combination of a high acculturation score along with an aversion to larger body types showed a heavy influence of media images of beauty from the dominant culture to be pervasive in the African-American community so much so that one could be completely immersed in the African-American culture yet still have a preference for the body types presented by the dominant American culture. What is very important to note is that even though these men did not find women of heavy or larger body figures to be the most attractive when it came to choosing what body type they felt was more acceptable to date the men chose the heavier/larger body types. The authors hypothesized that this had much to do with the men finding acceptance within their community, despite their own personal beliefs about attractiveness[8].

Flynn and Fitzgibbon's review on the literature around attractiveness, ideals and satisfaction in relation to body image in black females found that black females were more like than white females to find themselves attractive. Attractiveness was largely tied to weight satisfaction in white females whereas in black females attractiveness was less dependent on weight. One study found that 67 percent of normal weight and 37 percent of overweight white women felt they were attractive. Black women seemed to feel they were attractive even if they were not happy with their weight, only 5 percent of overweight black women were satisfied with their current weight but over 44 percent of them still considered themselves to be attractive despite not being satisfied with their weight. Another study found that 54.5 percent of black women were dissatisfied with their bodies but nearly 56 percent of the same women felt that weight was not an important measure in attractiveness[7].

Body Image, body esteem, concepts of attractiveness in relation to body size and type, socioeconomic factors as well as the theory of structural violence in relation to the poverty cycle and slavery are all

issues that shape the African-American experience with weight and led me to want to examine further the difference aspects that make up the cultural concept of overweight and obesity within the African-American community in Georgia.

Chapter 2

METHODOLOGY

Eighty total participants were recruited for this research study. I conducted 4 focus groups and 50 semi-structured interviews with participants of various socioeconomic standing and education levels. Inclusion criteria for this research study were African American men and women, ages 18 to 80 who are current Georgia residents. Interviews and focus groups took place throughout the state of Georgia over a three month period. Each participant in the focus group and one on one interview completed a brief pre-interview questionnaire about their perceptions of their own body image and demographic information including highest level of education completed, household income, height, weight, age, and sex (Appendix A). The pre-interview questionnaire was administered prior to each interview or focus group and was filled out by the participant. Participants for the focus groups were chosen who identified as African-American or Black, and had similar socioeconomic status and education level. A homogenous group of individuals for the focus group was sought to ensure that each person within the group felt as comfortable as possible sharing their experiences with weight and food. Participants from low, middle/working, and upper socioeconomic class were sought out for the initial 3 interviews after which snowball sampling was used to identify additional participants within similar demographics.

Ten individuals participated in focus group, 1 consisting of individuals with middle class socioeconomic status, college education and some graduate college education. Seven individuals participated in focus group 2 consisting of middle class socioeconomic status and some college or college education. Eight individuals participated in focus group 3 and 5 individuals participated in focus group 4. Participants in focus groups 2, 3 and 4 all shared similar middle class socioeconomic status and some college experience of a college degree. level. Both the focus group and the interviews were audio recorded. All data collected was stored in a secure location and was destroyed upon completion of data analysis. Additionally, to ensure anonymity, all identifying characteristics have been removed from participants referred to throughout this paper.

Chapter 3

RESULTS

A total of 80 individuals participated in this research study – 50 in one on one semi-structured interviews and 30 in focus groups. Participants ranged in age from 23 to 78 years old with a median age of 43 years. Gender distribution was relatively equitable with a marginally higher percentage of female to male participants. In total 41.25 percent (n=33) of participants were male while 58.75 percent (n=47) of participant's were female. The median height of participants was 67 inches, median height in females was 65 inches and median height in males was 72 inches. Median weight for the study population was 187 pounds distributed with a median weight of 185 pounds in females and 189 pounds in males. Median BMI for the study population was 28.06. Median BMI distributed by gender was 29.4 in females and 24.41 in males. 65 percent of participants were overweight, obese or morbidly obese. Descriptive statistics for the study population and descriptive statistics distributed by gender can be found in Table 1 and Table 2.

In the pre-interview and pre-focus group questionnaire that was given to each participant there were twelve descriptors for body type that participants were asked to choose from to describe their body type. Participants were given the option to choose as many terms from the list that they felt applicable to their bodies. Forty one percent (n=33) of participants identified as normal weight, 38 percent (n=30) of participants identified as overweight, 20 percent (n=16) identified as athletic 18.7 percent (n=15) identified as average, 16.2 percent (n=13) identified as curvy. A far lower percentage of participants identified themselves as underweight (1.25 percent, n=1), thin (5 percent, n=4), skinny (1.25 percent, n=1), thick (8.75 percent, n=7), fat (5 percent, n=4), obese (5 percent, n=4) and morbidly obese (3.75 percent, n=3). Ninety five percent (n=76) of participants believed there are health risk to being overweight, while 96 percent (n=77) believed there are health risk to being obese.

The highest level of education attained by study participants was as follows: Forty five percent of participants (n=36) possessed an undergraduate college degree, 32.5 percent (n=26) possessed a graduate school degree of the masters of doctorate level, 15 percent (n=12) had some college

education, 2.5 percent (n=2) graduated from a technical school or college, 2.5 percent (n=2) graduated from high school and 2.5 percent (n=2) had some high school education.

The majority of participants were of middle class socioeconomic status. Annual household income was divided into seven categories and participants self-reported their annual household income. The majority of participants had a household income between \$22,501 and \$69,300 per year (53.5 percent, n=43), 5 percent (n=4) had an annual household income of \$0 to \$10,500; 6.5 percent (n=5) had an annual household income of \$10,501 to \$22,500; 25 percent (n= 20) had an annual household income of \$69,300 to \$139,850; 7.5 percent (n=6) had an annual household income of \$139,851 to \$235,550; 1.25 percent (n=1) had an annual household income of \$235,551 to \$380,500 and 1.25 percent (n=1) had an annual household income \$380,501 or more. Most participants lived alone (36 percent, n=29), while 24 percent (n=19) lived in a 2 person household, 15 percent (n=12) lived in a 3 person household, 10 percent (n=8) lived in a 4 person household, 5 percent (n=4) lived in a 5 person household, 2.5 percent (n=2) lived in a 6 person household, 1.25 percent (n=1) lived in a 7 person household and 6.25 percent (n=5) lived in a household of 8 or more individuals.

During interviews and focus groups 44 descriptive terms were used by participants to describe overweight and obesity. The following terms were identified:

Fat	Mildly Fat	Enormous
Curvy	Pudgy	Short of Stature and Wide
Voluptuous	Physically Imbalanced	of Girth
Thick	Heavy Set	O-Line
Rotund	Chunky	Diseased
Unhealthy	Plus Size	Nutritionally Challenged
Heavy	Excessive	Bertha Butt
Juicy	Plump	Pleasantly Plump
Chubby	Out of Shape	Robust
Big, Bigger, Big Boy, Big	Stout	Corpulent
Girl	Full Figure	Solid
Big Boned	Huge	Huge

Ginormous

Large

Hefty

Heavy Duty

Tubby

Husky

Mammoth

Fruitful

Whopper

Round

When participants were asked about healthy eating 100 percent of participants were able to identify at least 2 components of a healthy diet or healthy foods. Ninety two percent of participants identified vegetables as a healthy food, 90 percent identified fruits, 33 percent identified whole grains, and 23 percent identified nuts and seeds. Eighteen percent of participants said reducing fat in the diet was important to healthy eating, 25 percent said eating organic was important to healthy eating, and 13 percent said reduced sodium diets were important to healthy eating.

Chapter 4

DISCUSSION

Concepts of thinness, overweight, and obesity are defined culturally more than scientifically. Tools such as the Body Mass Index (BMI) are helpful epidemiologic tools to assess the general health of the population but, when it comes to affecting change, there is much more we need to understand about an individual beyond their BMI. Sociocultural aspects of obesity in the African-American community appear to be a major barrier to behavioral changes that would lead to the prevention and treatment of overweight and obesity in this community.

“I feel that poor nutrition, increased stress, sedentary lifestyles and maladaptive coping mechanisms in the African-American population are the main reasons for obesity in [African-Americans].”

-Tonya, 49, Morbidly Obese

In both focus groups and interviews, participants were asked what they felt were the reasons behind the high incidence of overweight and obesity among African-Americans. Poor eating habits, lack of exercise, lack of nutrition education and an unwillingness to change eating behaviors were brought up in nearly every interview and focus group. However, these issues are not unique to the African-American culture and particularly, not unique to the Southern culture of the United States. Slavery and its subsequent consequences to modern life such as the soul food diet, the poverty cycle and stress due to various forms of inequalities were common to the explanatory model of overweight and obesity in African-American's in Georgia. For example, poor eating habits were related to the soul food diet which is comprised mainly of fried foods, high in fats (including saturated fats), high in sugar, and high in salt and was seen by participants to be a vestige from slavery. Lack of exercise was attributed largely the lack of fitness centers, recreation centers and community centers in African-American neighborhoods which was attributed to poverty, and this poverty was attributed to a cycle that began after slavery with share-cropping.

Although lack of nutrition education was named as a principal reason African-Americans are more overweight or obese than the general American population all participants were able classify at least

two types of healthy foods, ways of making one's diet healthier like reducing sodium, fat and sugar intake and healthy meal preparation techniques like baking, grilling and roasting instead of frying. Although all the participants were able to identify healthy foods about 10 percent of participants felt that healthy foods were expensive, inaccessible and not palatable. Jennifer, a 28 year old female, asserted that "the fact that we, as a people, are on the low end of the economic scale, we are forced to buy the foods we can afford. Those foods are usually the lowest in nutritional value, have a lot of empty calories, and are filled with sugars and fillers. These foods, although not the best nutritionally, are very filling, so we buy them."

Although poor diet was discussed at length as one of the leading causes of overweight and obesity when the soul food diet was mentioned only a small percentage of participants articulated that the soul food diet might be one that has negative attributes that contribute to overweight and obesity such as being high in sodium, high in saturated and total fat, as well as being calorically but not nutrient dense. Several participants discussed the virtues of aspects of the soul food diet like collard greens, which are traditionally boiled for several hours with hamhocks or fatback. It was said that the "pot liquor" which is the left over broth from cooking collard greens offers medicinal properties that had been used for multiple generations in one family. More often than not, commercial foods (fast food, soda, candy and other sugary foods) were pinpointed as the cause for overweight and obesity.

"Our diets have not improved too much from what we use[d] to eat on slave plantations. Chitterlings, pork, and more pork. That's what I have been taught."

—Angela, Age 34, upper middle class

When soul food was talked about it was done so with an air of nostalgia or as part of a rich history and tradition that was passed down from generation to generation. Angela, a 34 year old upper middle class woman described the way she was raised and taught to eat by her grandmother which was a diet that centered primarily around pork. Angela told stories of her grandmother sharing tales of her own youth growing up in the segregated South or gossiping about neighborhood characters while preparing chitterlings, pickling pig ears, feet or snout or breading pork chops and preparing them to be fried. The more Angela mused over these stories the more she began to realize that the diet that she was

raised eating was not that far removed from the same diet her grandmother's parents, who were slaves, ate.

Stories like Angela's were commonplace among participants. Soul food is a deep, abiding expression of a cultural history linked to slavery in the south. African-Americans have had so much of their ancestral history wiped away in the slave trade that these cultural bits that have been passed down from generation to generation from slavery to the present hold a very special meaning. As one participant remarked, when talking about "light" soul food "I don't want no one tryin' to pretty up my soul food." For most participants the very thought of slimming down soul food was out of the question. Many had tried before when dieting or when a physician recommended they lower sodium intake for hypertension or carbohydrate intake for type 2 diabetes but, in the end, it was not the flavors of "home" that they were looking for when they prepared soul food dishes. As Wendy a 28 year old middle class female said "It feels artificial, fake...and I think all that fake stuff is worse than any amount of real sugar I put on my candied yams." Although it is clear that African-Americans in Georgia have an understanding of the staples of healthy food there is an obvious disconnect in how this food relates, if at all, to the traditional foods of the South and the traditional black soul food diet of the South.

Sixty five percent of the participants in this study were overweight, obese or morbidly obese, which is 10 percent lower than the national average for African-American men and women[2]. Outwardly, the majority of participants seemed very proud of their own weight and accepting of overweight and obesity. Of the participants who perceived themselves to be of normal weight 18 percent were overweight and 10 percent were obese. All but 3 morbidly obese participant identified as morbidly obese. The 1 participant who did not self-identify as morbidly obese self-identified as normal weight and the other 2 self-identified as overweight. The participants that seemed to have the greatest dissatisfaction in their weight were male participants with BMI's ranging from 20 to 23 which are considered healthy BMIs. These men self-identified as "thin", "skinny" or "underweight" and in interviews expressed a desire to gain weight. Physical traits such as large thighs and buttocks were important in selection of a female partner by men and normal weight women expressed a desire to have larger thighs and buttocks or more "curves". These findings are parallel to much of the research done on body image in the African-American community in which the majority of African-American

women who were overweight described themselves as normal weight and normal weight women expressed the desire to gain weight[7].

The outward expression of pride and loving one's self at any weight did not translate to the same feelings in private. A struggle was apparent between being true to the ideals of the African-American culture while also conforming to the ideals of the dominant American culture. Perhaps this very struggle is what has led to an outward approval and acceptance of overweight and obesity in the African American community while many within the community struggle internally with negative feelings about overweight and obesity. Overwhelmingly there seemed to be an effort, perhaps unconscious, to separate all the negative terms associated with overweight and obesity including "fat", "unhealthy", "out of shape" and disease states like cardiovascular disease and diabetes with the individual. Individuals who were overweight or obese in the study tended to use more euphemisms for overweight and obesity than did normal weight or morbidly obese individuals. Among the 7 morbidly obese individuals all but 3 labeled themselves as morbidly obese and did not use alternative words for the term.

Participants used a variety of words to describe overweight and obesity when referring to themselves or others. In total 44 different words were used throughout interviews and focus groups to describe an individual who is overweight or obese. In the public sphere, in interviews and especially in focus groups, these words were used more often. Although most participants spoke very favorably about their own weight when asked if they believed that a body type can be changed or if an individual is just built that way story after story of struggles with weight loss poured out from male and female participants. Nearly all of the overweight or obese participants had tried a diet of some sort, some with prompting from physicians and some on their own, none of the participants who attempted a diet or lifestyle modification in the past were able to adhere to it long-term and maintain weight loss. It was interesting to see such a contrast in perception of body image within each individual. At one point in the interviews or focus groups an individual would appear to be proud and very much in love with his or her body size and type and within minutes they were discussing the struggles of trying to lose weight. There seemed to be a yearning to hold on to the cultural norms of weight and body size while appeasing the dominant American culture and also becoming healthier.

It is important to note that there was no definition given to the descriptive terms for body types in the pre-interview and pre-focus group questionnaire which allowed for the participants to provide their own interpretation of the meaning and how it best fit their perceived body type. The descriptive term “athletic” was difficult to interpret due to the fact that level of physical activity was not assessed during this study and therefore the definition of athletic was left solely to the interpretation of the study participant and was not expounded upon further in the study.

The perceptual versus attitudinal view of body image became more apparent when looking at the responses of participants prior to their interviews as opposed to their answers in one on one interview or focus groups. Gipson et al. also found this to be indicative in their study of young black college students who desired body types that were much larger than their current one. Although the students desired body types that were closer to that of overweight and obese individuals the perception they had of obese individuals was generally not positive. Students said that obese people are more self-conscious than other people, that obese people did not feel they are as good as other people, that most non-obese people would not want to marry anyone who is obese, obese people are more ashamed of their weight, and obese people are more emotional than other people[6]. Even with all these negative aspects of obesity students still felt that most obese people are not dissatisfied with themselves which perhaps is indicative of a culture where the majority of the population is overweight or obese and the yet happy with their weight and body image.

Euphemisms that were perceived as positive such as “thick”, “curvy” and “voluptuous” were used most often when overweight or obese participants were talking about their own weight and body size or when males were referring to the type of female body type they preferred. When participants talked about overweight and obesity in terms of others such as in talking about the high prevalence of type 2 diabetes among African-Americans or increased mortality rate due to obesity related diseases in African-American’s the terms used to describe the general population were words with negative connotations like fat and unhealthy.

Attractiveness was an overwhelming theme in focus groups and interviews. Ultimately perceived beauty was the barometer by which overweight and obesity were measured. As long as one is perceived as beautiful or attractive then they are not perceived as overweight or obese. When asked

what she considered to be obese or overweight Martha, age 58, middle class said “Someone who is easily 80 to 100 pounds over the BMI. But it depends because Queen Latifah was always a big girl but I always found her attractive since her early days.”

It is also important to note that attractiveness in the African-American culture goes far beyond body type and there is a strong culture value on skin color (light or dark skin), hair length, hair texture and lip size. For many these traits are more important than body size or type and weight can be ignored if a potential mate has a preferable skin color or hair texture[8]. It would be beneficial to look at the role these factors play in attractiveness along with weight.

Awareness of obesity and overweight is not simply a problem within the African-American community. A 2010 Harris poll[12] found that most Americans have a skewed perception of their weight especially overweight Americans. Thirty percent of poll respondents who were overweight believed they were of a normal weight and 70 percent of obese respondents believed they were overweight but not obese. Among the morbidly obese 60 percent said they were obese while 39 percent considered themselves to be overweight. Study analyst believed that this discrepancy is becoming a grander trend in the American population because of the vast numbers of individuals who are overweight or obese. At this point in our history the majority of Americans have grown up in a culture where overweight and obesity is the norm making it difficult to discern from normal weight, overweight and obesity. Ethnic information was not provided about the respondents to this survey.

When participants in this research study were asked their perceptions about this poll about half of the participants found the calculations used to measure overweight and obesity to be the issue. In this case, the Body mass Index (BMI) calculations. Some felt the BMI scale was inaccurate because they believe that African-Americans have different body types and sizes than what is accounted for in the BMI calculations. One participant noted “I think system is not 100% accurate when you take into account some of the common physician characteristics of a particular race. For example, African-American women generally have bigger hips, butts, and breast [versus] Caucasian women so if the numbers are based on Caucasian women then it’s not a true comparison.” The other half of participants felt that the BMI scale was important and was a good place to start when measuring overweight, obesity and health risk. These participants certainly did not see the BMI as the final word

in weight status and health status but saw it as a “good standard” and “fairly accurate.” Margaret, a 34 year old morbidly obese, upper middle class woman explained her struggle with the BMI scale and eventual acceptance of it “I do not consider myself overweight anymore. Overweight is like 10-20 pounds. I am at least 100 pounds over my correct weight that means that I am very obese. I can see what I look like in a mirror, just straight reality...I think [the BMI scale] is accurate, I had a hard time with it at first, but now that I understand that information how do I turn it into healthy weight loss?”

This was hotly debated in focus groups what seemed to be the underlying tone of dissatisfaction with the BMI scale was that it held all people, of all ethnic backgrounds under the same guidelines. Essentially, the BMI scale was felt to be a tool to determine if a white person is overweight or obese but not a black person. Michael, a 36 year old, middle class participant stated “I do not have all the facts of the BMI system guidelines, but I do know that African-American[s] are judged by standards that are compared to white people which is inherently unfair. African-Americans also have less access to healthier food choices for example, grocery store produce that maybe less sufficient in a white neighborhood, very similar to all things provided to African-Americans labeled 2nd or 3rd class citizens in a 1st world country.”

What do you consider overweight?

“Anyone weighing over 220 pounds regardless of height” – Gerald, 55, lower/working class

Two hundred and twenty pounds seemed to be the number of choice that came to mind for participants when asked what they considered overweight. Often times this was qualified by participants stating that gender, height and weight did not matter in this assessment. When a specific weight or weight range was not given physical descriptives were used to describe overweight and later obesity. These descriptives mirrored the discussion of attractiveness and beauty in relation to weight. Peggy a 33 year old morbidly obese woman felt that “When you clearly have belly rolls, thighs are touching, and can barely walk up a flight of stairs” you are overweight.

Highest level of education attained, income and household size were used to measure socioeconomic status. I hypothesized that perceptions of overweight and obesity would change with socioeconomic

status but it did not. Socioeconomic status did not appear to be a determining factor in how participants interpreted overweight and obesity. The current literature looking at socioeconomic status and body ideals is also inconclusive with some studies showing a higher affinity to heavier body types in lower socioeconomic status females and others showing a higher affinity, and more pride in heavier body types in females of middle socioeconomic status[7]. More research needs to be explored in this area to see if there is any type of correlation between socioeconomic status and perceptions of overweight and obesity in the African-American community.

Chapter 5

CONCLUSION

African-Americans are adversely affected by a myriad of health disparities in the U.S. African-Americans lead the nation in heart disease and diabetes which are both considered to be diseases closely linked to lifestyle choices such as diet and physical activity. The high incidence of obesity within the African-American population is likely to be a key contributor to this. In my research I was able to uncover several sociocultural aspects of weight, body image and food within the African-American community in Georgia. Attractiveness, body esteem, and societal norms around obesity were all significant concepts that were related to the understanding of overweight and obesity within the African-American community. Ideas and perceptions of overweight and obesity did not vary based on socio-economic status, gender, age or weight. The issue of obesity and overweight in the African-American community is a multi-layered issue tied more closely to cultural models of body acceptance that have roots that reach as far back as slavery. Further research on attractiveness and weight in the African-American culture might be useful in gaining a deeper insight into the culture of permissiveness around overweight and obesity and help to establish initiatives to reduce the health disparity of obesity in the African-American community.

APPENDIX A

PRE-INTERVIEW QUESTIONNAIRE
FOR INTERVIEW AND FOCUS GROUP

Age:

Sex:

Height:

Weight:

Please circle your highest level of education:

Some High school

High school

Some College

College (undergraduate degree)

Graduate School (Masters, Doctorate, etc.)

Technical School or College

Please circle your approximate annual household income:

\$0 to \$10,500

\$10,501 to \$22,500

\$22,500 to 69,300

\$69,300 to \$139,850

\$139,850 to \$235,550

\$235,550 to \$380,500

\$380,500 +

How many people are in your household?

How would you describe yourself in terms of body type? (underweight, normal, overweight, obese, morbidly obese, thin, average, fat, "thick", athletic, skinny, curvy, fat, other (please fill in the blank))

APPENDIX B

FOCUS GROUP QUESTIONS

Recent CDC reports show that African Americans have the highest rate of overweight and obesity of all racial identities in the United States, what do you feel is the reason behind this?

Why do you think African Americans have the highest incidence of overweight and obesity compared to other racial and ethnic groups?

A recent poll found that many Americans don't recognize when they are overweight or obese even when they are classified as so by the current BMI guidelines. What are your perceptions of the BMI system of rating individuals as normal weight, overweight, obese or morbidly obese?

What do you consider overweight?

What do you consider obese?

Do you believe there are any health risks to being overweight?

Do you believe there are any health risks to be obese?

What other terms do you like to use instead of the word "obese" or "overweight"?

What comes to mind when you think of "healthy food" or "healthy eating?"

Is healthy eating appealing to you? Why or Why not?

Do you feel your weight is something that can be controlled or are people just "built" a particular way?

Have you ever tried to gain or lose weight? What was the result?

INTERVIEW QUESTIONS

Recent CDC reports show that African Americans have the highest rate of overweight and obesity of all races in the United States, what do you feel is the reason behind this?

Why do you think African Americans have the highest incidence of overweight and obesity compared to other racial and ethnic groups?

A recent poll found that many Americans don't recognize when they are overweight or obese even when they are classified as so by the current BMI guidelines. What are your perceptions of the BMI system of rating individuals as normal weight, overweight, obese or morbidly obese?

What do you consider overweight?

What do you consider obese?

What other terms do you like to use instead of the word "obese" or "overweight"?

Do you believe there are any health risks to being overweight?

Do you believe there are any health risks to be obese?

What comes to mind when you think of "healthy food" or "healthy eating"?

Is healthy eating appealing to you? Why or Why not?

Do you feel your weight is something you can control or are you just "built" this way?

Would you say that most people in your family are the same weight as you?

Have you ever tried to gain or lose weight? What was the result?

APPENDIX C

CONSENT FORM

**Georgia State University
Department of Anthropology
Informed Consent**

Title: Socioeconomic and cultural aspects of overweight and obesity in Georgia's African American Community

Principal Investigator:

Cassandra White, PhD

Student P.I.:

Alicia C. Simpson

I. Purpose:

You are asked to take part in a research study. The purpose of the study is to look into the economic and cultural aspects of overweight and obesity in Georgia's black community. You are asked to take part in this study because you identify as **black or African American and live in Georgia**. A total of 80 people will be asked to take part in this study. Being in this study will require 1 to 2 hours of your time over the course of 1 day.

II. Procedures:

If you decide to take part in this study, you will be in a small focus group made up of 3 to 10 people of similar economic background or in a one on one interview. In the focus group you will be asked to talk about obesity and overweight. In the one on one interview you will be asked questions about overweight and obesity. Both the focus groups and interviews will be audio recorded. The focus group will last about 1 to 2 hours. The one on one interview will last about 1 to 2 hours as well. You will only take part in either the focus group or the one on one interview, but not both. Focus groups and interviews will take place at a time and place agreed upon by the researcher and participants.

III. Risks:

In this study, you will not have any more risks than you would in a normal day of life. Some of the topics may cause mild distress. If you are upset by the questions and feel you

need further help, the Student PI will provide you with a list of general counseling and weight counseling centers in Atlanta. Georgia State University cannot pay for the costs of a counselor.

IV. Benefits:

Being in this study may not benefit you directly. We hope to learn more about beliefs about overweight and obesity in the black community. This information could benefit black Americans in the future.

V. Voluntary Participation and Withdrawal:

Being in this research study is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop being in the study at any time. No matter what you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:

We will keep your records private to the extent allowed by law. Cassandra White and Alicia C. Simpson will have access to the data you provide. Data may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board and the Office for Human Research Protection (OHRP)). We will use fake names rather than your name on study records. Data will be stored in a locked cabinet. Your name and other facts that might point to you will not appear when we present this study or publish its results. You will not be identified personally. Due to the nature of a focus group each member will know the identity of the other members.

VII. Contact Persons:

Contact Cassandra White, cwhite@gsu.edu, or Alicia C. Simpson at asimpson12@student.gsu.edu if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Subject:

We will give you a copy of this consent form to keep.

If you are willing to volunteer for this research and be audio recorded, please sign below.

Participant

Date

Principal Investigator or Researcher Obtaining Consent

Date

APPENDIX D

Table 1: Descriptive Statistics of Study Population

			Statistic	Std. Error
Height	Mean		67.6281	.50028
	95% Confidence Interval for Mean	Lower Bound	66.6323	
		Upper Bound	68.6239	
	5% Trimmed Mean		67.4549	
	Median		67.0000	
	Variance		20.022	
	Std. Deviation		4.47461	
	Minimum		60.00	
	Maximum		80.00	
	Range		20.00	
	Interquartile Range		7.56	
	Skewness		.616	.269
	Kurtosis		-.263	.532
	Weight	Mean		191.5500
95% Confidence Interval for Mean		Lower Bound	180.4287	
		Upper Bound	202.6713	
5% Trimmed Mean			187.6389	
Median			187.0000	
Variance			2497.466	
Std. Deviation			49.97465	
Minimum			120.00	
Maximum			380.00	
Range			260.00	
Interquartile Range			68.00	
Skewness			1.259	.269
Kurtosis			2.574	.532
BMI		Mean		29.5284
	95% Confidence Interval for Mean	Lower Bound	27.8272	
		Upper Bound	31.2295	

	5% Trimmed Mean		28.8063	
	Median		28.0650	
	Variance		58.434	
	Std. Deviation		7.64421	
	Minimum		19.11	
	Maximum		54.52	
	Range		35.41	
	Interquartile Range		9.65	
	Skewness		1.331	.269
	Kurtosis		1.826	.532
Age	Mean		45.4500	1.47317
	95% Confidence	Lower Bound	42.5177	
	Interval for Mean	Upper Bound	48.3823	
	5% Trimmed Mean		45.2083	
	Median		43.0000	
	Variance		173.618	
	Std. Deviation		13.17641	
	Minimum		23.00	
	Maximum		78.00	
	Range		55.00	
	Interquartile Range		21.75	
	Skewness		.169	.269
	Kurtosis		-1.012	.532

APPENDIX E

Table 2: Descriptive Statistics of Study Population by Gender

Sex			Statistic	Std. Error		
Height	Female	Mean	65.4796	.46519		
		95% Confidence Interval for Mean	Lower Bound		64.5443	
			Upper Bound		66.4149	
		5% Trimmed Mean			65.2653	
		Median			65.0000	
		Variance			10.604	
		Std. Deviation			3.25634	
		Minimum			60.00	
		Maximum			76.00	
		Range			16.00	
		Interquartile Range			3.50	
		Skewness			1.096	.340
		Kurtosis			1.800	.668
		Male	Male		Mean	71.0242
95% Confidence Interval for Mean	Lower Bound			69.5432		
	Upper Bound			72.5052		
5% Trimmed Mean				70.9812		
Median				72.0000		
Variance				16.301		
Std. Deviation				4.03751		
Minimum				63.00		
Maximum				80.00		
Range				17.00		
Interquartile Range				5.00		
Skewness				.044	.421	
Kurtosis				-.149	.821	
Weight	Female			Mean	190.4082	7.34187
		95% Confidence Interval for Mean	Lower Bound	175.6464		

		Interval for Mean	Upper Bound	205.1700	
		5% Trimmed Mean		186.8333	
		Median		185.0000	
		Variance		2641.247	
		Std. Deviation		51.39306	
		Minimum		120.00	
		Maximum		350.00	
		Range		230.00	
		Interquartile Range		79.00	
		Skewness		.990	.340
		Kurtosis		1.076	.668
Male		Mean		193.3548	8.69774
		95% Confidence	Lower Bound	175.5917	
		Interval for Mean	Upper Bound	211.1180	
		5% Trimmed Mean		188.8082	
		Median		189.0000	
		Variance		2345.170	
		Std. Deviation		48.42695	
		Minimum		129.00	
		Maximum		380.00	
		Range		251.00	
		Interquartile Range		60.00	
		Skewness		1.873	.421
		Kurtosis		6.444	.821
BMI	Female	Mean		31.1414	1.10881
		95% Confidence	Lower Bound	28.9120	
		Interval for Mean	Upper Bound	33.3708	
		5% Trimmed Mean		30.6143	
		Median		29.4400	
		Variance		60.243	
		Std. Deviation		7.76165	
		Minimum		19.11	
		Maximum		53.58	
		Range		34.47	
		Interquartile Range		10.22	

	Skewness		.958	.340
	Kurtosis		.760	.668
Male	Mean		26.9787	1.22500
	95% Confidence	Lower Bound	24.4769	
	Interval for Mean	Upper Bound	29.4805	
	5% Trimmed Mean		26.0874	
	Median		24.4100	
	Variance		46.520	
	Std. Deviation		6.82052	
	Minimum		20.36	
	Maximum		54.52	
	Range		34.16	
	Interquartile Range		6.81	
	Skewness		2.490	.421
	Kurtosis		8.329	.821

BIBLIOGRAPHY

1. Centers for Disease Control (CDC), *Health, United States, 2010: With Special Feature of Death and Dying*, National Center for Health Statistics, Editor. 2011: Hyattsville, MD.
2. The Office of Minority Health, *Obesity and African Americans*, U.S. Department of Health and Human Services, Editor. 2010.
3. Centers for Disease Control (CDC), *Health of Black or African American Population*, in *FASTSTATS*, Centers for Disease Control (CDC), Editor. 2011: Atlanta, GA.
4. Luma Akil, H.A.A., *Effects of Socioeconomic Factors on Obesity Rates in Four Southern States and Colorado*. *Ethnicity and Disease*, 2011. **21**(Winter): p. 58-61.
5. Centers for Disease Control and Prevention (CDC), *Health Consequences*, in *Overweight and Obesity for Professionals*, C.f.D.C.a.P. (CDC), Editor. 2011: Atlanta.
6. Gilbert W. Gipson, S.R., Victor R. Vieweg, Emmanuel A. Anum, Anand K. Pandurangi, Mary Ellen Olbrisch, Bela Sood, Joel J. Silverman, *Body Image and Attitude toward Obesity in an Historically Black University*. *Journal of the National Medical Association*, 2005. **97**(2): p. 225-236.
7. Kristin J. Flynn, M.F., *Body Images and Obesity Risk Among Black Females: A Review of the Literature*. *Annals of Behavioral Medicine*, 1998. **20**(1): p. 13-24.
8. Webb, T.T., E.J. Looby, and R. Fults-McMurtery, *African American Men's Perceptions of Body Figure Attractiveness: An Acculturation Study*. *Journal of Black Studies*, 2004. **34**(3): p. 370-385.
9. Overstreet, N.M., *Beyond Thinness : The Influence of a Curvaceous Body Ideal on Body Dissatisfaction in Black and White Women*. *Sex roles*, 2010. **63**(1-2): p. 91-103.
10. Le, Y.C.L., *Perceived Weight Gain as a Correlate of Physical Activity and Energy Intake Among White, Black, and Hispanic Reproductive-Aged Women*. *Journal of women's health*, 2010. **19**(11): p. 1987-1993.
11. Sapolsky, R., *Sick of Poverty*. *Scientific American*, 2005. **293**(6): p. 92-99.
12. Gardner, A. (2010) *Many Americans Don't Even Know They're Fat: Harris Interactive/HealthDay Poll finds 30 percent of those overweight think they're normal size*. HealthDay: News For Healthier Living.