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SOCIAL CHARACTERISTICS AND OBESITY

The Social Construction of Obesity in Professional and Popular Printed Media

by

Ashley Moeller

A thesis

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Committee Approval

To the Graduate Faculty:

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Abstract

Obesity is a big health concern in America. Obesity is affecting all social groups, but age, gender, race, ethnicity, social class, and other social characteristics all play a role in obesity prevalence and rates.

Obesity was once seen as an individual problem resulting from laziness and poor choices. Today, obesity is understood as a medical condition that needs to be treated. Social constructivists suggest media, culture, and social context shape how obesity is understood.

This thesis examines how obesity is discussed in relation to social characteristics in medical journals and popular health magazines. A content and textual analysis was conducted on articles published in 2013. The common theme found in the analysis was the association of women, age, and childhood with obesity. Articles in both medical journals and health magazines focus on women not only as "patients" but as caretakers responsible for the health of their families.

Chapter I: Introduction

Obesity is a growing problem in America. It is no secret Americans love junk food. Data show that lifestyle tends to influence health decisions. People today tend to live fast paced lives and consume more fast foods rather than home-cooked meals. Americans have turned to the guilty pleasures of fast food and have cultivated a 'drive through' mentality in many respects. "Driving through" is about convenience and saving time, but has impacts on health. We turn to high caloric foods, refined sugars, processed foods, and things that are quick and easy to eat. In the United States, more than one-third of adults and approximately 12.5 million children are obese, and the numbers continue to increase (CDC, 2014). Despite campaigns, fitness rallies, and media outrage concerning obesity in America, we continue to practice the habit of supersizing rather than making healthy choices.

The rise in obesity has been described by medical researchers and media as the "obesity epidemic," or "obesity crisis". Obesity is affecting our nation's health and economy. For instance, "The estimated annual medical cost of obesity in the U.S. was $147 billion in 2008 U.S. dollars; the medical costs for people who are obese were $1,429 higher than those of normal weight" (CDC, 2012). Since the obesity crisis became a public health concern, reading about obesity has interested me. I have done previous research focused on obesity and childhood obesity. Health and body perceptions have always been a passion of mine. I enjoy learning about various viewpoints and different cultural lifestyles in regards to health. I wanted to know how obesity is discussed in

medical journals and popular health magazines in terms of social characteristics such as race, gender, social class, ethnicity and age.

From a sociological perspective, it is important to understand how obesity has been framed and constructed as a public health problem and how obesity is related to social characteristics. Obesity is affecting every ethnicity, culture, age, and race in America. Therefore, researchers and clinicians need to take into account different beliefs and perceptions about ideal body types and health. I will explore how often and in which context social characteristics are mentioned in professional medical journals and popular health magazines.

Obesity research began with the assumption that the presence of excessive weight was a self-induced deviant behavior. Although overweight individuals are still stigmatized, the presumption of deviant behavior in the medical literature has declined. Medical research no longer blames the obese individual. In 2013, the American Medical Association (AMA) declared obesity a disease. While this declaration has no legal authority, it certainly confirms the medicalization of obesity (Pollack, 2013). News media has also turned its attention to obesity and obesity related topics.

The obesity epidemic has been observed and analyzed, and strategies have been devised to curb this rising epidemic. Researchers have identified characteristics that explain obesity and health issues related to obesity. "The causes of obesity are complex and include genetic, biological, behavioral and cultural factors. Obesity occurs when a person eats more calories than the body burns up. If one parent is obese, there is a 50 percent chance that their children will also be obese" (2011, AACAP).

Medical researchers Rodgers and Collins explain that, "Biomedical research is essential for confronting the complex factors that underlie the nation's obesity crisis in a timely and effective manner. However, science alone is not enough to overcome a problem of this magnitude" (Rodger, Collins, 2012: 1095). Popular media explains obesity to the public and provides recommendations for a healthier lifestyle. Media also portrays what an "ideal body" should be. The question is, how obesity is discussed in regard to social characteristics and what role social characteristics play in the framing of obesity.

In sociological terms, obesity is socially constructed. Obesity is a social problem. Social constructivist theorists believe that actions and shared meanings in a society are socially and culturally constructed. Social constructivists Berger and Luckmann argue that out of the relationship between the individual and society emerge social constructs which are viewed as reality. A constructivist lens will help explain how obesity has been socially constructed as a disease and how obesity is perceived in regard to social characteristics. Social actions and shared meanings are changing overtime. Therefore, research is needed to better understand how obesity is currently portrayed in popular literature.

Media theory seeks to understand the effects that mass media has on its viewers, how content is determined and framed, and how audiences react to media messages. Mass media has an impact on its audiences by framing issues in a certain way. The rise in technology has increased the use of media significantly. Media reinforces attitudes, perceptions and behaviors through repetition. Therefore, using media theory will guide

my analysis of articles on obesity published in medical journals and popular health magazines.

Since America has become concerned with the obesity epidemic, prevention plans, treatments, and various approaches have been tried to reduce the rise in obesity. However, there has been no significant decreases in obesity rates. Clearly, these prevention tactics are not making significant impacts. I hypothesize that the research of obesity and the design of treatment and prevention plans is influenced by a white middle class perspective which excludes other social groups, their lifestyles and beliefs. The primary goal of this thesis is to understand the discourse of obesity in popular health magazines and top medical journals. I want to know how often and which social characteristics are mentioned in the texts and in what context. Using a combined quantitative and qualitative content analysis, I will analyze medical journals and magazine articles published in 2013.

Chapter two entails a literature review of obesity with definitions, current and historical rates and prevalence rates as well as an overview of the existing literature on obesity and social characteristics. Chapter three describes the social constructivism theory and the basic concepts of theory which guide my research. Chapter three also describes media theory, in particular Gerbner's theory of cultivation which will be applied to the findings. Chapter four outlines the methodology I will utilize in my research. In Chapter five, findings of my content and textual analysis will be summarized. I will show how often and where social characteristics appeared as well as the context in which they were used. Chapter six will synthesize my findings, discuss sociological implications, limitations of my study and suggestions for future research.

A key finding in my analysis is the focus on women, age, and childhood obesity. A common theme in both medical journals and health magazines is the explanation of women's health risks and women's responsibility for their families' health. In the discussion of my analysis, I explain that obesity discourse in health magazines and medical journals overlook explanations and solutions for all social groups. This is important since we know that different social factors play a role in obesity.

Chapter II: Obesity, A literature Review

In the past decade, obesity has become a greater medical and public concern. Obesity is a significant issue in our society. It negatively impacts health and quality of life. Health risks associated with obesity include type 2 diabetes, insulin resistance, high cholesterol and triglycerides, heart disease, stroke, sleep apnea, cardiovascular disease, hypertension, gallstones, and high blood pressure (WebMD, 2013). If the current obesity trends persist, total healthcare expenses attributed to obesity may reach $861 to $957 billion dollars by 2030 (Mozaffarian et al., 2013). Americans today believe that obesity is a bigger problem than smoking, which was one of America's main public health issues in the past (Mendes, 2012).

Obesity is a disorder that entails too much body fat. Extreme or morbidly obese individuals weigh two or more times the ideal weight or have a BMI above 35.0 (Mayo Clinic, 2014). According to the Mayo Clinic, "Obesity is likely when an individual's body mass index (BMI) is 30 or higher. Your body mass index is calculated by dividing your weight in kilograms (kg) by your height in meters (m) squared" (Mayo Clinic, 2014). Although the measurement is helpful to determine healthy body weight, the measurement does not calculate overall body fat percentage. People such as athletes may be determined obese (because of having more lean mass) even though they don't have excess body fat. The BMI is a useful and simple to establish weight patterns. The table below demonstrates how people are determined obese by the BMI.

Table 2.1: BMI Measurements

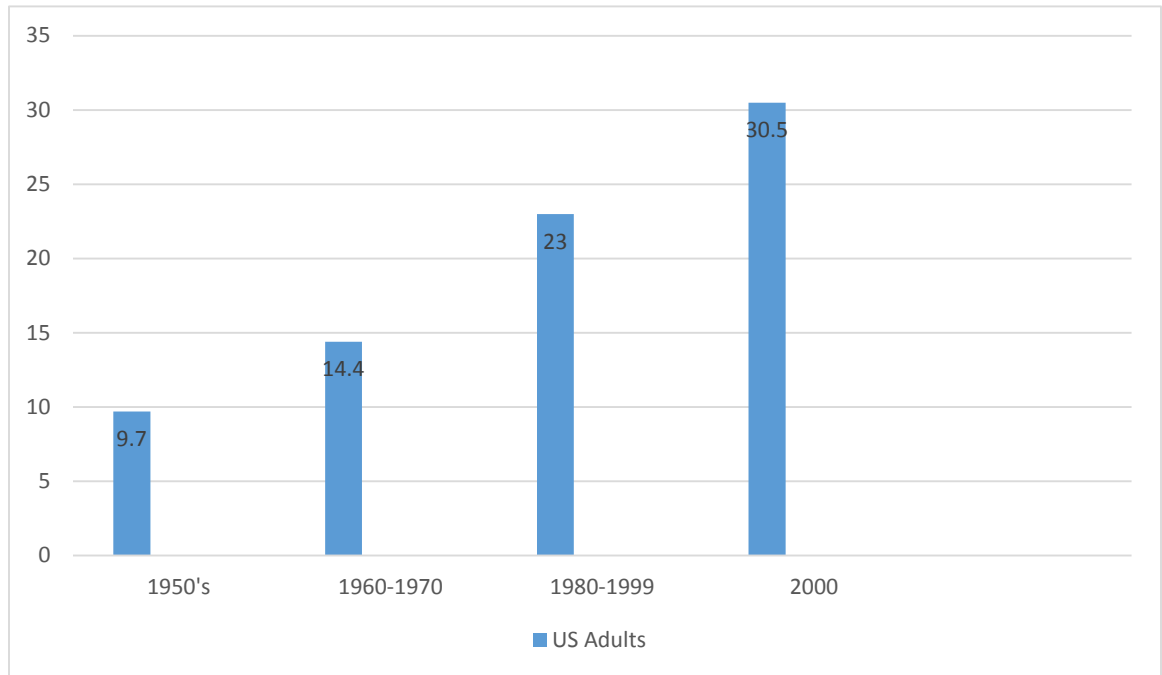| BMI	Weight Status
Below 18.5	Underweight
18.5-24.9	Normal
25.0-29.9	Overweight
30.0-34.9	Obese (Class I)
35.0-39.9	Obese (Class II)
40.0 and higher	Extreme obesity (Class III)

(Mayo Clinic, 2014)

The most common way of gaining weight is to consume more calories than the body burns. When an individual consumes more calories than he or she burns, the body stores excess calories in the fat tissues causing weight gain. Although studies suggest genetics affect body weight and metabolic rate, a person's weight is mainly affected by diet and lifestyle. One's lifestyle, activity level, and diet are the main reasons why an individual will become obese or not. Additionally, changes in the economy or technology may encourage individuals to develop lifestyles that increase the chances of being obese. The economy has become more industrialized. People spend more time working and less time preparing food. The lack of time spent preparing our own foods and buying more food instead explains the growth and demand in fast-food corporations throughout the US and world (Loureiro, 2013).

Obesity prevalence, incidence, and obesity rates vary by social characteristics and have increased over the past decade. *Medicine.net* explains prevalence and incidence as, "The proportion of individuals in a population having a disease or characteristic. Prevalence is a statistical concept referring to the number of cases of a disease that are present in a particular population at a given time, whereas incidence refers to the number of new cases that develop in a given period of time" (Medicine.net, 2014). The Center for Disease Control and Prevention (CDC) explains rate as a proportion or average of cases in a certain time frame (CDC, 2014).

Obesity rates have more than doubled in American adults and children from 1970 to the 2000's. Since the 1980's, obesity rates among adults have doubled from 15 percent to 30 percent while childhood obesity has nearly tripled (Trustforamericashealth.com, 2014). Research shows that obesity rates really began to rise in the 1970's. The table below illustrates US obesity rates among adults.

Table 2.2 US Obese Adult Rates

Bar chart titled "US Adults" showing US obese adult rates: 1950's = 9.7, 1960-1970 = 14.4, 1980-1999 = 23, 2000 = 30.5. Y-axis ranges from 0 to 35.

(Bird, 2013).

During the 1950's and 1960's, obesity was not considered a public health problem. Also, statistics on obesity were not gathered as they are today. By 1970 clinicians and health advocates witnessed a 11.3 percent increase in obesity. By the end of the decade obesity rates increased 3.1 percent. Obesity rates for children under 11 years old also rose by 4 percent; rates among teenagers increased by 6.1 percent (Bird, 2013). Obesity rates continued to rise in the 1980's. Between the 1980's and 1990's, obesity rates increased by 23 percent. By 2000, 30.5% of the American population was considered obese. The obesity prevalence was over 25% in 23 US states (Bird, 2013).

Between 2011 and 2012, about 17% (or 12.5 million) children between the ages 2-19 were obese (CDC, 2014). The CDC found that 8.4% of 2-5 year olds were obese

compared to 17.7% of 6-11 year olds and 20.5 % of 12-19 year old children (CDC, 2014).

Research has recently turned its focus to childhood obesity. Childhood obesity has drastically increased in the past 30 years (CDC, 2014). Research and prevention plans have focused on childhood obesity to possibly change the behaviors of children before they reach adulthood. The concern is that health risks could potentially follow into adulthood.

Overall, childhood obesity has not changed significantly since 2003-2004 (CDC, 2014). One study found that obesity has slightly decreased in the last couple of years (CDC, 2014). This is a positive sign, but only applies to a small group of children ages 2-5. The implications for obesity prevention are unclear at this point. However, the obesity rates in the last decade have significantly increased, along with the prevalence of obesity among children. Rates of extreme obesity and the prevalence of children categorized as extremely obese has increased (CDC, 2014).

According to *American Academy of Child and Adolescents Psychiatry,* among children and teenagers, "Unhealthy weight gain due to poor diet and lack of exercise is responsible for over 300,000 deaths each year" (AACAP, 2011). In addition to the proven health risks of obesity, the discrimination and stigmatization that obese children experience can affect their emotional health causing lower self-esteem, depression and anxiety. Overweight children that experience discrimination from their peers often experience low self-esteem. Research suggests that lack of confidence affects academics and social skills. Studies also found that overweight adolescents who lack self-confidence experience lesser social, mental and overall well-being (Ben-Sefer et al., 2009).

Discrimination and stigmatization that is experienced throughout childhood may affect social competence in adulthood.

Parents are the primary role models for their children. A child's first social interactions are in their home. Children learn through their parent's actions. Ben-Sefer et al. (2009) explain, "Learned behaviours are fostered through role modelling by parents; if parents overeat, then children are likely to do so. Children with one or two obese parents are respectively either 40% or 80% more likely to develop obesity" (Ben-Sefer et al., 2009). Parental knowledge about nutrition and healthy lifestyles have also been linked to childhood obesity.

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Examining social characteristics in the obesity literature can help explain social processes affecting the health of different social groups (healthknowledge.org, 2011). Different social groups have different rates of obesity. Social factors affect obesity, yet there have been few studies that examine the underlying relations (Ball et al., 2003).

Race/Ethnicity

In 2013, 157 million adults in America were determined obese.

Table 2.3 Adult prevalence of obesity by race/ethnicity

	Total	Men	Women
All Adults over 20	34.9	33.5	36.1
Black Adults	47.8	37.1	56.6
Hispanic Adults	42.5	40.1	44.4
Asians	10.8	10.0	11.4
White	32.6	32.4	32.8

(CDC, 2013)

The statistics above illustrate prevalence of obesity among adults in 2013. Prevalence of obesity was highest in Black adults. Hispanics have the second highest prevalence of obesity compared to Whites and Asians. Asians have the lowest level of obesity prevalence. Studies show significant racial and ethnic differences in obesity, especially for women. Race and ethnicity are social constructs used to classify social groups on the basis of common physical and cultural characteristics. Interestingly, there is no significant difference between White men and White women. While Black women have a significantly higher prevalence compared to Black men and obesity prevalence among Hispanic and Asian women tend to be higher than their male counterparts. (CDC, 2013).

There are also significant racial differences in childhood obesity. The table below illustrates the difference in childhood obesity prevalence in race and ethnicity 2012.

Table 2.4 Obesity prevalence of children by race and ethnicity (2012)

Race	Percentage
White	14.1%
Hispanic	22.4%
Black	20.2%
Asian	8.6%

(CDC, 2014).

Hispanic children have the highest risks of being obese, followed by Black children. Asian children and White children have the lowest prevalence of obesity. Race is based on identifiable characteristics such as skin color. Ethnicity categorizes individuals based on their language, beliefs, customs, and traditions (Caprio et al., 2008). The Center for Disease and Control (CDC) presents three reasons for the observed racial and ethnic differences in obesity rates: lifestyle choices, cultural beliefs related to ideal body weight, and differences in the physical environment (CDC, 2011).

Racial differences in body perception are also an important issue in obesity research. Major differences have been found between Caucasian women and African America women. Research indicates that White women are found to be more dissatisfied with their bodies and show higher rates of dieting and exercise. In contrast, African American women are found to be more satisfied with their bodies and are less likely to diet or exercise (LoveJoy, 2001: 240). African American women show higher levels of obesity. African American women tend to have eating problems such as compulsive eating; White women tend to have eating problems such as anorexia and bulimia.

Cultural and ethnic differences play a significant role in the perception of and reaction to obesity (LoveJoy, 2001: 240).

Studies have found that African American adults prefer bulkier body sizes, which have resulted in less motivation to diet, exercise and to lose weight. (Boardman et al, 2005). A research study of female college students found that African America women have higher body masses, desired higher body mass, and the body mass in African Americans was perceived to be higher (Boardman et al., 2005).

Racial/ethnic groups also vary in their understanding of ideal body size and what constitutes healthy food. Race and ethnicity is a dynamic construct that is learned and shared throughout time. Beliefs about health, illness and body image is learned and experienced through social groups and culture (Caprio et al., 2008: 2212). There are different cultural preferences in regard to food and exercise as well as disparities in education and financial opportunities based on race and ethnicity.

Gender

Obesity rates also vary across gender. The differences can be explained with contributing factors such as lifestyle, and social and physical environments. Ten years ago, there was a 6 percent difference in obesity rates between men and women. Today men's and women's obesity rates are about the same; men went from 27.5 percent to 35.8 percent, and women went from 33.4 percent to 35.5 percent (Levy et al., 2013). Men's obesity rates increased faster than women's obesity rates (Levy et al., 2013). Sedentary lifestyles, availability of fast foods, and social environments have all had an effect on obesity rates in men and women. However, research indicates that socioeconomic status

is a major factor in determining the quality of life in women, with effects on the lives of children and families. Lower socioeconomic women and its correlation to lower education has an effect on our society as a whole and women's health. In addition to, historically in the US, men are paid more than women, even if they have the same level of education and are in the same occupation (American Psychological Association, 2014).

Type of Household, SES, Neighborhoods

Hassen et al., (2013) studied the relationship between factors of all types of households and the risks of becoming obese. The authors found that living in lower income/SES households is positively associated with the risk of becoming obese or associated with type 2 diabetes among African American children and Latino children (Hassen et al., 2013). The relationship between sociocultural and socioeconomic factors in relation to obesity is not well understood yet (Hassen et al., 2013: 8).

The type of household one lives in can also influence one's chances of becoming obese. Guthrie (2013) found that children living with biological parents are more likely to become obese compared to poor children living with married stepfathers, stepfathers living with the children's mother and single fathers. On the other hand, Guthrie (2013) also found in another study, that children who were not poor and were living in a step-parent household had higher chances of becoming obese. Children living with married, biological parents are at higher risks of obesity if the parents have lower-income and if the mother is less educated (Guthrie, 2013). Guthrie states, "Even children in the 'optimal' family structure type (i.e. the type associated with the highest levels of child

wellbeing) can also experience obesity risks when other sources of socioeconomic support are not in place" (Guthrie, 2013).

Individuals who live in lower socioeconomic status neighborhoods are at higher risks of becoming obese. Obesity prevalence is higher among individuals with lower educational attainment (Wang, Beydoun, 2007). The table below shows obesity prevalence by level education.

Table 2.5 Obesity Prevalence and Education

Level of Education	Percentage
Less than High School	27.4%
High School Degree	23.2%
Some College	21.0%
College or Above	15.7%

(Wang, Beydoun, 2007).

Changes in income have both direct and indirect effects on weight. Higher education, thus higher income may affect weight through its effects on calorie consumption. Increased income levels can potentially affect one's weight under two conditions. Individuals with higher income may use additional money to consume more foods, or purchase more restaurant style meals. On the other hand, higher income groups have more access to whole food markets, can afford whole food market prices and recreational activities for exercise. Whole foods are foods that have not been processed (otherwise known as unprocessed foods). Typically whole foods do not contain processed

ingredients such as sugars, fats, or salt. Examples of whole foods are fruits, vegetables, and meats such as chicken, fish, and turkey (fitnut, 2014). The table below provides an example of whole foods versus non-whole foods such as fresh fruit versus canned fruits in heavy syrups.

Table 2.6 Whole foods versus Non-whole foods

Whole Foods	Processed Foods
Steel Cut Oats	Frosted Mini Wheat's
Lean Chicken	Chicken-Fried Steak
Spaghetti Squash	Ramen Noodles
Apple	Sugar –coded dried apples

(fitnut, 2014).

Furthermore, lower socioeconomic groups have limited access to whole food stores and places to exercise regularly. Wholefood stores can rarely be found in low income neighborhoods. However, higher income groups are becoming obese as well. They tend to eat out at restaurants with foods that consist of high caloric meals.

Jeffery Sobal, a sociologist from Cornell University studied the social causes and consequences of obesity (Sobal, 2014). Sobal argues that socioeconomic status and obesity are interrelated. The three major factors Sobal studied are income, education and occupation. These three factors are components of socioeconomic status; each impact behavior and facts about health. Individuals with higher education are more likely to

know the consequences of obesity, and are more informed about nutrition and physical well-being. People of higher SES and education are also more likely to be involved in physical activities like sports and other recreational activities compared to individuals of lower SES. (Sobal, 1991).

Socioeconomic status is an important factor in obesity. (Sobal, 1991). Income, as Sobal explains (1991), is associated with access and resources to whole food markets and recreational places for physical activity. Though caloric intake does not differ by income, the availability and resources of higher SES and income have an effect on one's health options. Occupations with higher income tend to be more sedentary, but people of higher SES tend to have more flexibility in their jobs compared to lower SES. Lower SES occupations tend to more laborious work compared to higher SES occupations. Higher SES have more time and money to exercise and afford whole foods. As Sobal (1991) states,

> "Understanding the mechanisms of relationship between obesity and socioeconomic status requires the use of a framework which considers that obesity is a variable on the physical level of analysis and socioeconomic status is on the social level of analysis, with each level of analysis using a frame of reference not translatable into the other. This permits of how socioeconomic status influences obesity, and also of how causality also can operate in the reverse direction, with obesity influencing socioeconomic status" (Sobal, 1991: 242).

SES influences obesity rates and prevalence. Obesity influences SES through discrimination and stigmatizing. Obesity and body appearance are related to

socioeconomic status. Obesity is related to socioeconomic status because of the different lifestyles of each social class and the impact of obesity through life choices.

Considering that obesity rates are higher among lower socioeconomic statuses, impoverished communities have been studied to examine the health behaviors of these groups. Sociologists found that environments influence physical activity. People in lower socioeconomic communities may be fearful to walk and exercise around their local neighborhoods. Middle and upper class citizens are more likely to have communities where it is safer to walk and healthier behaviors are encouraged (Boardman et al., 2005). Additionally, individuals who live in lower socioeconomic status neighborhoods are less likely to be informed about health news and health care opportunities such as exercise groups and health fairs (Boardman et al., 2005).

Pampel et al. (2010) also discuss socioeconomic status and obesity. Medical care consumption is closely linked to knowledge and interest in health, and also correlates with income, occupation, and education. Higher socioeconomic status groups use medical technologies more effectively and follow treatment prescriptions better, whereas low levels of SES are less likely to use treatment clinics (Pampel et al., 2010). While all social classes in the U.S. are affected by obesity, socioeconomic status has a substantial impact on the chances of becoming and staying obese. The findings apply across gender, race, ethnicity, and age categories.

Sexuality

Research on sexuality and obesity research is limited. Few research studies have considered the discrimination against obese homosexuals or looked at sexual orientation as a potential risk factor for obesity. In 2010, Bohemer et al. published one of the first

national studies of homosexuality and obesity. The authors explain that obesity

prevalence runs higher in homosexual women. Bohemer et al. found in their study, "To

our knowledge, this is the first national population-based study to test the hypothesis that

lesbian women have a greater likelihood of being overweight and obese. We have

confirmed this hypothesis for the US women aged 20–44 years. Our findings indicate that

lesbian sexual identity is linked to a greater prevalence of overweight and obesity, even

after adjusting for covariates that are shown in the literature to be risk factors for

overweight and obesity" (Bohemer et al., 2010: 1137).

Discrimination against obese individuals has been theorized as a significant factor

in the disadvantages individuals experience (Carr, Friedman, 2005).

Disabled

The importance of obesity amongst disabled people is another public health

concern. CDC (2010) argues that obesity is more prevalent among people with

disabilities compared to people without disabilites (CDC, 2010). Obesity rates are found

to be about 57% higher for disabled adults compared to non-disabled adults. Disabled

children have an approximately 38% higher obesity rate compare to non-disabled

children (CDC, 2010). Also, research has found that the BMI measurement may be

misleading for individuals with disabilities. The CDC argues that an individual with a

disability such as spinal cord injuries, may have less lean muscle mass and the

measurement can underestimate the amount of fat. Disabled individuals face many

challenges to prevent obesity. A disabled person may have difficulty chewing,

swallowing, physical limitations, and lack of resources for exercise and mobility. Many

disabled individuals need help in transportation, and user friendly equipment for their specific needs, which is not always available (CDC, 2010).

Regions

The CDC (2013) states that obesity prevalence varies across the US states and regions. Research found that adult obesity prevalence is higher in the Midwest and South. Prevalence in adult obesity was lower in the Northeast and West (CDC, 2013). Differences in demographic characteristics, physical activity, dietary behaviors, or social environments may be contributing to the obesity prevalence differences across the region (CDC, 2010). Streib (2007) argues that the change in lifestyle is the most evident reason to why individuals are becoming overweight in different regions. The author further explains that Western lifestyle including fast food choices and environments with high-paced and stressful jobs results in less exercise and more processed food choices. (Streib, 2007).

Immigrants

Immigrants are one of the fastest growing population groups in the US. Little research has focused on obesity and immigrants. Diet, exercise and clinician counseling is minimal for incoming US immigrants (Goel et al., 2004). Goel at el., (2004) argue that immigrant groups with longer residence in the US tend to develop higher BMI's compared to when they first arrived in the US. Immigrants struggle with language barriers and have different cultural beliefs, making interaction between clinician and patient difficult. Goel et al., (2004) suggest that clinicians need to be aware of lifestyle,

perception, behaviors, and how it relates to obesity among foreign-born individuals (Goel et al., 2004).

Religion

The relationship between religion and obesity has not been closely examined. Kim et al., (2003) explain that some religion's such as Judaism view the body as an image of God. Protestants view the body as the 'temple of the Holy Spirit.' The authors explain that religion may in fact reduce stress which can help lower obesity. However, Kim at al., (2003) found that religious men have high BMI measurements. There was no association of women's BMI measurements and religion (Kim et al., 2003: 475).

As explained, there is minimal research in areas of obesity and characteristics like homosexuality, disability, immigrants, and religion. Certain social groups are at higher risks of obesity; therefore, all social characteristics should be considered when discussing obesity. Clearly social characteristics and obesity are interrelated and obesity is impacting some social groups more than others.

FAT STUDIES

Sociological research has picked up the topic of obesity in the new emerging field of "Fat Studies". Sociologists have been interested in how fatness intersects with gender, race, sexuality and other social characteristics. Fat studies also explore how different ethnicities and cultures perceive fatness. Wann (2009) explored how human weight becomes a social reality. She argued that fat studies are very similar to race studies, queer and women's studies including the aspects of stereotypes. Fat studies focus on the social

constructions of body size. Fat scholars study the claims about being fat (Rothlbum and Solovay, 2009: 11).

Likewise, fat studies seek to understand the connection between body weight and different cultures. Fat studies also explore political and social consequences of being overweight. Rothblum states, "People in the United States, regardless of their own weight, have strong negative attitudes about fat people. And the stigma of weight is particularly apparent for women" (Rothblum, 2011: 174). Overweight women experience more discrimination in the work-place compared to men. According to Puhl and Brownlee, "overweight women, for the same work, receive less pay than their thin counterparts. This does not seem to be the case for men, but overweight men sort themselves into lower-level jobs" (Puhl, Brownlee, 2012: 800). Rothblum further explains, "Lookism, prejudice or discrimination based on appearance, disproportionally affects women who are not white, middle class, heterosexual, young, thin, and able-bodied" (Rothblum, 2011: 174).

The majority of fat studies focus on the stigmatization of overweight individuals. Fat studies examine fat bodies as they are perceived, lived, and formed by society. Fat activists seek the acceptance of fatness. Furthermore, fat studies explore fat-phobia. Fat-phobia includes stereotypes and prejudices against obese people. Fat-phobia draws attention to the negative societal messages that people internalize (Bacon et al., 2001: 252). Bacon et al., (2001) argue, "Studying fat phobia currently provides a 'venue for investigating stereotyping and prejudice more generally because social disapproval is rarely 'invoked against those who express anti-fat attitudes' (Bacon et al., 2001: 255). Fat study activists work on a fat-phobia scale to measure and to hopefully eliminate fat-

phobic outlooks (Bacon et al., 2001). Fat studies or fat-phobic approaches posit that fat bodies have been culturally constructed in very much the same way as race and sexuality.

IMPACT OF OBESITY

Discrimination against obese individuals occurs at all ages and genders. Puhl and Latner argue, "Some work has demonstrated that in children as young as 4 years old overweight girls were ascribed more negative characteristics than boys, and larger scale studies have indicated that weight-based teasing and victimization among overweight adolescents are reported by more girls than were boys" (Puhl, Latner, 2007: 560). Boys and girls both experience discrimination because of weight, however boys experience obvious forms of bullying like teasing and harassing, whereas girls experience cruel-hatred behaviors from peers and experienced being left out. Studies have also indicated that negative body perceptions, eating disorders, and negative opinions of obese bodies are greater among adolescent girls. Studies show adolescents who experience discrimination because of obesity tend to have lower self-esteem. However, once they reach adulthood, a decrease in negative stereotyping was noted. (Puhl, Latner, 2007: 560).

An obese individual was once seen as a symbol of prestige, higher status, and sexual attractiveness. Individuals of higher social class had more foods available. But in modern times negative attitudes toward obesity have developed. Obesity is now a sign of poverty and lower socioeconomic status. Obese people have been stigmatized in America as lazy, poor and unfortunate. We have now constructed social class differences based on body appearance.

PREVENTION

In the U.S., attempts have been made to raise awareness of the obesity epidemic through mass media. Displaying nutritional information in restaurants and healthier choices in fast food industries have emerged since the obesity epidemic. Society is starting to help individuals to make healthier choices. However, there are conflicting advertisements and messages in mass media. Commercials are advertising both diet, exercise and health foods as well as fast foods and high caloric dense foods. Advertisements influence healthy lifestyles as well as less nutritious foods. This is sending mixed signals to the audience. Griffin (2012) argues that it is important to recognize the underlying messages conveyed in mass media and its impact on individuals with different social characteristics, beliefs and lifestyles.

Obesity prevention plans mainly focus on reducing calorie intake and influencing physical activity and nutritional behaviors. Since obesity is higher in African American and Hispanic women, obesity prevention studies focus their prevention tactics on these particular groups (Caprio et al., 2008). Yet, sexuality is not considered. We know that lesbians have a higher prevalence of obesity compared to heterosexual women (Bohemer et al., 2010).

Individuals living in areas with high levels of obesity are more susceptible to other health risks. "Blacks and whites often inhabit qualitatively dissimilar areas in the United States, and high levels of racial concentration leads to disparate cultural and structural environments for blacks and whites" (Boardman et al., 2005: 9). Additionally, high levels of poverty increase the chances of obesity and negative health outcomes. (Boardman et al., 2005). Groups with higher levels of obesity have an effect on

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surrounding neighbors and social environment. "Thus, context must be considered in conjunction with individual risk factors to more fully understand obesity, a major contributor to ill health and shortened life among U.S. adults" (Boardman et al., 2005: 11).

Numerous obesity prevention plans have been attempted to help decrease the epidemic. However, there has been little success. There is growing research on the language and discourse in scientific articles on obesity. As argued in the recent *International Journal of Epidemiology* and *Social Theory and Health*, the language is 'loaded with ideology and cultural beliefs about how we view "fatness"' (Warin et al., 2007). Warin et al. (2007) further explain why obesity preventions and intervention plans are not succeeding. He argues that little research has been done on the effectiveness of prevention plans. When prevention plans are used they only work for a short period of time and there is a lack of research explaining why they aren't working.

Warin et al (2007) argue that methods to reduce obesity lack behavioral strategies and disregard socioeconomic lifestyle variables. Current approaches to reduce obesity overlook the lifestyles in different cultural contexts in which people live. "*In Distinction: a Social Critique of the Judgment and Taste*, Bourdieu argues that food and eating is much more than a process of bodily nourishment; it is an elaborate performance of gender, social class and identity. This performance is central to the habitus, a concept which encompasses the implicit practices and routines that structure the logic of everyday life (Warin et al., 2007: 98). Likewise, it is through the body that one learns the taken-for-granted characteristics of every day occurrences such as language, gestures, foods and trends. Bodies are socially constructed, through the ways individuals handle and relate

their bodies to everyday life. (2007). Thus, bodies "'reveal the deepest dispositions of the habitus'" (Warin et al., 2007).

Culture and social characteristics play an important role in obesity. Yet, a great deal of obesity literature neglects social characteristics when creating prevention strategies. It is also important to note that dietary and physical behaviors are learned from social groups and social settings. Different characteristics like socioeconomic levels, race, ethnicity, disability and residence all have an effect on one's social behavior and lifestyle.

Obesity rates and prevalence have increased and show significant differences in social characteristics. Mass media conveys perceptions of body types, and different understandings of diet, exercise, and lifestyle. Discussing these different lifestyles and beliefs is important when prevention plans are aiming to reduce obesity of individuals across the nation. Warin et al., (2007) explain that obesity research needs to pay attention to "obesogenic environments." Obesogenic environments draw attention to social meaning and practices that individuals live each day. Social meanings and traditions are expressed in everyday life in different social environments. Medical research and prevention tactics rely on individual methods to reduce obesity. However, lifestyles, health beliefs and practices have been embedded in cultures for generations. "Solving obesity in a simplistic matter in-which one-solution-serves-all is ineffective" (Warin et al., 2007: 108).

People who are considered obese tend to struggle in regard to quality of life, resources and prejudice towards them. Attitudes towards obesity are strongly influenced by media. There are many factors brought about by families, cultures, environment,

socio-economic status that are associated with obesity. What is lacking in the recent

obesity literature is how obesity is treated and discussed in medical professional and

popular health journals in regard to social characteristics. My hypothesis is that obesity is

talked about and approached with a white middle class lens and different racial, ethnic

and social class values, beliefs and resources are overlooked. I got to this hypothesis due

to the different patterns in obesity rates and prevalence found in obesity literature.

Chapter III: Methodology

This thesis explores how obesity is discussed in leading medical professional journals and printed popular health magazines in regard to social characteristics. I will conduct a content analysis of journal articles published in the year 2013. The analysis uses a combined qualitative and quantitative approach. Across all selected journals and articles, I will count frequencies of specific social characteristics and review each article to see how the social characteristics are applied.

CONTENT ANALYSIS

Content analysis was first developed in the English literature in 1941 (Krippendorff, 2003). Content analysis began with the critical study of language and symbols. Content analysis explores texts and communication (Krippendorff, 2003). It provides useful information in the study of communications in the form of television ads, shows, magazines, newspapers, billboards, journals, and so forth. Communications here are best understood as a social fact. Social facts are conditions and situations external to the individual that control an individual's social action (Applerouth, Edles, 2010). Durkheim explains that, "through systematic collection of data, the patterns behind and within individual behavior can be uncovered" (Applerouth, Edles, 2010). Using a content analysis approach will help me explain social facts. Social facts exist in terms of thoughts, behaviors, expressions, or feelings that originate from society and are driven by social causes (Applerouth, Edles, 2010: 97-99). Using a content analysis will allow me to identify how obesity is talked about by medical professionals and popular health magazines in regard to social characteristics.

In a content analysis a coding scheme is often organized to collect specific data. Content analysis has been explained as a, "multipurpose method developed specifically for investigating any problem in which the study of communication content serves as the basis for inference" (Moodie, 1971: 146). Content analysis techniques are used to identify patterns in texts using systematic procedures. Researchers using content analysis distinguish themes and frequencies of symbols. This is important in regards to my thesis, because I will focus on the frequency of social characteristics and the context in which they are used.

There are four main types of content analysis which are formal content analysis, thematic analysis, audience analysis and textual analysis. Formal analysis consists of examining the features of texts. Thematic analysis explains patterns in texts and discovers underlying meanings or aspects of messages. Audience analysis studies the response of the viewers to messages. Audience analysis focuses on the meanings the audience applies to the messages, and how messages are received and understood. Textual analysis is the study that examines the use of words within texts and their meanings (Wimba, 2009). The type of content analysis used in this study will be textual analysis.

Textual analysis typically utilizes both qualitative and quantitative methods. I will use textual analysis to describe the content and patterns of the messages contained in the texts. Textual analysis is relevant to my thesis because I am exploring how medical journals and popular health magazines relate obesity to social characteristics, and how often social characteristics are mentioned, and the meaning of social characteristics in regards to obesity.

In a content analysis, the researcher develops a set of codes to search for messages in a specific text. Once the quantitative data has been collected, the researcher codes the messages being used in text in order to discover the meaning of the messages and patterns across texts. The researcher seeks to interpret these patterns using social theory (Berg, 2007). Berg (2007) states, "it (content analysis) is a passport to listening to the words of the text and understanding better the perspective(s) of the producer of these words" (Berg, 2007: 309).

Content analysis is a powerful research technique to help reduce large amount of text into categories based on the coding scheme. Content analysis results are useful for gathering and condensing messages, and to analyze the meanings of messages. However, the possible weaknesses of content analysis are flawed definition of categories and biased interpretations. The coding of terms and phrases may become inconsistent and can be prone to contradictions. The analysis might be influenced by subjective explanations. In addition, a content analysis may not include every message included in the text. Lastly, Berg (2007) states, "content analysis is ineffective for testing causal relationships between variables" (Berg, 2007: 328). Despite the weaknesses of a content analysis, it is an easy to use research method, inexpensive, and very useful for analyzing media.

A content analysis includes a clear explanation of the inclusion and exclusion criteria for the texts and codes. The coding scheme that is used will describe which exact terms or phrases were used for the analysis. Findings typically include repeated codes, phrases and themes that emerged from the analysis. Results will entail both quantitative and qualitative findings.

The qualitative part of my analysis will utilize open coding. Open coding takes place after the articles have been examined for the amount of times certain terms or expression have been mentioned. The purpose of open coding is to find the meanings of the "code" in a more in-depth analysis. Axial coding, is the next step in the analysis, which is a process where categories are developed based on the data and these categories are linked across texts and categories (Harper, 1988). Open coding and axial coding are approaches used in grounded theory (Walker, Myrick, 2006).

GROUNDED THEORY

Grounded theory was developed in 1960 by Glaser and Strauss (Walker, Myrick, 2006: 548). Grounded theory consists of open coding, which I will use in the second step of my analysis. Open coding involves coding of data and systematically probes the codes to identify or verify a given proposition. The second step in open coding includes developing categories (Walker, Myrick, 2006). During the process, the researcher keeps notes to review and interpret the analysis. Walker and Myrick (2006) further explain that the process of grounded theory can be applied to various types of disciplines or forms of data such as interviews or observations. Coding in qualitative research is the method of exploring information, searching for patterns, similarities and differences.

In open coding the researcher will work with specific techniques to create theory (Walker, Myrick, 2006). The grounded theory approach is one of the most widely used qualitative methods in the social sciences. The purpose of grounded theory is to develop theory (Thomas, James, 2006). Walker and Myrick quote Strauss and Corbin (1990), "Coding is not simply part of data analysis; it is the 'fundamental analytic process used by the researcher'" (2006: 549).

An important part of grounded theory is "memoing." Memoing forms the basis for formulating a theory. (Walker, Myrick, 2006). The researcher will write self-reflective thoughts throughout the analysis. This will help to organize thoughts, themes or categories found in texts. In this thesis, the memoing will help me to interpret how social characteristics are used in texts about obesity. Memos will also help me write the results of the analysis and interpret the underlying messages discussed in articles.

Grounded theory is relevant to my thesis because I can break down the content of articles and categorize the messages within the text.

QUALITATIVE ANALYSIS

Qualitative methods allow social scientists to research and comprehend the perspectives and behaviors of others. Researchers look for the meanings individuals put into their daily routines. Using a qualitative approach allows us to observe how individuals understand themselves and those around them (Berg, 2007). Qualitative methods have been used in previous studies using media analysis. This methodology will help analyze how social characteristics are talked about in regards to obesity in mass media, here professional medical journals and popular health magazines.

The purpose of a qualitative analysis is to gain a deeper understanding of a specific group or event. Qualitative analysis is often used in social sciences such as sociology, anthropology and political science. Qualitative research aims to better understand behaviors, language and how individuals derive meaning from their social surroundings. Qualitative research also seeks to comprehend how meaning influences behavior and perceptions. Heyink and Tymstra (1993) state, "research is called

qualitative if it is about determining "what things 'exist' rather than to determine how many such things there are" (Heyink, Tymstra, 1993: 293). They argue that 'quality' refers to the description of things rather than the quantity. A qualitative approach is used to analyze processes and aims to render interpretations and some explanations. Qualitative research is concerned with the relationship between data and theory, in a different way than quantitative methods (LeCompte and Goetz, 1982).

"There is a constant interplay between the observation or realities and the formation of concepts, between research and theorizing, between perception and explanation" (Heyink, Tymstra, 1993: 297). Therefore, researchers using qualitative methods need to ensure repeatability and replication of the results.

LeCompte and Goetz (1982) argue that, "The value of scientific research is partially dependent on the ability of individual researchers to demonstrate the credibility of their findings" (LeCompte, Goetz, 1982). The authors explain that in all scientific studies reliability and validity are important for the quality of the analysis. Reliability refers to the extent to which an analysis is consistent with and trustworthy of the researcher's measurement. "Establishing validity requires determining the extent to which conclusions effectively represent empirical reality and assessing whether constructs devised by researchers represent or measure the categories of human experience that occur" (LeCompte, Goetz, 1982: 32).

QUANTITATIVE ANALYSIS

Quantitative methods are essentially the collection and analysis of numerical data to explain a particular phenomenon. Quantitative research helps to understand how often

something happens such as interactions, themes, or actions. The main point of the quantitative section is to report frequencies of terms. In this thesis, I will count how often social characteristics are mentioned in each article and analyze patterns of frequencies. This is important to my thesis, because I am seeking to find if and to what extent the medical literature and popular health magazines discuss obesity in regard to social characteristics.

The information gathered in a quantitative analysis can be converted into tables and figures. Typically quantitative research is used to get information that can be generalized to large populations. This is also known as generalizability. For example, studies may examine the differences between neighboring states in terms of attitudes towards homosexuality. Quantitative analysis would offer statistics to illustrate the differences between both states (McCallister, 2014). In this thesis, coding will capture the amount of times different social characteristics are mentioned. Descriptive statistics will also show which journals and type of publications used social characteristics.

A quantitative analysis is a systematic scientific inquiry. Healey (2009) argues that, "Data that have been carefully collected and thoughtfully analyzed are the strongest, most objective foundations for building theory and enhancing understanding" (Healey, 2009: 1). There are four examples of quantitative research methods. The methods are descriptive, correlational, cause-comparative, and experimental. Descriptive research focuses on collecting data in order to test hypotheses. Descriptive studies determine what things occur. Correlational research involves the collection of data to clarify whether and to what degree a relationship exists between two or more variables. Cause-comparative research compares and establishes the differences between two or more groups.

Experimental research establishes the cause-effect relationship and focuses on the comparison (Ouyang, 2014). The quantitative method in this thesis will be a descriptive analysis. Descriptive statistics will provide a summary of the occurrences of events.

STRENGTHS AND WEAKNESSES

Whether you are conducting qualitative or quantitative research, several strengths and weaknesses apply. Quantitative research cannot interpret and explain the details of an issue. A strength of quantitative research is that statistics provide the researcher methods for testing hypotheses and theories, and show patterns of data (Healey, 2009). Furthermore, in quantitative research large amount of data can be analyzed in a shorter time. The data is also controlled through sampling and testing of hypotheses. However, this can lead to the assumption that numbers explain the behaviors of every individual in a specific group. This is also known as ecological fallacy. (Poppel, Day, 1996). For example, it has been found that Americans who consume more whole foods are less likely to be obese. It is an ecological fallacy to infer that everyone who consumes whole foods is less prone to be obese. In reality, various other factors contribute to obesity. I seek to find which social characteristics are mentioned, how they are talked about, and if the discussion of obesity considers different social beliefs, customs, and lifestyles.

Qualitative research is more time consuming. A qualitative analysis describes the details of specific actions and behaviors (Berg, 2007: 3). Each research approach is useful for different purposes. Social scientists seeking to explain the life-world that individuals experience typically use qualitative research. Qualitative studies help explore lived experiences. Sociologist Alfred Shultz explains the life-world as daily life and natural attitude. Life-world refers to the daily life one experiences and lives (Costelloe,

1996). "Life-worlds include emotions, motivations, symbols, and their meanings, empathy, and other subjective aspects associated with naturally evolving lives of individuals and groups" (Berg, 2007: 14). Qualitative research allows open interpretations from the researcher, whereas quantitative findings are based on frequencies and correlation of data.

Despite their weaknesses both approaches can be very helpful in understanding social matters. In this particular analysis the combined approach will help me explain the amount of times variables are used and the context in which they are being discussed.

JOURNAL DATA

The data used in this analysis are from articles published in leading American medical Journals: *The Journal of the American Medical Association (JAMA), The New England Journal of Medicine (NEJM), The British Medical Journal (BMJ) and The Lancet.* The medical journals were selected based on impact factors. The impact factor indicates the prestige and amount of citations of a journal in a certain period of time. Impact factors also indicate the "long term influence" of published articles (Borokhovich et al., 2000). Impact factors are reported by the various journals. I have ranked these on the basis of their published impact factors. The table below displays the top four medical journals in 2013.

Table 3.1 2013 Top Ranked Medical Journals

	Impact Factor	Total Average Citations
New England Journal of Medicine	51.658	311
The Lancet	39.06	231
Journal of American Medical Association	29.978	183
British Medical Journal	17.215	129

The medical articles were selected using the Idaho State University online journal search engine. Search criteria were implemented to find the articles on the topic of obesity. Articles were filtered to only include publications from January 1, 2013 to December 31, 2013. 'Obesity' was the search term in the title for each article. All types of articles were included; letters, research letters, opinions, clinical reviews and education, editorials, book reviews, commentaries, news, and analysis.

The four popular health magazines I chose for this analysis are *Women's Health, Men's Health, Prevention, and Health.* Allyoucanread.com is an online database of magazines and newspapers. The database includes over 25,000 magazines, newspapers and leading news sites. The website identified the four leading health magazines in the US to be *Women's Health, Men's Health, Prevention and Health Magazine* (allyoucanread.com, 2014). The magazines were chosen by the Top 10 editor's Choice Health Magazines.

Table 3.2 Top Ten Health Magazines

	Issues per Year	Number of Readers
Men's Health	10	+35 Million
Women's Health	10	23 Million
Health Magazine	10	26 Million
Prevention	12	8.6 Million
Shape	12	6.2 Million
Runners World	12	5.3 Million
Men's Fitness	10	1.8 Million
Cooking Light	12	1.7 Million
Self	12	1.6 Million
Fitness	10	1.5 Million

The magazine articles were searched using the same search criteria as for the medical journals with one difference. Because magazine article titles are worded to grab the attention of viewers, the term 'obesity' was searched in all fields of the articles. All type of articles were included in the search; short texts, articles, and responses.

The search among the four medical journals alone rendered 94 articles on the topic of obesity. I only excluded one article in *JAMA*. This article discussed a study on rats. I found 54 articles on obesity in the selected health magazines. I narrowed down the articles for analysis to 40 articles from medical journals and magazines. The articles were initially chosen through a random sampling method. The random sampling method ensured that each article had an equal chance of being selected. A random number generator was used for the selection of articles to be examined. However, I also went

back through all the journal articles to ensure that I included and used articles that focused on social characteristics. This step involved a review of all 94 journal titles and abstracts.

DATA ANALYSIS

The first step in the analysis focuses on the quantitative data. The initial collection of data entails the counting of terms like race and gender and more specific terms like "Asian", "Hispanic", "male" or "female". Search Terms are based on a preliminary review of articles and Census categories. The coding sheet consists of the following search terms for social characteristics:

Table 3.3 Coding Categories and Search Terms

Category	Search Terms
Age	Age, aged
Gender	Gender, Male, female, men, women, sex
Race	White, White- Non-Hispanic, Black, African-American, Asian, Hispanic, Pacific Islander, Hawaiian, Native American, Latino
Ethnicity	Ethnicity, Hispanic, culture
Marital Status	Married, Divorced, Widowed, Separated, Never married
Type of Household	Type of household, family, family composition, non-family household, living alone, married couple, female householder, male householder, single parent family,
Social Class	Social class, socio-economic status, Middle class, upper class, lower class, upper middle class, working class, poverty
Education	Education, GED, High School drop-out, some High School, High school, Some College, college degree, advanced degree, professional degree
Income	Income, money income, salary (ies), wage(s), pay, earnings
Occupation	Occupation, Work experience, employment, job categories, job
Disability Status	disability, disabled, with a disability, with no disability, disability status
Region	Region, Northwest, Midwest, South, West
Residence	Residence, City, rural, suburban/suburb, inside metropolitan statistical areas, outside metropolitan statistical areas, inside principal cities, outside principle cities
Religion	Religion, religious affiliation, church affiliation, catholic, protestant, Muslim, Buddhist, Hindu
Nativity	Nativity, Native born, foreign born, naturalized citizen, not a citizen

Diversity	Diversity, Diverse
Minority	
Other	no search terms; terms found in articles during coding

The main point of the quantitative analysis is to find if and how often terms and categories were used. I have downloaded every article and saved them under their own journal file for organization. The first step of counting the variables will help verify the amount of times the terms appear in the obesity literature. Each article was scanned and the count of terms was documented by hand in an excel spreadsheet.

In the second step, I will read the sections of articles where the terms were mentioned and open coded the context in which the terms were used. This stage of content analysis will help determine how obesity is discussed and mentioned in terms of social characteristics. I will highlight the text where terms are mentioned and assign codes and generate categories in which context the term is used. Next, I will organize the categorical coding. I will look at codes, develop categories, and determine how they relate to other categories.

The data will be illustrated in tables to show the amount of times each variable was mentioned; how social characteristics are discussed in both medical articles and health magazine articles; and what the articles are talking about or suggesting in regard to obesity and social characteristics.

Chapter IV: Theory

Sociological theories provide explanations for social interactions, how people act, relate with one another and how they react to the social environment. Theories are developed from a set of hypotheses, and provide answers to questions concerning social behavior and organization. Sociological theories guide researchers in their studies; they provide the basis for research questions and help explain findings. In this thesis, the theories used will provide the framework to interpret my findings and help explain how obesity is talked about in regard to social characteristics. I will use two theories to guide my research and explain the discourse of obesity in medical professional journals and popular printed media. The theories applied to this research are media theory and social constructivism.

SOCIAL CONSTRUCTIVISM:

The concept of Social Construction of Reality was developed by Berger and Luckmann and is based on the sociology of knowledge. Simpson states (1967), "the sociology of knowledge betokens a rarefied realm into which only the obscurely learned dare to tread. It is to the great credit of Berger and Luckmann that they have taken hold of this field and brought it within the ken of all sociologists by showing that it is inextricably intertwined with the principles of social organization and with the fundamentals" (Simpson, 1967) The sociology of knowledge focuses on the relationship between social interaction and thought. Berger and Luckmann argue that everyday life actions constructed from our common sense and thoughts (McGinn, 2012).

Social constructivism strives to understand how individuals understand and interpret the social world. Berger and Luckman (2008) explain that individuals are constantly constructing the social world, which in turn constructs the reality we live in (Berger, Luckman, 2008). Social constructivist theorists believe that actions and shared meanings in any given society are socially and culturally constructed. Realities are "projections of the rationality of man." Berger and Luckman view knowledge and the way of life as interrelated. The social construction of reality is based on knowledge learned through society. One's thoughts, morals, ideology, and attitudes change as social trends change (Rose, 1967). This suggests that as societies change and develop, individual behavior and attitudes change. A major concern in the social construction of reality is how symbols and languages used in social groups. Different groups encompass different values and apply different meanings to social institutions and cultural traits like language and art. Therefore, different groups have different perspectives and see the social world differently (Rose, 1967).

Social constructivists Berger and Luckmann argue that out of the relationship between the individual and society emerge social constructs which are viewed as reality by the individual. The purpose of social constructivism is to explain how human beings create reality. Berger and Luckman explain, "Everyday life presents itself as a reality interpreted by men and subjectively meaningful to them as a coherent world. As sociologists we take this reality as the object of our analyses. Within the frame of reference of sociology as an empirical science it is possible to take this reality as given, to take as data particular phenomena arising within it, without further inquiring about the foundations of this reality, which is a philosophical task" (Berger, Luckmann, 1966: 33).

Medical sociology has used a social constructivist lens to better understand the social foundations and meanings of diseases and illnesses. Medical sociologist seek to understand the social meaning of illness and how medical knowledge is socially constructed (Conrad, Barker, 2010). Conrad and Barker explain, "Social constructionist approach to illness is rooted in the widely recognized conceptual distinction between disease (the biological condition) and illness (the social meaning of the condition)" (Conrad, Barker, 2010: 67).

Social constructivist how people understand illness, talk about it and explain it. Conrad and Barker (2010) argue that disease is defined through medical discourse but also impacts how illness is defined and understood. The authors state, "Foucault stressed how medical discourse constructs knowledge about the body, including disease" (Conrad, Barker, 2010: 69). Medical discourse impacts the understandings of bodies and identities. Medical discourse and professional knowledge embeds meanings, and forms identities. Sociologists use a constructivist approach to examine how illness is understood through social interactions, and how medicine influences its understanding (Conrad, Barker 2010). The constructivist lens will help me analyze the social constructs of obesity in relation to social characteristics.

CONSTRUCTIVISM AND OBESITY AS A SOCIAL PROBLEM

Applying a social constructivist approach allows me to explore how obesity is framed as a social problem. Constructivists argue that the public view of social problems and issues is framed by specific perceptions and influenced by existing power structures. This public discourse of obesity also includes the marginalization of specific groups (Patterson, Johnston, 2012).

Loseke and Best (2003) define a social problem as, "a term to label conditions believed to occur frequently, to be very troublesome in their consequences, and that therefore need to be eliminated" (Loseke, Best, 2003: 3). Social problems are constant in society and often a topic in mainstream media. Drugs, war, abortion, and sex discrimination are examples of social problems. Social problems can be subjective or objective. The objective social problem refers to the existence of the issue. The subjective social problem refers to the notion that the social problem is harmful to society, or to a group and should be fixed (Mooney et al., 2000). According to scholars, both types of social problems need to be analyzed to determine their causes, effects, and purposes. (Loseke, Best, 2003: 3). However, social problems, are not a problem until society declares it a problem (Best, 1995: 5). Constructivist research offers a framework for a "theory of social problems" (Best, 1995: 5-7).

Sociologists who focus on objective social problems focus on the conditions of the issue. Constructivists examine the claims being made about the problem, not the condition itself. The purpose of analyzing social problems from a subjective perspective is to determine who is making claims, why they are made, and the behavior of social groups making claims.

Social constructivists argue that social problems are framed and constructed by "claims-makers" (Best, 1995). Best explains, "They define social problems as 'the activities of individuals or groups making assertions of grievances and claims with respect to some putative conditions'" (Best, 1995: 6). Social problems are not objects, but claims that individuals or groups make.

Claims-makers "typify" the problem. "Typification occurs when claims-makers characterize a problem's nature" (Best, 1995: 8). Typification is a fundamental process in framing social problems. Social problems become typified when claims-makers emphasize specific characteristics of the issue, and explain social problems from a particular perspective (Best, 1995:8-9). As we play a part in the life-world, most of what we know of other social surroundings and interactions does not come from direct personal knowledge; but rather general knowledge of our social world (Crossman, 2014).

The construction of social problems in my thesis will help me discuss how obesity became typified as a medical issue and that it is not possible talk about or understand obesity from another perspective, for example a social or socio-cultural lens.

MEDICALIZATION

Medicalization explains how problems of living became medical issues (Blackburn, 2011). The term medicalization became popular in sociological literature during the 1970's. Medicalization was first applied to psychiatric issues and discussed in terms of social control. Theorists reacted to Talcott Parsons who first theorized medicine's function of social control. Parson developed the concept of the "sick role," where he determined that being sick is viewed as a deviation to the social norm. The concept of medicalization is a critique of Parson's "sick role" and the power of medicine in defining deviance (Conrad, Schneider, 1992: 210).

Conrad and Schneider (1992) illustrate the medicalization of issues such as child abuse, mental disorder, alcoholism, delinquency and homosexuality. Conrad and Schneider explain that often illnesses are described as deviances before they are termed

an illness. Conrad and Schneider quote Durkheim, "Deviance is universal, deviance is a social definition, social groups make rules and enforce their definitions on members through judgment and social sanction, deviance is contextual and defining and sanctioning deviance involves power" (Conrad, Schneider, 1992 :5). Medicalization occurs when we take things that are not medical in nature and assign them medical labels. Non-medical problems or issues are then defined as medical conditions and fall under the preview of medicine. The process of medicalization involves the development of a medical framework to explain the issue and using medical intervention to treat the illness (Conrad, 1992: 210).

Medicalization began to shift in the 1980's and 1990's because of increased medical knowledge, increasing corporatization of medicine, marketing to patients, and a consumer model of patient-provider interaction (Conrad, 2005: 4). Conrad (2005) explains that medicalization was pushed by interests groups and social movements. Pharmaceutical and treatments are increasingly drivers for new medical categories. Pharmaceutical organizations and marketing also played a part in the medicalizations of illnesses (Conrad, 2005). "However it is significant that in virtually all studies where they were considered, the corporate aspects of medicalization were deemed secondary to professionals, movements, or other claims-makers" (Conrad, 2005: 4). Patients began to be seen as consumers to health care and insurance providers.

The three major current "engines of medicalization" are biotechnology, patient-consumers, and managed care. The rise in technology has increased the use of biotechnologies in medical care. Biotechnology companies such as pharmaceutical companies are making efforts to increase their markets to a growing population. The

increased use of biomedical improvements increased the medicalization of human

problems (Conrad, 2005: 8). Consumers also have become major actors in medicalization

processes. Conrad states, "Health care becomes more commodified and subject to market

forces, medical care has become more like other products and services" (Conrad, 2005:

8). Modern medicine and biotechnologies have increased the availability of surgeries and

other treatments for patients. Surgeries like gastric bypass, tummy tucks, and liposuction

have increased mainly based on patient demand. Conrad argues, "The body has become

medicalized, piece by piece" (2005: 8). Medical services are now advertised in mass

media. Medical information is readily available on the internet. This has encouraged

individuals to become active consumers rather than passive recipients of medical care.

Conrad (2005) explains that by the 1980's a shifting of medicine began. Patients

were beginning to act more like consumers, influencing both medical services and health

care policies. Managed care organizations, pharmaceutical industries, and physicians like

gastric bypass surgeons were starting to view patients as consumers or possible markets.

Medicalization is now driven more by market interests. Conrad explains that the amount

of gastric bypass surgeries have almost tripled in the past decade; "the surgery has

become big business and medical centers are scrambling to start programs" (Conrad,

2005: 10). Surgeries for obese patients such as gastric bypass are cheaper for health care

organizations instead of treating additional medical problems caused by obesity, such as

stroke, diabetes, heart conditions and insulin resistance.

Medicalization has changed from "medical profession, interprofessional or

organizational contests, social movements, and interests groups to biotechnology,

consumers, and managed care organizations" (Conrad, 2005: 10). Commercial and market profits are more powerful today than expert claims-makers.

MEDIA THEORY

Mass media is a significant tool of communication in modern society. Media is constantly broadcasting messages through television, radio, billboards, internet and magazines. Sociologists are interested in how media influences attitudes, trends, opinions and beliefs. Sociologists also explore how audiences perceive messages and how media is organized. Sociologist George Gerbner argues, "A change in the social bases and economic goals of message mass-production leads, sooner or later, to a transformation of the common symbolic environment that gives public meaning and sense of direction to human activity" (Gerbner, 1969). Gerbner et al. explain, "Institutional needs and objectives influence the creation and distribution of mass-produced messages which create, fit into, exploit, and sustain the needs, values, and ideologies of mass publics" (Gerber et al., 1986: 23).

In his theory, Gerbner focuses on the process of cultivation through mass media. Gerbner argues that media persuades by sending messages to viewers using any type of "communication effects" (Gerbner, 1969). Communication effects are ways to inform or send messages to the audience. Gerbners explains, "I am concerned with the collective context with- in which, and in response to which, different individual and group selections and interpretations of messages take place. In that sense, a message (or message system) cultivates conscious--ness of the terms required for its meaningful perception" (Gerbner, 1969). Gerbner is interested in the understanding of knowledge and shared meanings.

How knowledge is acquired through media is important in media theory. Knowledge shapes individuals' awareness and social identity. Public opinions are influenced by the media's publications. Gerbner states, "Publication as a general social process is the creation and cultivation of shared ways of selecting and viewing events and aspects of life" (Gerbner, 1969).

Cultivation focuses on the impact media has on its audiences and how it shapes their everyday life interactions and understandings. Cultivating theory argues that media are perceived as descriptions of how the real world is. Cultivation theory suggests that an accumulation of media viewing produces a perception of our real world. Mass media is everywhere in society such as popular health magazines, billboards, television commercials, internet, and ads in doctors' offices or stores. Society is surrounded with mass media and we are constantly accumulating messages. Viewers become unaware of the messages we are consistently surrounded by. Cultivation theory aims to explain the effect and process of this accumulation of messages (Davie, 2010).

Research based on cultivation theory identifies patterns in settings, casting, social typing, framing, actions and phrases in mass media. Cultivation theory explains that patterns become subliminal to its viewers; thus absorbed into their daily life. Gerbner states, "Culture cultivates the social relationships of a society. The mainstream defines its dominant current. We focus on the implications of accumulated exposure to the most general systems of messages, images, and values that underly and cut across the widest variety of programs. These are the continuities that most effects studies overlook" (Gerbner et al., 1986: 21).

Social and cultural and characteristics also influence the messages. Contexts and social characteristics are part of the process of cultivation. Age, sex, race and class influence how an individual defines themselves or others. The continuous interaction between individuals, social context, and media create "an integral aspect of a dynamic process" (Gerbner et al., 1986: 23). The messages accumulatively create a symbolic environment which in turn creates social identities and disposition.

Media studies also focus on the framing of messages. The term framing has been used in media analysis to understand how issues are framed and its effects on audiences. Scheufele (1999) explains that mass media has significant influence by 'constructing social reality,' by 'framing images of reality.' Social science research focused on media because, "Media discourse is part of the process by which individuals construct meaning, and public opinion is part of the process by which journalists. . . develop and crystallize meaning in public discourse" (Scheufele, 1999: 105). Mass media purposely sets frames in texts to convey messages and reach certain audiences. Writers publishing articles structure their words or statements in a particular direction that influences information. Publications often use underlying themes within their stories, through the use of specific statements or by linking interpretations (Scheufele, 1999). Media frames in newspapers, magazines and internet blogs, "set a certain frame of reference, and, therefore, have a critical impact on information processing" (Scheufele, 1999).

The main purpose of medical publications is to increase and improve medical knowledge, improve patient care, and health prevention strategies. Medical journals have proliferated since the 1990's (Gee et al., 2000). Medical publications provide communication between scientists and clinicians who use their findings in medical

practices. Texts in medical journals include reviews, editorials, commentaries, documents (science and clinical), case-reports, and case studies.

Publications on topics of public importance, such as obesity, often create connections between research and clinical centers. Medical publications are important for training, clinical referral and possible future research opportunities (Peh, 2007). Medical journals are one of the most important ways for communicating scientific research. Medical publications improve teaching and guidance for patient care and clinical skill (Peh, 2007: 3).

Health magazines have become a popular source for the public to learn the latest health news and receive health advice. Many magazines publish online as well as in print. Wimmer and Dominick (2013) state, "In 2010 the Magazine Publishers of American Association listed more than 13,000 online magazines" (Wimmer, Dominick, 2013: 355). Magazines have become a popular and widely published source for lay health knowledge.

Social scientists have started to study the underlying messages that health magazines convey and the impact they have on social behaviors. Health magazines suggest lifestyles to improve wellbeing and provide tips on how to improve one's life. The magazines are published to inform society of diseases and how to prevent health issues. Medical publications aim to improve patient care and health services in medical settings, whereas health magazines aim to improve lifestyle habits and social behaviors.

Lastly, several assumptions of media theory are applied to understand the cultural shifts in perceptions of illnesses and disease. Seale (2003) explains, "When people get sick, or make decisions about health, or visit their health service providers, or decide what to think and vote about health care policy and finance, their behaviour may be

formulated in large part from resources drawn from various mass media" (Seale, 2003:

514). Media theory can influence how individuals determine what an illness is, and what

it is like, what causes health issues, and how health problems should be treated (Seale,

2003). The constructivist theory and mass media theory combined will help me explore

the discourse of obesity in regard to social characteristics.

Chapter V: Findings

This research project attempted to discover how often and in which context social characteristics are used in articles on obesity. Fifteen categories and ninety-five search terms were used to examine the articles. This chapter includes the quantitative and qualitative findings of the analysis of selected medical journals and popular health magazines published in 2013.

QUANTITATIVE FINDINGS

Health Magazines

A total of 130 search terms were found in the four health magazines. *Prevention* magazine had the most mentions with seventy-four terms; more than double of the other health magazines. *Women's Health* had the least terms found, only five terms which were "age", "women", "family", and "region".

Racial status was rarely mentioned in the four health magazines I examined. The category marital status had only two mentions. The terms "married" and "divorced" were used in *Health Magazine*. "Culture", a search term under the category Ethnicity, was only mentioned in *Prevention* (in two places). "Pay" as a search term for category Income was only mentioned in *Men's Health* (in three places). Region was only mentioned twice; once in *Prevention* and once in *Women's Health*. While *Prevention* showed the most findings, it did not include two categories found in other magazines: "marital status" and "income". *Women's Health* rendered findings for the search terms "age", "women", "family", "high school", and "region", but no mentions in the categories Race, "marital status", "ethnicity", "Income", and "Residence". *Men's Health* did not include any terms

in the categories "age", "ethnicity", "Income", "Region", and "Residence". 58% of the terms found in *Prevention* were in the categories of Age and Gender with almost equal mentions between Age and Gender.

The table below illustrates the amount of times every category and search term found in the four popular health magazines along with the overall totals. The category term was also a search term.

Table 5.1 Search Terms and Categories for Social Characteristics found in Health Magazines

Category: Search Term	Health Magazine	Prevention	Men's Health	Women's Health	Total
Age					27
Age	3	23	-	1	
Gender					53
Female	-	2	-	-	
Women	18	15	-	1	
Men	-	-	9	-	
Sex	3	5	-	-	
Race					11
Race	-	6	1	-	
White	1	-	2	-	
Black	-	1	-	-	
Ethnicity					2
Culture	-	2	-	-	
Marital Status					2
Married	1	-	-	-	
Divorced	1	-	-	-	

Type of Household					10
Family	3	6	-	1	
Education					10
Education	1	2	-	-	
High School	1	3	2	1	
Occupation					8
Occupation	-	-	1	-	
Job	2	5	-	-	
Region					2
Region	-	-	-	1	
Northwest	-	1	-	-	
Residence					5
City	-	3	2	-	
Total	34	74	17	5	130

The findings revealed some pattern. The category "gender" is the most significant finding. The search terms "women", "female", "men", "age" and "sex" were the most found search terms. The search terms "age" and "women" were the social characteristics most often mentioned, followed by the term "family". The table below illustrates the amount of times these terms were mentioned.

Table 5.2: Three Most Common Search Terms Found in Health Magazines

Search Term	Age	Women	Family	Total
Prevention	23	15	6	44
Health	-	17	1	18
Women's Health	1	1	1	3

Table 2 displays the most frequent search terms in the health magazines. *Prevention* had forty-four findings for "age", "women", and "family". *Health Magazine* had eighteen while *Women's Health* only had three. None of the most common search terms were found in *Men's Health*. The only search term under the category Gender in *Men's Health* was the search term "men", which was mentioned nine times. The search term "women" had the highest frequency of all the terms searched. There were a total of thirty-three mentions of women in all four health magazines. The search term "women" was found more often in *Prevention* and *Health Magazine* as compared to *Women's Health* and *Men's Health*. Interestingly, "women" was only found once in *Women's Health* magazine.

Table 3 lists the categories and search terms not found in the health magazine.

Table 5.3 Terms not found in Health Magazines: (In no particular order)

Gender

Ethnicity

Type of Household

Social Class

Income

Disability Status

Residence

Religion

Nativity

Pay

There were no findings in regard to income levels. The term "pay" was found three times in *Men's Health* magazine. However, "pay" was not discussed in regards to income, wage, or salary, it was used as "pay off" in the context of exercise and diet.

MEDICAL JOURNALS

This section describes how many and which social characteristics appeared in the medical journals. The table below shows the total amount of terms and categories found in each medical journal.

Table 5.4 Total Amount of Search Terms for Social Characteristics found in Medical Journals

Journal	Quantity	Percentage
JAMA	393	67.7%
NEJM	44	7.5%
BMJ	49	9%
The Lancet	84	14.4%
Total	580	100%

580 social characteristics terms were found in the four medical journals I analyzed for this study. *JAMA (Journal of the American Medical Association)* had by far the most findings with seventy percent of all findings and a total of 393 terms found. *NEJM (The*

New England Journal of Medicine) and *BMJ (British Medical Journal)* had the least

number of terms found, amounting to 7.5 percent and nine percent respectively of all

findings.

Approximately 48 percent of the 580 terms were found in the footnotes, abstracts,

references, titles, and tables; the rest was found in the actual text of the articles.

The category Gender had the most counts with 207 mentions in all four journals.

Forty nine terms for "men" or "male" were found. "Women" and "female" were

mentioned 127 times; 2.5 times the amount of terms found for men and sixty-one percent

of all mentions in this category. The biological term for gender "sex" was found thirty-

two times which amounts to fifteen percent of all mentions in the category Gender. No

mentions in the category Race was not found in the *Lancet* or *BMJ*. Only one mention

was found in *NEJM* ("black"). All other sixty findings under the category Race were

found in *JAMA*. Under the category Race, several different search terms were found:

"race" was found nineteen times, "black" twenty times, and "white" thirteen times. Of the

sixty-one findings in this category only seven terms referred to other racial categories,

including Latino, Asian, and Pacific Islander. "Hispanic" was not found in any of the

medical journals. "Non-Hispanic" was found once. "Marital Status" was mentioned once

in the Lancet. "Type of Household" or any search terms in this category were not found

in *BMJ* or *NEJM*. "Income" was found in all medical journals but not in articles

published in *JAMA*. Mentions in the category Occupation were only found in *BMJ* (two

mentions). "Disability Status" was mentioned once in *BMJ* and twice in *JAMA*. Table 5.5

shows all search categories and terms found in the medical journals and their overall

totals.

Table 5.5 Categories and Search Terms found in Medical Journals

Search Term	Lancet	BMJ	JAMA	NEMJ	Total in Category
Age					193
Age	4	6	103	4	
Aged	4	1	16	1	
Gender					207
Men	2	5	35	-	
Male	-	-	7	-	
Female	1	2	4	-	
Women	5	16	95	4	
Sex	4	1	26	1	
Race					61
Race	-	-	19	-	
White	-	-	13	-	
Non-Hispanic	-	-	1	-	
Black	-	-	20	1	
Asian	-	-	3	-	
Latino	-	-	4	-	
Islander	-	-	1	-	
Ethnicity					4
Culture	1	2	-	1	
Marital Status					1
Marital Status	1	-	-	-	
Type of Household					5
Household	3	-	-	-	
Family	1	-	1	-	
Education					39
Education	2	1	20	15	

High School	-	-	1	-	
Income					23
Income	16	7	-	1	
Occupation					2
Employment	-	2	-	-	
Disability Status					4
Disability	-	1	3	-	
Region					10
Region	-	1	4	1	
South	1	1	-	2	
Residence					33
City	25	-	1	6	
Rural	-	1	-	-	
Diversity					6
Diversity	-	-	4	1	
Diverse	-	-	1	-	
Minority					3
Minority	2	-	-	1	
Other	10	5	11	3	30
Total	80	52	387	42	546

The findings show that the categories Age, Gender, and Race had the highest number of findings. *JAMA* had the most terms found in the four medical journals.

Table 5.6 displays the search terms found in text from the medical journals. There were a total of 351 social characteristic terms found in text in all the articles examined.

Table 5.6 Terms Found In-text from Medical Journals

Quantity	JAMA	BMJ	New England Journal	Lancet	Total
In Text	212 (60 %)	35 (10%)	39 (11%)	71 (20%)	354

Sixty percent of findings in text were found in the *Journal of American Medical Association.* Twenty percent of the findings were found in *The Lancet* Journal. *New England Journal of Medicine* had eleven percent of the findings of social characteristic terms in text. *British Medical Journal* had ten percent of all findings.

The table below illustrates the locations of the social characteristic terms found in the four medical journals.

Table 5.7 Location and Percentage of Terms Found in Medical Journals

Location	JAMA	BMJ	NEJM	Lancet	Total %
References	127(32.8)	-	-	3 (3.8)	24.2%
Tables	32(8.2)	5 (9.6)	-	-	6.8%
Footnotes	6 (1.3)	9 (17.3)	2 (5)	5 (6.3)	3.9%
Titles	3 (.77)	3 (5.7)	-	-	1.1%
Abstracts	10 (2.6)	-	-	3 (3.8)	2.4%
In Text	212 (54.8)	35 (67.3)	44 (96)	69 (86.3)	65%

The location of the social characteristic terms shows some interesting patterns. This pattern is significant in medical journals in regards to how social characteristics are used and mentioned. *The Journal of American Medical Association* had the highest count of social characteristic terms with 387 findings. The categories Age, Gender, Race, and Education had the highest frequency of mentions. The majority of terms (65 percent) were found in the text of the articles. Mentions of social characteristics were also found in titles, abstracts, tables, and footnotes, but far less frequent. Twenty-four percent of the terms were found in the references. My textual analysis showed that terms found in tables were not discussed in the texts following these tables including result, discussion, and conclusion sections. The majority of the social characteristic terms in text were used in introductory sections or in the explanation of obesity characteristics.

British Medical Journal had thirty five search terms found in text. Women (15) and age (11) were the most common search terms found in text. The most common search terms found in the tables were also "age" (4) and "female" (1). Interestingly, "female" was found in a table, but the search terms "men" or "male" were not found. The search terms found in the footnotes were "income" (7), "women" (1), and "culture" (1).

The Lancet had a total of 80 search terms found. The three terms found in the reference section were the search terms "sex" (1) and "city" (2). The search terms found in the footnotes were "culture" (2), "education" (1), "ethnicity" (1), and "men" (1). The most common search term found in text was "city" (23) and "women" (5). Ten of the search terms recorded were placed in the "others" category. These "other" terms were other expressions of social diversity. For example, Maynard et al (2013) argue,

'Interventions among diverse ethnic and cultural groups carry complex issues

around recruitment, cultural frameworks, and sustainability, which can potentially

affect all stages of resourcing, development, delivery, and assessment of

programs. Feasibility may be better in schools, but to take advantage of

opportunities for culturally specific support in community settings, full awareness

of this complexity is needed" (Maynard et al., 2013: 72).

The authors explain that obesity, specifically childhood obesity, shows obvious

differences in minority groups. The authors further explain that prevention plans need to

focus more on culturally appropriate strategies. Additionally, obesity strategies need to

explore among diverse ethnic families or groups in schools and places of worship in order

to have more success in obesity prevention plans. Additionally, "minority" was found

once explaining that not everyone may know dietary meaning or explanations at minority

levels.

Most of the search terms found in the *New England Journal of Medicine* were

found in the article content. The two search terms found in the footnotes were "black"

and "native"-valve. "Native"-valve was also found in-text five times. "Native-valve"

referred to a heart condition in adults (native-valve endocarditis). "Education" (15) and

"city" (6) were the most found search terms. "Women" was found four times in the

articles in *NEJM* and nothing was found referring to "men" or "male".

Table 5.8, below displays the list of categories not found in medical journals.

Table 5.8 Categories and Search Terms not found in the Medical Journals

Ethnicity	Social Class
Religion	Nativity

None of the articles discussed types of religion or religious affiliation. The term "social class" was not found either, but a few articles discussed low-income neighborhoods and individuals of different income levels. None of the search terms for Nativity was found. However, I mistakingly included six findings of the term "native-valve." As mention above, the term "native-value" is a medical diagnosis of a heart disease called native-valve endocarditis. "Ethnicity" was not found in the analysis, but "culture" seemed to be the term denoting ethnicity. However, "culture" was found only four times in all the medical journal articles I analyzed.

HEALTH MAGAZINES AND MEDICAL JOURNALS

Obesity research has found variations of obesity prevalence across social groups. Terms for social characteristics are brought up in the journal titles, abstracts, or introductions, but few of the articles actually discuss social characteristics in more detail. My findings indicate that the terms under the category Gender are the most common in both the health magazines and medical journals. A significant pattern found between both health magazines and medical journals is the frequency of the term "women" found as compared to the term "men". Women was a common theme in both health magazines and medical journals.

Table 5.9 below, displays the search terms that were found in both health magazines and medical journals.

Table 5.9. Search Terms Found in both Health Magazines and Medical Journals

Search Term	Medical Journals	Health Magazines	Total
Age			198 (32)
Age	171 (34)	27 (21)	
Gender			252 (41)
Female	7 (1.4)	2 (1.6)	
Women	120 (24)	33 (26.2)	
Men	42 (8.4)	9 (7.1)	
Sex	31 (6.2)	8 (6.3)	
Race			63 (10.2)
Race	19 (3.8)	7 (5.5)	
Black	20 (4)	1 (.8)	
White	13 (2.6)	3 (2.4)	
Ethnicity			6 (.97)
Culture	4 (.8)	2 (1.6)	
Type of Household			12 (1.9)
Family	2 (.4)	10 (8)	
Residence			37 (6)
City	32 (6.4)	5 (4)	
Education			49 (8)
Education	38 (7.6)	3 (2.4)	

High School	1 (.2)	7 (5.5)	
Total	500	126	617 (100%)

Table 5.9 presents the search terms that were found in both health magazines and medical journals. It appears that term "age" was the most frequently used term in health magazines and medical journals, followed by the search term "women". In the analysis, the category Gender had the most search terms found. Here, "women" had the highest frequency of mentions. There is a significant difference between the medical journals and health magazines. Sixty percent more search terms were found in medical journals compared to health magazines. "Age" was found 144 times more in medical journals compared to health magazines. "Women" was found 87 times more in medical journals compared to health magazines. The search term "family" was the only term found more in health magazines compared to medical journals. "Family" was found eight times more in health magazines compared to medical journals.

An interesting finding was in regard to the titles of the articles in medical journals. Some titles state social characteristics, but do not discuss them further in the article. I found seven titles focusing on adults; seventeen titles mentioning childhood obesity; seven titles focused on women and obesity, ranging from motherhood, breastfeeding, and maternal risks or suggestions for pregnancy. There were no titles found mentioning men. A total of eight titles in all medical journals mentioned another form of social characteristics including "low income", "poor cities", and "diverse groups". Two articles talked about other countries and only one title mentioned ethnicity.

Yet, in the text of these articles the social characteristics were rarely mentioned; particularly not in in the discussion of results.

QUALITATIVE FINDINGS

Health Magazines

The categories and search terms that appeared most in the health magazines were "women", "family", "age", and "high school". Patterns were found in regard to the context where the search terms were used. "Age" was often used to refer to a particular age or age group of women in the context of success stories, risks, and exercises. "Age" was primarily used in success stories of women telling readers how old they were when they were overweight and how old they were after significant weight-loss. "High school" was mostly found in the success stories as well. It was clear that most of the success stories were about women right after high school. High school seemed to be one of the biggest areas where women faced stigmatizing and discrimination. This motivated women to change their lifestyle and behavior.

"Family" was used in text as an example of how women's weight-loss and appearance improved their family life, marriage, and careers. "Family" was also used in regard to encouraging family members to live a healthier lifestyle.

Gender was the main category found in the analysis of the health magazines. The search term "men" was not discussed as often as women. "Women" was the most significant term found. "Women" was used in all themes found in the analysis. "Women" was used in stories about improving family life, marriages, body image, and career

opportunities. In addition, "women" was used to refer to mothers who model healthy lifestyles for their children.

The targeted audience and actual consumers of health magazines might influence how journalists use social characteristic terms. Obesity is discussed as a major health concern for all social groups in the health magazines and often reference CDC obesity facts or health risks. However, the articles might focus on the buyers of these popular health magazines.

The table below displays the major themes in relation to social characteristics found in the health magazines, followed by descriptions of how these themes were discussed.

Table 5.10 Major Themes in Reviewed Articles from Health Magazines

Category Themes	Connection with search terms
Success Story	Women, Family, High School, Age, Job
Body Image	Women, Age, Sex, Family, Married, Divorced
Recipe Ideas	Women
Prevention	Women, Age
Exercises	Women, Age, Family, Sex

Success Stories: "I Could Not Have Done This Alone"

Popular health magazines tend to blame the individual, by discussing personal responsibility to eat well and stay healthy. Therefore, health magazines emphasis on behaviors to encourage diet and exercise. Popular health magazines also contain many individual success stories of weight-loss. The success stories clearly focus on women with the additional theme of encouraging their family members to lose weight or maintain a healthy weight. The success stories were typically about women overcoming their personal struggles with weight. Most of the success stories targeted women's body image. For example, a statement in *Prevention* argues, "Besides most women aren't genetically programmed for washboard abs, and that fantasy becomes less attainable as we head through our 40's and 50's" (Prevention, 2013). Age also seemed to be a common theme in these success stories. Most of the stories were about women between 18-40 years old and talked about life after high school, becoming married, raising children, post pregnancy body, and encouraging family members to jump on the health bandwagon. These stories persuade the readers to become healthier and exercise more.

The search term "job" was mentioned in regard to success story. The articles discussed how weight-loss improved their job, energy, and confidence in the workplace. For example, the term "job" was discussed in a success story to encourage other women to lose weight who work full-time jobs and are raising kids. I found this interesting due the literature on employment discrimination and how body image has an effect on one's career. All these success stories urge readers to improve body image, weight, lifestyle, and health. For example, an article in Prevention asks the reader,

> "How are you feeling lately? What's good in your life right now, and what would
> you like to change? … Maybe you want more joy in your life and less stress. Or

maybe you want to develop the courage to believe in yourself or forge a new

career path. Perhaps you simply want to improve your health or see a lower

number on the scale" (Prevention, 2013).

The success stories often suggest new ideas on weight management or workout

techniques to grab the reader's attention. These success stories are written to inspire the

readers; to give young adult and adult readers the confidence and determination to

exercise. This leads to the theme of body image.

Body Image   "Boost Your Belly Confidence"

Body Image and obesity in health magazines is another common theme. Women

and age were related themes in regard to body image. Statements such as "Real Women

Real Life Story" and "Boost Your Belly Confidence" are a couple of examples of content

geared toward body image. A significant topic is the stomach. Belly fat, pregnancy,

health, and confidence were major themes related to body image. Men's Health also

targeted stomach appearance. Titles such as "Watch Your Belly Disappear," and

statements like "Belly too big? Think Small" were all aimed to transform one's body

appearance.

Belly weight was a consistent finding in the magazine articles. Search terms such

as "sex", "family", "married", and "divorced" were utilized to engage the readers. Family

was referred to as a support network for working on better health and body image. A

couple of findings talked about sex life. The message here was to build confidence in

your self-image in order to improve your sex life.

Women and body image was the most significant theme found. Articles discussing women and body image constructed obesity as deviant with the clear message that there should be some action to reduce weight and improve body image. The articles argued that losing weight improved body-image which improved all areas of life. The message in these articles was that overweight bellies and bodies are undesirable.

In summary, articles emphasize that actions to improve one's health and body appearance are acknowledged by others. If family members or co-workers see that someone is trying to improve their appearance they are treated different as compared to someone who isn't concerned about their weight or body image. Individuals who are exercising or changing their eating habits receive encouragement and are praised at home and work. In contrast, overweight bellies are specifically frowned upon and it is argued that they have an effect on jobs, sex life, and marriage. Family is seen as a network of support and mentioned in regard to the need, primarily for women, to encourage their family members to improve their health, appearance, and their relationships.

Recipes   "8 Under 80 Calories"

Recipes and meal ideas were a common theme found in the four health magazines. The purpose was to encourage viewers to prepare healthier meals. The focus of recipes and food ideas is to demonstrate what is "acceptable" to eat, how much should be consumed in one serving, and how to cook healthy meals. I found that gender was a common topic related to recipes and meals. Women are targeted primarily as the ones preparing the recipes, but benefits for women are also discussed. Men were not mentioned in Prevention, Health and Women's Health magazines in regard to recipes. However, there were recipe plans in Men's Health magazine.

There was an additional pattern of recipes and gender: articles on recipes or food techniques geared toward men focused on enhancing muscle or performance, while articles intended for women focused on weight-loss.

Another topic found under the recipe theme was childhood obesity. Most of the articles speaking to women about meal ideas and recipes promoted healthier lifestyles for their children. Parenting was another purpose of the recipe and meal advice. The message here was to help women to reduce weight, and thereby increase their energy and self-confidence as a mother.

Recipes helped readers to follow healthier diets. Articles also often provided contact information for weight-loss programs. The food sections did not discuss cultural, ethnic, or religious differences or beliefs about food. Culture was used only as "cultured" milk or food. One interesting finding in regard to the search term "men" within the theme of recipes was the mention of Chinese men. The article described how Chinese men chew their foods which helps reduce appetite.

One article stated, "Individual foods aren't the answer—it's the overall dietary pattern that likely makes the most differences" (Health, 2013). I found this interesting when coding for social characteristic patterns. Most of the foods suggested in the recipes consisted of fruits, vegetables, lean meats like chicken and fish, and foods rich in antioxidants. Antioxidant foods consist of non-processed foods that are natural such as fruits, vegetables, nuts, seeds, whole grains and fresh beans like kidney beans, black beans, and pinto beans (www.dietaryfiberfood.com, 2012). All the food or recipe recommendations consisted of foods most likely found at whole food grocery stores.

In summary, it is evident that under the theme of recipes, the articles were geared towards women and mothers. Most of the recipes concluded with weight-loss programs found online or names of health coaches. None if the articles with recipes were specifically aimed to help individuals of lower-socioeconomic statuses or low-income families.

Prevention   "Is Weight-Loss Surgery Really Safe?"

Prevention strategies toward obesity are a major topic in mass media. The theme found in regard to prevention was motivation to change behavior. Common search terms found under the category prevention were "women" and "age". A main pattern found under prevention were stories of individuals whose lives changed after changing their lifestyle from inactive and eating fast food to exercising and consuming home-cooked meals. These stories were used to encourage change in behavior.

Georgiadis (2013) explains, "individuals can learn through observing actions of others in three ways: when an actual person demonstrates the desired behavior, when a person verbally instructs them how to make the desired behavior change, and when they models themselves for a real or fictional character who demonstrates the desired behavior in the media" (Georgiadis, 2013). The prevention theme emphasizes awareness of obesity risks. Most of the stories were written about women and their age. The articles seemed to cautiously persuade readers to make changes in order to prevent obesity. "Women" was used mostly in regard to pregnancy risks during adult age.

Exercise   "Hot Yoga Changed My Life and helped me Drop 30 Pounds"

Exercise was another category that emerged in the analysis of health magazines. Exercise routines and guidance seemed to be a common topic when discussing obesity. The main search terms used in regard to exercise were "women", "family", and "sex". Common statements such as, "Now she's slim, energetic, and happier than ever" (Prevention, 2013) appeared in the category of exercise. "Women" was used frequently in stories of post-pregnancy weight and improving health, appearance, and family life. Sex was used once when exercise was recommended. Exercise was a common theme to promote additional behavioral changes.

All of the articles discussing exercise emphasized the emotional and physical effects after completing exercise. Most of the articles also concluded with online sites for additional help. The purpose of the exercise examples and stories were to inspire others to change or seek help from the suggested sources.

While all of the themes discussed above emerged in regard to obesity, three main search terms appeared across all categories. "Women", "age", and "family" were the primary focus in all four themes. Also, all the themes are interrelated. The major aim of all four themes was to change women's body appearance. Other social characteristics other than women, age, family, and an occasional mention of jobs and careers were not taken into consideration.

MEDICAL JOURNALS

The search terms that appeared most in medical journals were "women", "age", "education", "city", and "race". "City" was used in text mostly as a reference of a school

where research took place, or referencing where a cited author was from. New York City was found most often when the search term "city" appeared. "City" was frequently found in reference sections. There were minimal articles referring to "city" as a demographic term related to obesity.

"Race" was used in articles to explain differences in obesity rates. However, articles that focused on a particular study did not use race to describe obesity prevention or treatment strategies. "Race" was also found in references and in a few tables although the text sections following the tables or statistics did not discuss patterns in regard to race.

"Education" was mostly found when describing the authors. Education was not used in article content as an explanation of different obesity rates.

"Women" was the second most common search term found in medical journals. "Women" was used in a couple of different contexts. Mostly, "women" was used to explain the differences in health risks and obesity rates compared to men. "Women" was also used in tables to demonstrate differences between genders. Additionally, "women" appeared when parental roles in childhood obesity were discussed.

Lastly, "age" was the most frequent term mentioned in medical journal articles. "Age" was used mostly in tables, charts, and references, and when describing obesity statistics between different age groups. "Age" was often used in parenthesis within article text when explaining different obesity rates. Although "age" was the most frequent term used in article text, very few articles discussed age differences and other social characteristics.

Table 5.11 Major Themes found in Medical Journal Articles Reviewed

Category Themes	Main connection with search terms
Motherhood	Age, Women,
Childhood Obesity	Age, Women
Health Risks	Gender, Sex
Treatment	Black, Women, Sex

Motherhood   "Weight gain during pregnancy"

Obesity and parenting is an important topic in the medical literature. Medical journals discuss different problems associated with obesity and pregnancy. The articles I analyzed in medical journals focused on pre-pregnancy weight, weight gain and nutrition during pregnancy, and infant health after birth from an obese mother. Articles discussed mothers before and after birth and the health risks in newborn babies. Readers are informed that overweight pregnant women are at higher risks of miscarriage, diabetes, hemorrhage post-birth, issues with breast feeding, blood clots, and maternal deaths (BMJ, 2013). In addition, babies born from obese mothers have higher chances of developing diabetes later in their life.

The search terms "women", "age", and "education" were related to motherhood. Medical journal articles focused mainly on the health risks associated with women, obesity, and pregnancy. Articles discussed how women should be educated about the possible dangers of being overweight and becoming pregnant. Articles also discussed

weight loss surgeries and pregnancy and the health risk associated with these surgeries. For instance, BMJ (2013) discussed bariatric bypass surgery and pregnancy risks in mothers. The authors argued that there is an increased risk of preterm birth. "Age" was used in this context to explain that women over a certain age have higher risks compared to women under age 35. The article, similar to other medical articles, explained that women who have had surgeries such as gastric bypass surgery should be educated on the potential risks during and after pregnancy (BMJ, 2013).

Obesity and women is a significant topic because of the risks to babies and children's health. Women entering adulthood and possible motherhood are important in medical research because of the impact on babies. The argument is that mothers who are obese, have diabetes, or weight gain endanger infant health and increase weight for future populations. This leads us into the discussion of childhood obesity.

Childhood Obesity   *"Soaring childhood obesity rates have led to questions about the influence of obesogenic environments on children's health"*

Research on childhood obesity has increased in all areas of the obesity literature. Medical journals discuss the major health risks related to childhood obesity. Childhood obesity has become one of America's leading health problems. The future of our children is important for our nation's health. Medical publications discuss numerous prevention strategies for childhood obesity such as nutrition, physical activity, and social environments.

In my analysis, I found that researchers are aware of the changes in America's lifestyle and culture. *Obesogenic environments* was a term found in the discussion of

these changes. An article in *The Lancet* explains public health interventions focusing on food environments in schools. The article argues that food purchases and consumption has an effect on bodyweight, but that most studies focus on the foods that children are exposed to in schools (Williams, et al., 2013). Medical journal articles argue that childhood obesity is a major health issue. The articles discuss the issue while also considering environmental changes and government efforts that could impact food consumption, exercise, and lifestyle. The articles suggest implementing public health awareness programs in school, communities, and neighborhoods. For example, I found in *The Lancet* (2013) numerous recommendations such as access to playgrounds outside of school hours, healthy lunches and snack options that are cost-effective. The articles discuss reaching out to parents, children, and schools at local and national levels to better understand goal-specific indicators and strategies (2013). The articles talk about awareness and prevention strategies, but do not discuss social characteristics in detail. They do not elaborate on solutions for diverse social groups. Discussing environmental solutions for childhood obesity is a popular topic in medical literature. Articles consider school programs, affordable foods, creating safe neighborhoods, and raising awareness, but do not include sufficient answers in regard to diversity. Rather, articles state that more research is needed to put obesity programs and strategies into action.

Health Risks   *"However, among adults at risk, lifestyle changes such as losing weight and increasing physical activity can prevent or delay type 2 diabetes"*

It is known that obese individuals are at higher risks of health complications. Medical professionals examine health risk in obese patients to a great extent. According to my literature review, different social groups are at higher risk of becoming obese. In

the articles examined, I found that medical articles explored obesity related illnesses and risks between different age groups and sex. A significant amount of search terms were located in tables, footnotes, and references when articles analyzed obesity health risks. The search terms were mentioned to show that social characteristics like age and sex were considered in the studies. Flegal et al (2013) state, " We included multiple articles from a given data set only when there was little overlap between articles by sex, age group, or some other factor" (Flegal et al., 2013: 71). This was a common pattern found in the medical articles. Social characteristic terms were mentioned briefly such as in the introductory section. Then the terms were either left unmentioned in the article or simply stated the differences between age and sex and their related health risks. The articles did not suggest prevention plans for different social groups.

An interesting finding in my analysis was a study that focused on biased obesity reports and health risks. Flegal et al., (2013) explain that there is a bias in studies and in self-reported weight and height data. The author argues that studies also have biased explanations in weight, age, race, and sex and that research is needed using larger sample sizes and unbiased data (Flegal et., 2013).

A pattern found in the analysis was that articles suggested that further research was needed in areas of obesity because studies were too small, not representative, and particularly biased in regard to age and sex. For instance, in Flegal et al., (2013) article, the authors stated, "Our information on age was limited. Because of publication bias and selective reporting" (Flegal et al., 2013: 80). Studies often use samples that are self-selected (Flegal et al., 2013).

In summary, health risks increases with weight gain in men and women. In my analysis, medical professionals begin most publications with an explanation of obesity and the possible health complications associated with weight gain. Studies provide explanations of obesity, but do not emphasize different races, ethnicities, or cultures and other social characteristics. Gender and "age" is the most common search term used to explain obesity differences and health issues. Articles conclude with obesity prevention strategies to reduce health risks such as making changes in diet, lifestyle, physical, social and cultural norms. However, they do not explain how to change these behaviors, but suggest medical treatment like gastric bypass surgery.

Research regarding obesity prevention and treatments is important in order improve public health. Medical journals frequently discuss treatment and prevention plans for obese individuals. In my analysis I found that treatments and prevention are often confounded. Medical journals discuss causes of obesity as lack of exercise and poor nutrition. The treatment of obesity is incorporating more natural foods, exercising regularly, drinking more water, and limiting foods and drinks high in sugar. This is also explained as the prevention of obesity. Often treatment and prevention are used in the same context. For example, Maffies (2013) states, "They also provide suggestions for public health strategies for the prevention and treatment of childhood obesity" (Maffies, 2013: 12). Medical journals discuss prevention and treatment as the same behaviors that obese individuals should engage in. Treatments such as gastric bypass surgery is also the prevention of obesity. Therefore, in my analysis, I coded treatment as a main theme but I need to emphasize that is closely linked and often confounded with obesity prevention.

Treatment   *"The energy imbalance gap is different for universal prevention,*

prevention in at-risk individuals, and treatment of obesity"

Medical professionals have published numerous articles on the treatment of

obesity since the epidemic emerged. After examining the medical journals published in

2013, I found that many of the articles discussed treatments and studies that have been

conducted. However, these articles do not show details on the outcomes of treatments.

For instance, some medical professionals discuss how many patients have lost weight in

their clinic, but leave the treatment approach unclear. The treatments that are reported as

successful do not have known long-term outcomes. Samples that are used in treatment

studies are not representative because they typically include only on small and self-

selected samples.

Bariatric surgery is one of the main treatment programs discussed in medical

literature. Although there is evidence that this surgery results in successful weight-loss,

the samples are small and missing data of future success. Kmietowicz (2013) states, "The

authors said their analysis showed that surgery was more efficient than dieting, exercise,

lifestyle change, and drug treatment for obesity for up to two-years follow up, although

future research was needed to look at differences beyond that time" (Kmietowicz, 2013:

347). The issue with bariatric surgery is the unknown rates of success after two years

post-surgery. Additionally, it is not known if healthier lifestyle habits were implemented

as part of post-surgery treatment to prevent weight gain.

Treatment articles are based on several hypotheses of obesity and weight

regulation. Energy expenditure, caloric intake, lifestyle behaviors, and diet drugs seem to

be the main topics discussed. In the articles I examined, it appears that clinicians

constantly debate which treatment, diet remedy, and obesity prevention approaches work best. Significant long-term success seems to be an important issue. Very little research has been done on long-term success after several years. Current diet and exercise programs work for short-term weight-loss treatment. Taubes (2013) argued, "But after a year or two, the results converge towards non-significance, while attempts to quantify what participants actually eat consistently conclude that there is little long term compliance with any of the diets" (Taubes, 2013: 4). Discussions of treatment programs to prevent obesity all conclude with short-term success and the call for future research on long-term outcomes.

I also found that the treatment plans being discussed to prevent obesity do not emphasize social characteristics. Behavioral and lifestyle changes were another common pattern found in treatment context. Articles stress the importance of lifestyle habits and almost all encourage dietary change and exercise. Although lifestyles or behavioral patterns among different social groups were not a common topic of discussion. Strategies to implement treatment or prevention tactics for different social groups remain underrepresented in medical journal articles. Additionally, mentions of social characteristics are vague and tend to refer to studies based on self-selected samples. Taubes (2013) states, "what we need is the ability to experiment, honesty in reporting results, the results must be reported without somebody saying what they would like the results to have been and finally an important thing the intelligence to interpret the results" (Taubes, 2013: 4).

COMPARING HEALTH MAGAZINES AND MEDICAL JOURNALS

I found that all categories that emerged in the analysis were interrelated. Themes related to parenting emerged in the study and often had implications for body image, health risks, and future research. Health risks, treatment, and prevention of obesity are major themes that medical journals and popular health magazines discuss. The main theme that appeared in the analysis is the role of women and parenting.

Findings were related to mothers, women's health risks, family interactions with children, and occupations. The articles emphasized the role of parenting in lifestyle, behaviors and risks associated with weight-gain. All the articles that were analyzed suggest that women monitor family food consumption and exercise. A woman's parenting roles and her body image encouraged the family to acquire healthier behaviors. The appearance and actions of women influence family life, health, and her opportunity to advance in a career.

Middle class and young to middle-aged women are the main target in public health magazines. Women that have had successful weight-loss or studies that examine the effects of bariatric surgery essentially assume that these women can afford surgeries, already have a steady job, or are stay-at-home mothers. The articles assume these women have the needed social support from their workplace and that their families enhance her desire to stay thin, eat healthy, and exercise.

These themes also indicate that future research is needed in obesity studies. Longitudinal studies are needed to monitor treatment strategies past a two year period. Additionally, the role of parents and mothers is a main topic in childhood obesity in both medical and health magazine articles. However, few studies include data on different family structures. Articles in both medical journals and popular health magazines are

aiming to change body appearance, influence parental roles in women, and educate the

obesity risks. But none of the articles discuss different beliefs, traditions, and customs.

Articles convey messages about treatment and prevention that are geared toward white

middle class women.

Chapter VI: Discussion

In this thesis, I have approached obesity through a sociological lens seeking to discover how obesity is discussed in regard to social characteristics. In this chapter, I will describe and explain my findings from a social constructivist point of view. I will also apply media theory to better understand the impact of obesity literature. As I set out to review existing studies on obesity literature and to analyze articles on obesity published in medical journals and popular health magazines, I hypothesized that obesity is a socially constructed phenomenon and that a cultural bias exists in the understanding of obesity in America.

The rates and prevalence of obesity have been rising. Obesity rates have more than doubled since the 1970's (Ogden et al. 2010). Specific environmental influences such as technology, media, and increased fast food production have been discussed as possible causes for the increase in obesity (Faith, et al., 2006). And whatever the cause, we know that significant differences exist based on social characteristics, regions, and socioeconomic status (Ogden et al., 2010). The importance of social characteristics in obesity is well documented. First, obesity differs by race and ethnicity. The prevalence of obesity in Black adults is 56.6 percent, 44.4 percent in Hispanic adults, and 32.8 percent in White adults (CDC, 2013). In my analysis, I found a limited number of mentions of race or ethnicities. Ten percent of all findings in the medical journals and health magazines were in the category for race. The category ethnicity had less than one percent of the findings for social characteristics.
However, we know that significant differences in obesity exist between different racial and ethnic groups. For example Wang and Beydoun (2007) found,

"Consistent with previous studies, our systematic analysis shows large racial/ethnic disparities in obesity among women, children, and adolescents in the United States. Some minority and low-SES groups such as non-Hispanic Black women and children, Mexican-American women and children, low-SES Black men and White women and children, Native Americans, and Pacific Islanders are disproportionally affected" (Wang, Beydoun, 2007: 28).

Income and education are also known factors in obesity. A large national study on income and obesity found that BMI was higher among adults in the lowest income and lowest education groups compared to those in high income and education groups (FRAC, 2010). However, discussions about income or education were rarely or not at all found in the articles.

Obesity research is aware of the differences in obesity by social characteristics, but the discourse in professional medical literature and popular health magazines does not include prevention strategies or treatments for different social groups. Instead of discussing solutions for low-income neighborhoods or different racial and ethnic groups, the articles focused on women, quick and expensive treatments like surgery, parenting, and appearance.

In my study, I found that women are a main topic in both medical journals and health magazines. This is an interesting finding because data indicate that obesity prevalence between men and women does not differ (CDC, 2013). In my analysis, the term "women" made up twenty-four percent of the findings in medical journals. The search term "men" amounted to only 8.4 percent of the findings in medical journals. In

the health magazines, the search term "women" made up 26.2 percent of all findings; whereas only 7.1 percent of the findings were under the term "men". Clearly women are a major topic in the articles on obesity.

Flint and Snook (2014) argue that research should notice that obese females are stigmatized more compared to obese men. Women are also being discriminated against in career opportunities based on their appearance. Obese women are eight percent more likely to be unemployed as compared to obese men (Flint, Snook, 2014). I found that popular health magazines heavily discuss success stories of women who have graduated from high school and work full-time jobs. Low-income neighborhoods, types of households, religion, sexuality, or disability were not major themes in the articles examined.

A major finding in this thesis is the lack of emphasis on race, ethnicity, socioeconomic status, income, or education in the articles on obesity. The studies examined in this research analysis do not provide solutions for different social groups. Several articles actually state that obesity prevention or treatment research is needed in regards to social characteristics and obesity. I hypothesized that obesity is talked about and approached with a white middle class lens and different racial, ethnic and social class values, beliefs and resources are overlooked. Clearly, this is evident in my analysis.

MEDIA THEORY

Upon doing my research, I discovered that obesity in our culture is still seen as deviant. Scholars in the field of fat studies argue against the stigmatization and discrimination of obese individuals, but the general attitude in popular health magazines

and professional journals in regard to obesity is centered on changing an obese person to a "better" appearance.

Obesity entails two different kinds of deviance: first, in regard to the appearance of an obese body; second in regard to health. Being obese or having a large "belly" is socially and culturally unacceptable and is discussed frequently in health magazines as an "unattractive" characteristic. Additionally, being obese is considered a deviance from normality, health, and in need of treatment. Pudrovska et al. (2014) argue that "ideal" physical appearance is closely tied to thinness and the image is more enforced in women and girls compared to men and boys (Pudrovska et al., 2014). Viewing obese bodies as "unattractive" leads to discrimination, especially for women in the labor market. Pudrovoska et al (2014) explain, "Heavier women are also punished in the labor market because wages and occupational attainment are positively related to physical attractiveness, and obese women are perceived as less attractive" (Pudrovoska et al., 2014: 296). By medical standards, anyone with a BMI measurement over 25 is considered obese - and possibly unhealthy. The CDC (2012) explains that abdominal fat is a predictor for health related risks and diseases such as diabetes, high blood pressure, and heart disease (CDC, 2012).

The perception of overweight bodies as bodies deviating from normality, both in regard to beauty and health standards, leads to discrimination. Yet, different social groups and their beliefs and perceptions are not considered. Pudrovoska et al., (2014) argues that the desire to be thin increases with social status. People of higher socioeconomic status tend to be more concerned about body image compared to lower socioeconomic groups. The main themes found in health magazines that were related to body images and

lifestyles were women, mothers and wives who work in full-time jobs. The texts emphasized exercise, diet, and lifestyle changes to encourage smaller "belly" sizes. However, the articles do not incorporate different social characteristics, lifestyle, beliefs, or traditions. Pudrovoska et al. argue that health intervention programs should consider different "life course perspectives" (Pudrovoska et al., 2014: 297).

Media theory has helped me understand the framing of obesity in popular health magazines. Journalists write articles with the main consumers of these health magazines in mind. Findings indicate that health magazine target women, specifically mothers and women ages 18-40 years old. Individuals who can afford and have access to popular health magazines are generally found in higher socio-economic groups. Researcher Georgiadis (2013) reviewed public awareness campaigns using content analysis. She states that, "low-income families recalled less information about the campaign than children from high-income families" (Georgiadis, 2013: 61). Georgiadis (2013) also explains that public health messages have a difficult time reaching across all socio-economic backgrounds. The patterns found in the articles examined render some explanation for this finding. The articles in health magazines focus primarily on white middle class women and for the most part do not include other social characteristics in their discussions. It is no surprise that social groups other than middle class white women might lack interest in reading these materials.

Media theory helps explain the consistent messages across the four popular health magazines examined. An obese appearance is portrayed as deviant. The accumulation of negative messages about "fat bellies" and the importance of exercise and diet tell readers what is acceptable and desirable in our society, especially for mothers and women.

Women and mothers are also primarily responsible for the health of her children, spouse, and family. The main search terms found in the analysis in relation to the categorical themes were age, women, and family. In addition, the impact of obesity on women's job opportunities and careers were also discussed. Obesity is conveyed as being a social problem.

Saguy argues, "A large literature on social problem construction shows that social problems do not emerge on their own but are socially constructed by claims makers who have a stake in defining a given issue as an urgent problem, frame it in particular ways, and identify specific solutions" (Saguy, 2010: 586). Obesity has been typified as a social problem and framed as a medical issue. Claims-makers focused on the behavioral components of obese individuals, but are now arguing that obesity is a "disease" needing treatment. Consumers are obtaining health knowledge mostly from popular media sources. Popular media such as popular health magazines are now powerful markets for health organizations and the diet industry. Velasco argues, "It is safe to assume doctors and healthcare providers will soon see patients as other industries do – as consumers. In the past, they've never had to think of their patients that way" (2013). Since obesity is framed as a medical problem, health clinics geared towards treatment of obesity have proliferated and the weight-loss industry has grown significantly.

SOCIAL CONSTRUCTIVISM THEORY

When we apply social constructivist theory to the framing of obesity, we must consider how bodies are perceived. Treatment of obesity is a main topic in both medical journals and health magazines. Social characteristics are not much mentioned in regard to treatment. These factors are not relevant because obese individuals are only seen in

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regard to their physical appearance; a perspective which can be applied to everybody regardless of social characteristics. But obesity has also been medicalized: obesity is constructed as a medical disorder that needs medical treatment. Treatment of obesity is a major theme in the obesity literature, but social factors are not discussed in much detail because obesity affects all individuals of all ages, gender, races, ethnicities, and other social characteristics. The frequent mention of women in the articles is the exception. However, women are the primary focus in the obesity literature because they are presumed to be the caretakers of their families; responsible for their families' health.

With the rise in obesity, there has also been a rise in discrimination and stigmatization. Harjunen (2003) argues that social constructionist view the body as a social and cultural process. Sociological research studies the cultural meanings of illness and the construction and impact of stigmatized illnesses. From a constructivist point of view, "there is nothing inherent about a condition that makes it stigmatizing; rather, it is the social response to the condition and some of its manifestations, or the type of individuals who suffer from it, that make a condition stigmatized" (Conrad, Barker, 2010: 69). The stigma of obesity has resulted in negative attitudes and biases towards obese people. Even though the medicalization of obesity de-emphasizes the importance of social context in obesity, our contemporary culture is still very concerned about physical appearance with a dominant and narrow definition of the "ideal" body. We prefer to change body appearances rather than addressing underlying causes and multi-cultural differences (Conrad, Barker, 2010).

SOCIOLOGICAL IMPLICATIONS

Research has shown that obesity affects all individuals. Social characteristics play a significant role in the understanding and treating of obesity. Factors such as income levels, education, gender, and socioeconomic status have influence on the likelihood of an individual becoming obese. It is important to note that in my analysis, I found few terms related to social characteristics terms. From a sociological perspective, considering social characteristics like gender, race, age, and class are important for understanding social problems, especially when drastic differences in obesity prevalence exist between social groups. For example, Black women have a prevalence of 56.6 percent compared to 32.8 percent among White women. Disabled adults have a 57 percent higher rate than non-disabled adults (CDC, 2010). Yet, mentions of these particular groups were rare.

Discrimination affects women the most. Women are discussed heavily in obesity discussions and underlying messages criticize their bodies. Women who are considered obese are less likely to be hired for a job compared to thin women. It can be noted from my analysis that women are targeted most in obesity literature, even though obese prevalence in men is now equivalent. This is also socially harmful. Sullivan (2012) argues that negative attitudes about being obese may be more of a public health concern than obesity itself. Research also found that obese individuals may avoid medical services because of the negative attitudes. Furthermore, research has shown that heavier patients, specifically women, are more likely to cancel doctor appointments and preventative health care services (Obesity.org, 2010).

Prevention plans or treatments are also main themes I found in the articles on obesity. However the discussion of prevention plans and treatments are vague and do not

include social characteristics. Obesity prevention is a broad and difficult subject to educate about. Individuals perceive health differently and have different health concerns. From a sociological perspective, obesity discourse needs to emphasize different socioeconomic factors. According to my literature review, adult prevalence of obesity is higher in the Midwest and South and lower in the Northeast and West regions of America (CDC, 2013). People in these regions live in different social environments with different cultural contexts and beliefs. Also, immigrants, one of America's fastest growing populations, are known to develop higher BMI measurements the longer they stay in America (Goeal et al., 2004). These findings indicate that different social and cultural environments play a role in obesity.

The focus on quick and effective surgical interventions has also sociological explanations and implications. First, the need to publish for medical researchers, the scientific paradigm of biomedicine, and the increasing corporatization of medical care are most likely the reasons for the emphasis on surgical interventions as compared to the "softer" lifestyle modifications. On the other hand, surgeries are also not affordable for many low-income or underinsured groups.

The obesity articles I examined focus too much on women and body appearance rather than looking at specific problems and solutions in other social groups. The health magazines and medical journals do not provide adequate evaluations and solutions for the growing problem of obesity because for the most part they ignore social factors and diversity. Yet, we know that social characteristics play a significant role in chances of becoming obese. They most likely also have a significant effect on the effectiveness of obesity prevention and treatment. However, this is not well researched. Taking notice of

different social characteristics in obesity research and discourse in health magazines is vital for improvement of obesity prevention strategies.

FUTURE RESEARCH

Research and public discourse of obesity will continue to be a public health concern for generations. Obesity will remain a major concern until there are significant decreases of obesity prevalence and rates across the nation and across all social groups. Research was limited in regards to obesity prevention plans aimed at different social groups. Future research needs to look at different lifestyles, traditions, beliefs, and socio-economic status.

An analysis with the same research methodology should compare different years of publications. Analyzing articles over a longer time period would show how the discussion of obesity in regard to social characteristics has changed over time. Longitudinal research is also needed to ascertain the long-term impact of treatment and prevention in different social groups. Future obesity research needs to focus on sociological factors. Topics of interest would be parent-child interactions in regards to obesity or how medical professionals talk about obesity in news media. I also believe observational data need to be collected and examined in health clinics to analyze how obesity is approached and treated in different social groups. Focus groups or surveys would also help researchers understand the interaction of providers with patients from different social groups and to identify barriers to treatment based on social characteristics. Future research should examine the clinician-patient interaction in regard to obesity prevention. I believe a combined qualitative and quantitative approach would be appropriate to discover how clinicians educate patients with different lifestyle, beliefs,

and cultural practices. An analysis is needed of how many health care clinics offer education on lifestyle, nutrition, and physical exercise for all social groups rather than pushing medications and expensive surgeries. A qualitative approach such as interviewing clinicians about how much they know about nutrition and social diversity could help improve obesity prevention strategies. Each of these studies could generate very valuable knowledge for healthcare organizations and improve patient well-being. Any effort aimed at more awareness of the role of social factors in obesity prevalence, prevention and treatment will improve clinician-patient interaction which in turn can reduce health risks by changing patients' lifestyles and nutritional choices, thus reducing weight.

Lastly, I believe a study focused on how much nutritional classes are taught in medical school would be useful. Obesity is an on-going public health concern. Medical research publishes consistent prevention plans that seem to have very little or no long-term impact. Therefore, the diet industry and marketing of diet drugs are on rise. A simple solution such as educating family practitioners about nutrition would be beneficial. Instead of pushing diet drug remedies, complex surgical operations, and other medications, education focused on what food is, how our bodies digest the different types of foods, and how our bodies respond to food may potentially improve obesity. There seems to be a lack of education on nutrition at the clinician and patient level. I have not found studies on how much clinicians or family practitioners actually know about nutrition.

LIMITATIONS

As with any research method, there are limitations. Content analyses and coding relies heavily on the researcher's interpretation. Open coding may result in the possibility of misinterpretation of texts. Due to the nature of master's thesis, I was not able to include additional coders to check the results of the open coding. The data and findings show meaningful results, but they might include some bias. I have researched the topic of obesity for quite a while and I am currently working with patients in a health clinic consulting them about healthy lifestyles, nutrition and other strategies to maintain or lose weight. My experience and knowledge in this field might have led to some bias in the methodology and the interpretation of results.

The content analysis required a coding scheme. I devised this coding sheet because I could not find a similar prior study. I selected search terms based on typical Census categories for social characteristics and based on examining medical journals and health magazines. I did not incorporate every possible search term which might have introduced some problems in regard to the validity of the study.

Also, the study only included a selection of the leading journals and health magazines published in the year 2013. Thus the results cannot be generalized to other years or other journals and magazines.

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Appendix

Table 3.3 Coding Categories and Search Terms

Category	Search Terms
Age	Age, aged
Gender	Gender, Male, female, men, women, sex
Race	White, White- Non-Hispanic, Black, African-American, Asian, Hispanic,Pacific Islander, Hawaiain, Native American, Latino
Ethnicity	Ethnicity, Hispanic, culture
Marital Status	Married, Divorced, Widowed, Separated, Never married
Type of Household	Type of household, family, family composition, non-family household, living alone, married couple, female householder, male householder, single parent family,
Social Class	Social class, socio-economic status, Middle class, upper class, lower class, upper middle class, working class, poverty
Education	Education, GED, High School drop-out, some High School, High school, Some College, college degree, advanced degree, professional degree
Income	Income, money income, salary (ies), wage(s), pay, earnings
Occupation	Occupation, Work experience, employment, job categories, job
Disability Status	disability, disabled, with a disability, with no disability, disability status
Region	Region, Northwest, Midwest, South, West
Residence	Residence, City, rural, suburban/suburb, inside metropolitan statistical areas, outside metropolitan statistical areas, inside principal cities, outside principle cities
Religion	religion, religious affiliation, church affiliation, catholic, protestant, Muslim, Buddhist, Hindu

Nativity	Nativity, Native born, foreign born, naturalized citizen, not a citizen
Diversity	Diversity, Diverse
Minority	
Other	no search terms; terms found in articles during coding