Social Consequences of Obesity: Case Study of Bariatric Population at Ellis Hospital

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Abstract

Despite the fact that the majority of adults living in the United States are overweight or obese, obesity remains a highly stigmatized physical condition. Society often sees obesity as a physical manifestation of personal faults such as the lack of self-control and laziness. Obese individuals thus experience discrimination in places of employment, have lower educational attainment, are underrepresented in popular culture, and often have difficulty finding and sustaining intimate relationships. For individuals with extreme obesity (BMI greater than 40), bariatric surgery is the most effective strategy to improve health and lose weight. Individuals who have undergone bariatric surgery typically experience significant weight loss. Such individuals have experienced extreme obesity, have lost weight, and have lived experiences at a more socially and medically acceptable BMI. As such, this population can speak to both social conditions and are in a prime position to speak to the stigma associated with the obese condition.

In this study, surveys and interviews were conducted with patients who had undergone bariatric surgery at Ellis Hospital. The survey was designed to measure internalized (self) stigma due to obesity, as well as experienced stigma, before and after bariatric surgery and subsequent weight loss. During individual interviews patients spoke anecdotally about experienced stigma and how their lives changed after bariatric surgery. Qualitatively, patients felt that bariatric surgery positively impacted their lives and improved their physical and psychological health. Quantitative survey data indicated that patients demonstrated less self-stigma and experienced less stigma due to obesity after bariatric surgery.

Chapter 1 Review of Literature

Introduction

Obesity is a socially undesirable condition. Obese individuals often face stigma which assumes the individual to be lazy, self-indulgent, careless, and responsible for their physical state. Obesity is caused by a myriad of factors. Diet and exercise contribute significantly to obesity; however, there are also other forces that drive obesity. Genetic factors create inequality in predisposition to gain weight. Socioeconomic status determines an individual's availability to healthy foods. As the world has changed after the industrial revolution, the way in which society in the United States understands obesity has also changed. Before the 20th century, being overweight was seen as a sign of health and fertility; only those who could afford to overeat, and were subsequently in a higher socioeconomic status, had the opportunity to be overweight. With technological advances people exercise less and eat more calorie dense food. As a result, average BMI in the U.S. has increased since 1970. Thin individuals have thus been glorified for their self-discipline and represent a higher socioeconomic position. Despite the growing obese population, obesity is not normalized in society. Healthcare workers in particular have been cited as discriminating against obese patients. As such, there have been counter-movements to stop society's obsession with weight and shift the focus to individual health.

The medical consequences of and comorbidities associated with obesity pose significant risks to length and quality of life. Bariatric surgery became a common option available to qualified patients in the 1990s. People who qualify for bariatric surgery typically have to be clinically obese, and if their BMI is under 40, they need to document comorbidities associated

with obesity before health insurance will pay for bariatric surgery. Although bariatric surgery is often considered the 'easy way out', it actually demands strict lifestyle adjustments and is a very difficult and sometimes painful process. However, patients typically lose a significant amount of weight, and their health improves considerably after surgery. One of the many changes after bariatric surgery is that individuals experience living in a thinner body, thus how they understand themselves and how society understands them is different. Erving Goffman's idea of the discredited individual is invoked; bariatric patients have transitioned from being discredited individuals to more socially accepted individuals. This study intends to assess individuals' internalized and experienced stigma before and after bariatric surgery, to better understand the social consequences of obesity.

To assess changes after bariatric surgery, patient interviews were conducted with individuals who had undergone bariatric surgery at Ellis Hospital. Additionally, bariatric patients in Ellis Hospital's network were asked to complete a survey which contained the Weight Bias Internalization Scale, as well as the Stigmatizing Situations Inventory. These instruments were used to measure self-stigma, as well as experienced stigma, before and after bariatric surgery. The data collected indicated that patients have less internalized stigma and experience fewer stigmatizing situations after bariatric surgery. These data suggest that the way the field of healthcare currently treats the obese is ineffective. Furthermore, increasing the medicalization of obesity may address the need for obese individuals to lose weight, while simultaneously detaching stigma from the obese condition. Obese individuals must also be more outspoken about their experienced discrimination and organize efforts so that society understands that obesity is not always a personal choice.

Review of Literature

Obesity Overview

Body size can be viewed through a clinical lens and can also be a way to categorize human diversity. Medicalization of body size demands ways to define and measure relative weight. There exists a "normal" range, and those that fall out of the normal range have a medically-defined condition. Normal weights originated from studies done by health insurance companies that looked at body size and mortality, and what they found in the 1950s shapes what is considered normal weight for an individual's height today (Blackburn and Jacobs 2014). Estimates of obesity are primarily based on measuring a person's weight relative to the size of his or her body; this measure is termed *Body Mass Index* or BMI. BMI is a ratio of a persons' weight in kilograms to height in meters (National Institute of Health 2017). The National Institute of Health (NIH) and the World Health Organization (WHO) define obesity as a BMI at or above 30 kg / m^2 (National Institute of Health 2017). The "normal" BMI range is 18-25 kg / m^2. According to the National Institute of Health, 70% of American adults are overweight or obese (National Institute of Health 2017). Likewise, 37% of adults are considered clinically obese (National Institute of Health 2017). Over a third of adults in the United States are viewed as clinically obese according to their BMI. However, the prevalence of obesity is not isolated to the United States—it is a global health concern. Canada, the United Kingdom, and Australia have adult obesity rates of 29%. Most developed countries excluding Asia have obesity rates over 20% (World Health Organization 2017).

The New England Journal of Medicine in 2017 published a study that looked at 68.5 million individuals from 1980 to 2015, in 195 countries. ("Health effects of overweight and obesity in 195 countries over 25 years" 2017). In 2015 alone, obesity contributed to 4 million deaths worldwide, as well as 120 million disability-adjusted life-years. The first and second leading causes of death related to high-BMI were cardiovascular disease and diabetes ("Health effects of overweight and obesity in 195 countries over 25 years" 2017). In addition, the CDC has published that being overweight or obese increases an individual's risk of developing hypertension, high levels of triglycerides (dyslipidemia), type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and breathing problems, certain cancers (including endometrial, breast, colon, kidney, gallbladder, and liver), as well as mental illnesses such as clinical depression, anxiety, and other mental disorders (Center for Disease Control and Prevention 2015). Not only is obesity adversely affecting people's health, obesity is on the rise.

Obesity in the United States has increased drastically in the past 50 years. In 1975, 5.5% of children ages 5-19 years or younger were clinically obese. Obesity in this age group increased to 21% in 2016 (World Health Organization 2017). According to the WHO, the United States has the highest rate of childhood obesity in the world (World Health Organization 2017). Likewise, Kranjac and Wagmiller looked at changes in BMI in adults 20 years and older from 1971 to 2012. Their study aimed at deciphering whether older cohorts of people are being replaced by younger cohorts that are less healthy, and subsequently have higher BMIs (cohort replacement), or if all cohorts are declining in health measured by change in BMI over time (intracohort change) (Kranjac and Wagmiller 2016). Using data from ten waves of the National Health and Nutrition Examination Survey (NHANES) their study found that the average BMI in 1971 was 25.66; by 2012 the average BMI had increased to 28.71. Obesity increased 15

percentage points from 1971 to 2012 (Kranjac and Wagmiller 2016). Not only did they note the overall increase in obesity, their regression analysis found that 77% of the observed increase in BMI was due to intracohort change as opposed to cohort replacement, which they indicate accounts for about 25-30% of the change in obesity rates (Kranjac and Wagmiller 2016). The authors looked at whether sample populations compositional differences in socioeconomic status, demographics, diet, as well as physical activity levels over time in the various cohorts could explain the increase in BMI. They found that only 2.8% of the change in obesity was due to differences in the cohort samples. However, their study found that people in 2012 exercised less and consumed more calories, fat, protein, and sodium than people did in 1971 (Kranjac and Wagmiller 2016). These findings strengthen their data for intracohort change as the explanation for increased BMI. People across generations experienced increased BMI because compared to 40 years prior, their diets are unhealthier, and people are engaging in less physical activity.

Those Most at Risk of Obesity

Women have higher rates of obesity than men across the world, however there is very little uniformity in this trend when looking at different countries (Sassi 2010). BMI-defined obesity and overweight rates also increase with age until around the age of 60; after 60 years, BMI begins to plateau and slightly decline. Ergo BMI within cohorts increases as people in the cohort age (Sassi 2010). Unemployed people are much more likely to be physically inactive, and thus have higher rates of obesity compared to the employed (Sassi 2010). In the United States, obesity affects certain racial groups more than others; the CDC reports that “Hispanics (47.0%) and non-Hispanic blacks (46.8%) had the highest age-adjusted prevalence of obesity, followed

by non-Hispanic whites (37.9%) and non-Hispanic Asians (12.7%)" (World Health Organization 2017).

Social Forces Behind the Obesity Epidemic

As the data presented above shows, people in the United States are eating more unhealthy foods and engaging in fewer physical activities. Additionally, different social groups are more susceptible to obesity. This is not merely attributed to personal life choices and free will, social forces are contributing to the rise in obesity. Liu and Guo published a study which analyzes how white adults living in the U.S. genetic predispositions interact with their social environment, over the course of their lifetime making it more or less likely for them to become obese. Using socioeconomic status as a measure of social environment, and analyzing 32 genes linked to obesity, they found that low socioeconomic status, or downward socioeconomic movement during the course of a lifetime intensifies a person's predisposition of obesity, measured using BMI (Liu and Guo 2015). Likewise, high socioeconomic status or upward social mobility tends to compensate for genetic predispositions to obesity. The authors term this the "social trigger model" where "unhealthy behaviors or environments may trigger or magnify effects of the risk alleles" (Liu and Guo 2015:3). Genetic predisposition to obesity does matter, however, socioeconomic environment in a historical context also contributes significantly to a person's BMI.

The interaction between socioeconomic status and obesity is context dependent. Liu and Guo (2015) indicate that high socioeconomic status in the U.S. is associated with lower BMI. However, in other parts of the world, particularly in developed countries, high socioeconomic status is associated with high BMI and increased rates of obesity (Sassi 2010). As a country

gains wealth, and food is made more available and accessible to people, disadvantaged groups become more susceptible to obesity (Sassi 2010).

Educational level is closely tied with socioeconomic status, and thus is correlated with obesity. Organization for Economic Co-operation and Development (OECD) health data from Australia, Canada, England, and Korea show a very strong relationship between increased years of schooling and decreasing rates of obesity (Sassi 2010). However, this relationship has not been proven to be causal, although there is evidence for both directions of causation between obesity and education (Sassi 2010). It is hypothesized that more years of education can increase a person's ability to think critically and understand the energy content of various foods and consequences of unhealthy behaviors, which subsequently enables them to make healthy lifestyle choices, including seeking medical attention when necessary (Sassi 2010). However, the relationship could be reversed in that obese children are more likely to stop schooling at a younger age due to stigma in educational settings, lack of encouragement, and or decreased self-esteem (Sassi 2010). Evidence regarding the causal relationship between education and obesity is inconclusive and contradictory; however, there is a strong correlation between more years of education and decreased rates of obesity.

From a historical perspective, the production of food has changed remarkably since the 1960s, which is another reason why individuals in the U.S. consume more calories today than in previous decades (Cutler, Glaeser, and Shapiro 2003). Similar to how the industrial revolution drastically created a radical shift in the labor market, the mass production of food has drastically impacted the American diet. Prior to the 1960's, food was typically prepared at home, which required significant labor. However, during the 1960s, "technological innovations including vacuum packing, improved preservatives, deep freezing, artificial flavors and (the) microwave"

came about, which allowed for food to be mass produced and distributed (Cutler *et al.* 2003:94). This not only drove food prices down, the other consequence was that less labor time was required to prepare food at home (Cutler *et al.* 2003). This has enabled individuals to eat a larger variety of foods, as well as greater volume of food, subsequently leading to increased rates of obesity (Cutler *et al.* 2003).

Technological advances and streamlining food manufacturing are not solely to blame for the decreased prices in calorically dense foods. In many western countries including the U.S., the government provides subsidies to farmers who produce foods with high calorie content, including wheat, coarse grains, oilseeds, beef, pig meat, poultry, rice, and milk. Consequently, production of these foods increases (Schafer 2005). Increased production of these subsidized foods leads to a reduction in the price of the food, making it increasingly accessible to consumers (Schafer 2005). Shafer argues that these foods are actually produced in such great quantities that the volume exceeds consumer needs, which can lead to overconsumption (Schafer 2005). Conversely, the farming of other healthy foods, such as fruits and vegetables, is not historically subsidized by the U.S. federal government. Therefore fruits and vegetables are more expensive than grains, and are then under-consumed in the American diet (Powell and Chaloupka 2009). Individuals will maximize how much food they can consume by eating inexpensive food groups; in most developed countries "inexpensive foods" are synonymous with "unhealthy foods" so government policies on subsidies can influence consumption behavior, and in turn, BMI.

Proper 'diet and exercise' are widely held as the two keys to a healthy lifestyle. Social conditions make unhealthy food cheap and accessible, which provides insight into why individuals are consuming more calories than they did 40 years ago, however, this does not explain the reduction in physical activity. New farming technology has also drastically reduced

the number of people working in agriculture, as well as the amount of physical labor required to farm. This is also seen in manufacturing; new technology has minimized the amount of physical labor required to produce certain goods (Sassi 2010). Fewer individuals exercise as part of their employment and most skilled occupations entail a sedentary lifestyle. The replacement of jobs that require physical labor with sedentary jobs has decreased the amount of physical activity, and calories burned, which has resulted in increased obesity (Lakdawalla, Philipson, and Bhattacharya 2005). In fact, many individuals who work in sedentary jobs, such as jobs in office style settings, have to pay to exercise (joining gyms, taking fitness classes); whereas in the past people were paid to do physically demanding work (Lakdawalla *et al.* 2005). Using NHANES data, Church *et al*. found that there was a "reduction of more than 100 calories per day in occupation-related energy expenditure over the last 50 years" (Church *et al*. 2011:4). The widespread use of the automobile is also provided as a cause for the reduction in physical activity levels in the past half century. The number of people living in suburban areas has increased. Consequently, more people are choosing cars as their means of transportation over walking or biking (Brownson, Boehmer, and Luke 2005). Technological advances have decreased the need for physical exertion in people's everyday lives, which largely explains why levels of physical activity have decreased in the U.S.

Weight Versus Health: It's not the fatness, it's the fitness

Rhetoric about an "obesity epidemic" began in the year 2000 (Gard 2011). Public concern and awareness about obesity heightened, as it had when AIDS was first discovered (Gard 2011). Obesity was described by researchers, physicians, and epidemiologists as a major public health threat, killing 400,000 Americans per year (Gard 2011). There are major

uncertainties in this estimate, but the public clung to it. Additionally, the concerns about rising rates of obesity originated from educated, credentialed people: "we were able to find no claim about the looming obesity crisis, no matter how apocalyptic or far-fetched, that did not have its origins in the research literature or the published commentary of obesity scientists" (Gard 2011:14). These concerns raised by researchers were adopted in the mass media, which raised public awareness about the supposed health risks related to obesity. Rising rhetoric attempted to scare the public; the prediction that today's children would not live as long as their parents because of obesity-related health problems saturated the mass media (Gard 2011). A very strict view of health and obesity was created; to be obese was to be unhealthy and at risk of disease. The true health consequences of obesity are not entirely understood; however, it appears as though the consequences of obesity were exaggerated by scientists and healthcare professionals. The anticipated deaths and negative health outcomes related to obesity have not materialized, and there is a great deal of evidence that high BMI is not always correlated with poor health status.

The traditional relationship between overweight / obesity and poor health has been challenged. A study done in Norway followed 1.8 million individuals over 10 years, looking at health outcomes and BMI. The study found "those with BMI figures between 18-20—most of whom were at what our public health authorities claim is an optimal weight—had a lower life expectancy than those with BMI figures between 34 and 36: people who according to these same authorities were roughly 60 to 75 pounds 'overweight,' and therefore seriously 'obese'" (Campos 2004:10). Many studies have echoed the same sentiment; researchers from Cornell University published a meta-analysis of studies that analyzed the relationship between body mass and mortality, among men and women. The lowest mortality rates were seen at a BMI between

23-29 for men, and 18-32 for women (Campos 2004). “A woman of average height could weigh anywhere within an 80-pound range without seeing any statistically significant change in her risk of premature death” (Campos 2004:12). A criticism of these studies is that they use fairly simple outcome measures—mortality and life expectancy. Morbidity and disability-adjusted life-years could perhaps be better measures of the health consequences of high BMI. The studies do suggest that what government health agencies define as ideal BMI is not correlated with the lowest mortality rates or highest life expectancy, hence ‘ideal’ BMI is not a reliable measure of health.

Some scholars and scientists actually argue that activity levels are the greatest indicator of health, even more so than BMI. Research done at the Dallas’ Cooper Institute aimed to study how weight influences health. The researchers used treadmill stress tests to assess the physical condition of study participants (Campos 2004). After physical activity levels are taken into account when looking at a person’s health, BMI has almost no effect: “Obese people...with BMI figures of 30 and higher—who engage in at least moderate levels of physical activity have around one half the mortality rate of sedentary people who maintain supposedly ideal weight levels” (Campos 2004:35). Another study at the Cooper Institute found that individuals with sedentary lifestyles have the highest death rates, independent of overweight / obese status (Campos 2004). The conclusion of the studies was that sedentary lifestyles are extremely detrimental to overall health, regardless of an individual’s BMI (Campos 2004).

If someone is cured of obesity, it is because they have lost weight. Most treatments to obesity are weight-loss oriented. Researchers at the University of California Davis in a randomized controlled clinical trial studied the effectiveness of a weight-loss oriented versus size acceptance-oriented approach to increasing health. Their study looked at white, female, chronic

dieters ages 30-45 years, with a BMI greater than or equal to 30 (Bacon *et al.* 2005). They split their subjects into 2 experimental groups: the first was a typical weight loss and diet focused group that kept food log diaries and were put on regimented exercise routines. The second group focused on detaching feelings of self-worth from weight. The program designed for this group promoted body size acceptance, and taught study participants how to become in touch with one's own body to better understand one's own needs (Bacon *et al.* 2005). People were not limited in their diet but were encouraged to eat healthy foods. Teams also worked with individuals in the second group to break down barriers to physical activities, and helped individuals pinpoint types of physical activity they enjoyed (Bacon *et al.* 2005). They found that two years after the program had completed, individuals in the size acceptance group had better mental and physical health outcomes. The body size acceptance group showed "sustained improvements in many health behaviors and attitudes as well as many health risk indicators associated with obesity (including total cholesterol, LDL cholesterol, systolic blood pressure, depression, and self-esteem, but not HDL cholesterol) (Bacon *et al.* 2005). The weight-loss group had much higher attrition and while subjects did lose weight, after two years most subjects had regained the lost weight and experienced far fewer positive health outcomes than the body acceptance group. This study indicates that changing health behaviors and accepting one's own body and its limitations increases health, as opposed to focusing on weight-loss and 'curing' oneself of obesity.

A substantial body of literature indicates that weight and health are not mutually exclusive: "we'd do better for ourselves and our children if, instead of pushing diets and surgeries, and medication, we looked at real-world strategies for eating more fruits and vegetables, getting enough sleep, dancing and playing sports, and other joyful and physical

activities. And especially if we supported those things for everyone, no matter what they weighed" (Brown 2011:181-182). If body weight is an unreliable indicator of health, then how did the fat body become associated with so much stigma?

Historical Perceptions of the 'Fat' Body

Today, overweight and obese conditions are highly stigmatized, but the perception of the fat body in the United States has changed over time. In the early through mid 19th century, being overweight was considered an attractive quality. For women, being overweight was seen as a sign of wealth, health, and fertility (Rothblum and Solovay 2009). Prominent physicians in the 1870's even stated that women needed to be overweight because they attributed female nervousness to thinness (Rothblum and Solovay 2009). While most of the academic literature on the fat body focuses on the social pressures put on women to be thin, the male body is also subject to social pressures to conform. For a long time, as with women, the fat male body was associated with wealth, and for men specifically, power. Powerful monarchs such as Henry VIII, Edward VII, and even more recently United States President William Howard Taft, were obese (Gilman 2004). Their physical presence signified dominance, so these individuals and their fat bodies are historically depicted as inoffensive (Gilman 2004).

From the late 19th century into the early 20th century, the American perception of the fat body began to change. Factory jobs increased as a result of the industrial revolution, food was beginning to be mass produced, and fewer people needed to work in agriculture (Rothblum and Solovay 2009). Food was more accessible to people in lower socioeconomic classes, and consequently thinness was no longer associated with poverty. As a whole, people in lower socioeconomic classes gained weight. Thus the fat body was no longer considered a sign of

wealth and prestige (Rothblum and Solovay 2009). In western Europe, the thin body had been glamorized for much longer than it had in the United States. This was largely due to the fact that many British writers such as Emily Brontë and American author Edgar Allen Poe had tuberculosis, which made them so thin they looked sickly; this came to be admired as a sign of discipline and intellectual superiority (Rothblum and Solovay 2009). Even earlier, English poet Lord Byron famously said, "A woman, should never be seen eating or drinking, unless it be lobster salad and champagne, the only truly feminine and becoming viands" (Rothblum and Solovay 2009:13). Thin bodies transcend human impulses. It was believed that thin people in the upper class have had animalistic desires to consume food whenever possible bred out of them, in their highly cultivated, enlightened status (Farrell 2011).

In the timeline of stigma, being fat was first aesthetically undesirable, and then was later described as a medical problem (Eknoyan 2006). In the 1920's, as more immigrants came to the United States from around the world, their figures tended to be shorter and more rotund. The tall, thin, Anglo Saxon body became a way to racially and physically distinguish the upper class from immigrants in lower socioeconomic classes (Rothblum and Solovay 2009). Encouraging the thin body also tied into Puritan roots in the United States, which emphasized gluttony as sinful, and self-control as pleasing to God. "White Protestants began to see a fat body as a 'deficient' body, due primarily to its associations with gluttony, and a thin body as one closer to God, as evidenced by the control and constraint one presumably had to demonstrate to maintain that body" (Farrell 2011:60). In the 1920's, at the beginning of the Eugenics movement, physicians felt they could measure body mass to find the ideal body size. The thin, culturally desired body was endorsed as the healthy body (Rothblum and Solovay 2009).

For centuries physicians noted health problems linked to obesity such as fatigue, sleep apnea, and gout (Eknoyan 2006). However, excess fat was not seen as undesirable among the majority of practicing physicians; "throughout most of the nineteenth century and well into the early 20th century, medical opinion held that carrying an extra 20 to 50 pounds of excess 'flesh' was healthy" (Eknoyan, 2006: 424). In the 1930's the insurance industry published studies that for the first time linked the corporeal body to increased risk of mortality (Eknoyan, 2006). Later in the 1940's, Freudian psychology described the overweight individual as "affective, intensely reactive, and emotionally grown-up child" (Eknoyan 2006). Thus obesity and overweight conditions were treated by psychiatrists as psychological disorders, which marked the beginning of the medicalization of obesity. It was not until the 1960s that fat accumulation in the body was studies by researchers as a metabolic condition, as opposed to purely the result of a gluttonous and sedentary lifestyle (Eknoyan 2006). Cultural preferences for thinness and further research raising health concerns about excess fat created conditions for physicians to encourage the new thin fad (Rothblum and Solovay 2009).

As with most things, the concept of the thin body as the desirable body in the United States has racialized underpinnings. In the 18th century, Enlightenment thinking stressed individual choice and rationality. These ideas were used to challenge traditional beliefs about oppressive institutions such as monarchies and slavery (Farrell 2011). As the social order began to crumble, 'science' was used as an objective way to maintain the social order of blacks as inferior to whites. Charles Darwin's *On the Origin of Species* was published in 1859 as evidence for evolution (Farrell 2011). Darwin's theories were stretched to explain the differentiation of human "savages" from "civilized" individuals. Beauty was connected with people of white European descent, while Africans were viewed as primal, and their bodies, ugly (Farrell 2011).

"Fatness, then, served as yet another attribute demarcating the divide between civilization and primitive cultures, whiteness and blackness, good and bad" (Farrell 2011:64).

One particularly disturbing example of how fatness was linked to views of Africans as undesirable and uncivilized is that of Hottentots. Scientists and scholars who had traveled to Africa in the 17th century observed the Khoikhoi people of South Africa and described them as animalistic and primitive people that were close relatives of apes (Farrell 2011). One of the Khoikhoi women, Sara Baartman, also known as the "Venus Hottentot" was taken back to Europe in 1810 (Farrell 2011:64). People viewed this woman on display in London as an 'exotic' object from the unexplored world. Baartman was shown on a "stage two feet high, along which she led by her keeper, and exhibited like a wild beast; being obliged to walk, stand, or sit as ordered" (Farrell 2011:65). After Baartman died, her body was dissected by a French scientist named Georges Cuvier, who focused his attention on her buttocks, brain, breasts, and genitals. Cuvier emphasized the fatness of these body parts, and how her body proved to be definitive evidence for her "low-level status on the scale of civilization" (Farrell 2011:65). Parts of Baartman's body remained on display in Paris until the 1970s (Farrell 2011). Similarly, late 19th century Italian anthropologist Cesare Lambroso tried to find biological inferiority among prostitutes and described a "marked development of connective and fatty subcutaneous tissues so often found in inferior races" (Farrell 2011: 68). Fatness has historically been used to justify the inferior status of different racial groups.

In *Black Feminist Thought* sociologist Patricia Hill Collins describes several controlling images that vilify black women. Some dominant images of black women in population include "mammies" or desexualized, motherly, obedient, servant-type figures, welfare-queens, and "jezebels" or hypersexual, aggressive black women (Collins 2009). Farrell argues that these

images not only perpetuate institutional racism, they also focus on the bodies of the individuals as fat— "The body in excess is key to the representations of racial inferiority—the fat mammy, the jezebel figure with protruding buttocks, or, in contemporary American life, the image of the fat (an over-sexed and over-fertile) black 'welfare queen'" (Farrell 2011:75). Culturally, fatness was once a sign of status in the United States but over time has become a symbol of poverty, gluttony, primitive instincts, and racial inferiority.

Current Cultural Beliefs of the Fat Body

Sociological literature first identified weight stigma in 1960s (Cahnman 1968). In this time period, overweight and obese conditions were considered forms of social deviance. Socially, only extreme cases of obesity were considered metabolic disorders (Cahnman 1968). "Clearly, in our kind of society, with its stress on affluence and upward mobility, being overweight is considered to be detrimental to health, a blemish to appearance, and a social disgrace" (Cahnman 1968:283). Cahnman pioneered studying the stigma of overweight conditions, and viewed an overweight individual as "a victim of anatomic and physiologic circumstances rather than just a glutton...the moral problem is sharply posed, if those that are not in fact responsible for their condition, nevertheless are held responsible for it" (Cahnman 1968:286). Society viewed the overweight condition as a condemnation to a lower social status, because the current belief was that obese individuals could change their fate if they wanted to, through self-control and discipline (Cahnman 1968).

Socialization processes lead individuals to believe that obesity is a personal choice as opposed to a metabolic disorder or the product of social forces and structural conditions, and thereby shapes perceptions of the overweight and obese. The complex interplay of changing

technology, readily-available calorically dense food, and sedentary lifestyles creates the idea that obese people choose to be obese because of poor life choices. In 1961, Richardson and colleagues published a study that asked children ages 10 and 11 to give "a preference ranking of a standard set of drawings of children who differed only with respect to physical disability" (Richardson *et al.* 1961:242). The children were from diverse cultural and racial backgrounds. The study included drawings of individuals with amputated limbs, individuals in wheelchairs, and individuals with facial disfigurements. Of the six disabled individuals depicted in the drawings, all children regardless of race, cultural background, and sex, consistently ranked the drawing of the individual with obesity last in terms of preference (Richardson *et al.* 1961). Children are socialized at a young age to see obesity as a personal failing, and obese individuals tend to accept responsibility for their condition, because that is what is engrained in their minds at a young age.

Weight bias has been well studied in the employment sector. Women are 16 times more likely than men to report weight bias in the workplace (Puhl and Heuer 2009). Obese individuals commonly face discrimination from coworkers, decreased pay, and fewer opportunities for growth. Experimental studies have shown weight discrimination in employment by creating fictitious job applications for obese individuals where their body size is made clear through indirect means i.e. pictures and videos submitted (Puhl and Heuer 2009). Participants in the studies then typically rank applicants, indicate applicant desirability, assign salaries, and propose hiring recommendations. A meta-analysis of 32 studies with this design showed that "overweight job applicants and employees were evaluated more negatively and had more negative employment outcomes compared to non-overweight applicants and employees" (Puhl and Heuer 2009:943). Evidence of weight bias in education was published as early as the 1960s. In 1966, a

study in the *New England Journal of Medicine* found that despite similar rates of interest in attending college, obese girls and boys were far less likely to go to college compared to non-obese counterparts (Cahnman 1968). Higher BMI is also correlated with lower educational attainment today (Puhl and Heuer 2009).

There is also a vast amount of literature citing weight discrimination among healthcare professionals. Physicians recommend that their overweight and obese patients lose weight for health reasons. Many physicians narrowly view obesity as a condition that can overcome by lifestyle modifications, and when patients fail to lose weight on their own, physicians view patients negatively. "In a study of over 620 primary care physicians, >50% viewed obese patients as awkward, unattractive, ugly, and noncompliant. One-third of the sample further characterized obese patients as weak-willed, sloppy, and lazy" (Puhl and Heuer 2009:944). Likewise, studies have shown that physicians are less willing to treat patients who have BMI's over 30 (Puhl and Heuer 2009). Nurses tend to have similar attitudes towards obese patients, viewing obese patients as lazy, noncompliant, and unmotivated (Puhl and Heuer 2009). Medical students have an interesting perspective on the treatment of the obese, because they presumably have had less experience in patient care (and fewer interactions with obese patients) compared to seasoned nurses and physicians. Medical students have reported that "severely obese patients were the most common target of derogatory humor by attending physicians, residents, and students, which occurred most often in surgery and obstetrics–gynecology settings" (Puhl and Heuer 2009:945). Obese individuals face particularly harsh stereotypes from healthcare professionals. Likewise, healthcare professionals are often ill-equipped to treat and counsel obese individuals. A survey of 610 primary care physicians in the United States found that "less than half (of physicians) felt competent in prescribing weight loss programs and only 14%

believed themselves to be successful in helping obese patients lose weight" (Puhl and Heuer 2009:948). Studies have also shown that physicians spend less time educating obese patients during patient appointments compared to non-obese patients, which likely contributes to adverse health outcomes for obese individuals (Puhl and Heuer 2009).

While overall weight discrimination applies to both men and women, there are gender-specific stereotypes associated with the corporeal body. In contemporary society, being physically fit for a man is considered necessary for masculinity—the focus of the male body is fitness, as opposed to thinness in women. Overweight men do not conform to the masculine stereotype, and are also considered lazy, sick, uneducated, asexual, and disabled (Gilman 2004). Men experience stigma for being both too thin and obese, but there appears to be a broader range of socially acceptable body sizes for men compared to women (Himmelstein *et al*. 2018). Additionally, never-married men report higher rates of stigma associated with their weight compared to married men (Himmelstein *et al*. 2018).

Stigma associated with weight in interpersonal relationships disproportionately affects women. A study of 554 undergraduates concluded that "overweight women were less likely to be dating than thinner peers, and that body weight was negatively correlated with relationship satisfaction" (Puhl and Heuer 2009:950). Overweight and obese women face significant disadvantages in finding dating and sexual partners. Overweight and obese women also commonly face stigma from family members. One study of over 2,000 overweight and obese women found that 72% of the women who participated in the study indicated that family members were the number one source of weight stigma in their lives (Puhl and Heuer 2009).

Manifestations of Fat Stigma: The Diet Industry and Popular Media

As early as 1864, before thinness had become mainstream, prominent physician Dr. Watson Bradshaw famously wrote "in advanced nations (and by these he meant England the U.S. and France) multiplied chin and abdomen of enormous periphery do no entitle the possessor of any distinction" (Farrell 2011:59). Physicians were not exempt for the cultural desirability to denigrate the fat body, and they had science and professional authority on their side to back their claims in the beginning of the mid 20th century. Physicians thus began to capitalize on remedies to cure people of their fatness, which echo the origins of the diet industry. Capitalizing on the public fear of gaining weight, and the desire to achieve a thin body, was rich in opportunity to make money. "In a profit-driven, consumer society, diet product manufacturers, pharmaceutical corporations, the advertising industry, and medical practitioners all benefit financially from fat stigma" (Farrell 2011). Today there is a 60 billion dollar industry that is fueled by fat stigma, which profits off of individuals' desire to lose weight (Farrell 2011). For example, physicians have publicly endorsed diet supplements as magic pills that will dissolve fat. In the past decade, Harvard-educated cardiothoracic surgeon and TV personality Dr. Mehmet Oz was brought to the Senate regarding deceptive advertising of diet pills (Brown 2015). Dr. Oz was selling people "unproven and untested supplements like green coffee bean extract, raspberry ketone, and garcinia cambogia" (Brown 2011:179). In response to such accusations Dr. Oz explained, "when they (patients) don't think they have hope, when they don't think they can make it happen, I want to look, and I do look everywhere, including alternative healing traditions, for any evidence that might be supportive to them" (Brown 2011:180). A prestigious surgeon defended his endorsement of unproven weight loss supplements because the supplements give overweight and obese individuals hope that they can somehow, someday lose weight. This is a manifestation of the focus on fat, and not health. Individuals who diet are intending to lose weight, however

literature links chronic dieting with increased risk of becoming overweight (Brown 2011). The body of an individual typically has a set 'normal' weight range, which can fluctuate between 10 and 20 pounds. If an individual loses weight, the body will resist such changes by increasing hunger and decreasing metabolism to maintain the body's normal weight range (Friedman 2004). Thus the diet industry traps people in a cycle of never losing weight, while continually capitalizing on individuals' desire to do so.

Another source of learned stigma associated with obesity and the fat body is the media. In the vast majority of television shows, main characters are thin, despite the fact that roughly 70% of American adults are overweight or obese (Puhl and Heuer 2009). Additionally, content analysis of prime-time television shows indicates that the larger a female character is on a TV show, the more negative comments she receives from male characters. Similar studies with overweight male characters have cited increased self-deprecation in overweight male characters compared to male characters that are perceived to be of acceptable weight (Puhl and Heuer 2009). "Compared to thin characters on television, heavier characters are rarely portrayed in romantic relationships, are more likely to be the objects of humor and ridicule, and often engage in stereotypical eating behaviors" (Puhl and Heuer 2009:951). Television reiterates the fat stigma overweight and obese individuals face in everyday life and subsequently legitimizes it. Even shows that highlight obesity may adversely affect the obese community. For example, the reality television show *The Biggest Loser* is essentially a competition where trainers and dieticians coach obese individuals to lose weight, and weekly weigh-ins are televised. However, "most people who are overweight are not morbidly obese, nor do they have armies of personal trainers, dietitians, and life coaches. *The Biggest Loser* promotes the perception that obesity is caused by individual failure rather than a mixture of individual, environment, and genetic sources" (Whyte

2010). Shows focused on the obese community are typically about fighting the fat body and weight loss, as opposed to personal health improvement and self-acceptance.

Counterculture: Fat fights back?

The obesity 'epidemic' created a war on fat that emphasized losing weight as a means of overcoming self-indulgent, lazy behaviors of the overweight or obese individual. The Health at Every Size (HAES) Movement sought to counter this war on fat and focus on health (Rothblum and Solovay 2009). "Letting go of the goal of weight loss has made HAES controversial in a society where the pursuit of thinness is an unquestioned prescription for health and happiness" (Rothblum and Solovay 2009:42). The HAES movement is dedicated to enhancing an individual's health in a holistic way—focusing not just on the physical, but also the mental, emotional, and spiritual well-being. It also emphasizes self-acceptance and learning to be confident in one's own body, intuitive eating, and engaging physical activity in enjoyable ways (Rothblum and Solovay 2009). In the HAES movement, the goal is shifted from reaching target weights and counting calories to listening to one's own body and engaging in healthy activities while learning to dissociate body size as a symbol of health. The HAES model, "does not ask people to control what may not be controllable. This prevents damaging cycles of body loathing, weight loss and regain, and feelings of ineffectiveness" (Rothblum and Solovay 2009:51). Advocates of HAES believe that empowering people to be healthy is more important than BMI.

It is unclear whether the HAES movement can influence public policy. The first issue is that studies (which only began in the early 2000s) looking at health outcomes in HAES studies are limited to only a few outcomes measures, in relatively small population samples (Penney and Kirk 2015). Additionally, in cases of severe obesity, body size may limit daily activities in such

ways that weight loss is necessary for improved quality of life (Penney and Kirk 2015). The HAES approach also aims to dissociate body size from health, however, this poses issues in defining excess adiposity. Without defining excess weight / fat tissue, it is difficult to initiate public policy efforts to fund health initiatives (Penney and Kirk 2015). Additionally, the HAES approach focuses on changing individual self-perception, however it does not address the cultural perceptions and stigma attributed to persons that are overweight or obese. Regardless of embracing ones' own body, for some individuals who are severely obese (BMI > 40), excess weight poses serious health problems and can limit mobility. Therefore, many individuals choose weight loss surgery not only for aesthetic purposes, but also to take control of their health and quality of life.

Motivations for Weight Loss Surgery

The American Society for Metabolic and Bariatric Surgery (ASMBS) indicates that individuals who qualify for bariatric surgery are as follows: "BMI ≥ 40, or more than 100 pounds overweight, BMI ≥ 35 and at least one or more obesity-related co-morbidities such as type II diabetes (T2DM), hypertension, sleep apnea and other respiratory disorders, non-alcoholic fatty liver disease, osteoarthritis, lipid abnormalities, gastrointestinal disorders, or heart disease, inability to achieve a healthy weight loss sustained for a period of time with prior weight loss efforts, inability to achieve a healthy weight loss sustained for a period of time with prior weight loss efforts" (American Society for Metabolic and Bariatric Surgery). Individuals who are eligible for weight loss surgery are severely obese, typically have comorbidities, and have failed to lose weight through traditional interventions such as diet and exercise.

The primary motivating force for weight loss surgery is physical health improvement (Pearl *et al.* 2019). Other major motivating forces for weight loss surgery include longevity, psychosocial, and quality of life improvement (Pearl *et al.* 2019). Body dissatisfaction is another significant motivating factor for weight loss surgery. Patients who undergo weight loss surgery express the greatest degree of body part dissatisfaction with their stomach and thighs (Pearl *et al.* 2019). Patients have also reported that their individual self is the main person motivating them to get weight loss surgery, followed by a healthcare provider and family members (Pearl *et al.* 2019). In racial minority groups, work seemed to be a greater motivating factor for weight loss surgery compared to white individuals. This is likely due to intersecting forms of discrimination and the impact multiple intersecting identities in addition to obesity has on employment desirability (Pearl *et al.* 2019).

History of Weight Loss Surgery

Surgical weight loss procedures have existed since the 1700's. In 1718, a French surgeon removed nine pounds of abdominal fat from a patient (Gilman 2004). Few medical procedures focused on weight loss were performed before 1950, however the ones that were done focused on removing fat from the abdomens of obese patients. There exists little information on the efficacy and frequency of these types of procedures (Gilman 2004). Contemporary weight loss surgery began in the 1970's with jaw wiring. This type of surgery was based on mechanically restricting the food intake of obese individuals (Moshiri *et al.* 2013). While individuals who underwent this procedure did lose weight, many patients suffered compromised oral hygiene, and when the wiring was removed, most individuals regained the weight they had lost (Moshiri *et al.* 2013). Thus scientists looked for a more permanent solution to help individuals lose weight. In

the 1950's, researchers and physicians began to notice that patients who had sections of their small intestine removed lost weight, despite increased caloric intake (Moshiri *et. al*., 2013).

In 1963, Payne and colleagues published the first case study on modern bariatric surgery. Ten obese patients (defined as at least 125 lbs. overweight) had part of their jejunum redirected, which is the part of the small intestine between the colon and the ileum (Payne *et al.* 1963). While patients did experience significant weight loss and lower cholesterol levels after the surgery, the procedure was far from perfected. In addition to malabsorption of many nutrients and diarrhea, patients experienced "dehydration, electrolyte imbalance, hypoprothrombinemia, postural hypotension, tetany, joint symptoms, anemia, cholelithiasis, nephrolithiasis, fatty infiltration of the liver, hepatic cirrhosis, and hepatic failure" (Moshiri *et al.* 2013). Surgeons tried to modify the procedure over the next decade, but patients still suffered uncomfortable and embarrassing side effects, as well as nutritional deficiencies. In some cases, people even experienced liver failure (Moshiri *et al.* 2013).

A new approach to weight loss surgery, biliopancreatic diversion with duodenal switch, came about in the 1990s (Moshiri *et al.* 2013). This procedure combined restricting how much individuals could eat by removing part of the stomach, in addition to redirecting the small intestine, which decreases nutritional absorbance (Moshiri *et al.* 2013). This approach has become less invasive with newer technology and appears to effectively help patients lose weight and maintain the weight they have lost. There are some life-long health effects of undergoing the procedure such as "calcium, iron, magnesium, vitamin, and protein deficiency, as well as malodorous stools and flatus" (Moshiri *et al.* 2013).

Evolving at the same time as procedures that tried to decrease absorbance by altering the small intestine, in the 1960's surgeons tried a mechanical approach to food restriction. In 1967,

Mason and colleagues developed a procedure that stapled the stomach, creating a smaller pouch (Moshiri *et al.* 2013). The smaller pouch of the stomach was then connected to the small intestine. This surgery was perfected over time to become what is known today as gastric bypass (Moshiri *et al.* 2013). Mason in the 1970s, also tried procedures that banded the stomach in the horizontal or vertical direction; this did not require redirecting the intestine (Moshiri *et al.* 2013). The bariatric procedures performed today include gastric bypass aka Roux-en-Y Gastric Bypass (Gold standard), sleeve gastrectomy (which involves cutting out 80% of the stomach), an adjustable gastric band which limits food intake, and biliopancreatic diversion with duodenal switch (American Society for Metabolic and Bariatric Surgery 2).

Bariatric Surgery Outcomes

In 2017, 228,000 bariatric surgeries were performed in the United States (DeMaria *et al.* 2018). This indicates that only 1% of the population eligible for bariatric surgery actually undergoes one of the many procedures available (DeMaria *et al*. 2018). For severely obese individuals (BMI of 40 kg/m^2 or greater) weight loss surgery is the most effective way to lose weight and maintain weight loss, compared to other weight loss options such as lifestyle modifications and oral medications (Padwal *et al.* 2011). However, not all individuals are eligible for weight loss surgery, and non-surgical weight loss interventions are typically tried before surgery (Padwal *et al.* 2011). The amount of weight individuals lose is dependent on the type of surgery performed. Of the bariatric procedures that are still performed today, biliopancreatic diversion typically results in the most weight loss (about -11.2kg/m^2), then sleeve gastrectomy (-10.1 kg/m^2) , followed by Roux-en-Y gastric bypass (-9.0 kg/m^2), and lastly vertical and adjustable banding (-6.4 and -2.4 kg/m^2 respectively) (Padwal *et al.* 2011).

Randomized clinical trials have shown that gastric bypass and laparoscopic gastric banding procedures result in a greater percentage of diabetic patients going into remission, compared to individuals who try to manage their diabetes through lifestyle modifications (Courcoulas *et al.* 2015). Individuals who had undergone weight loss surgery also had lower triglycerides, HDL cholesterol, and blood pressure compared to the lifestyle only intervention group (Courcoulas *et al.* 2015). For bariatric surgery to be successful, patients must modify their lifestyle, and in particular, their diet; it is recommended that patients: "eat only three small meals a day, to eat very slowly, to chew food extremely well, to eat small amounts, to stop eating when they are getting 'full', and to avoid high-calorie foods and liquids" (van Hout and van Heck 2009:12). Thus bariatric surgery is not an immediate fix to obesity, individuals must change their lifestyles to maintain weight loss after surgery.

Obesity is also associated with psychological distress, in particular, depression. BMI and psychological health tend to have an inverse relationship, as BMI increases, psychological health declines. After weight loss surgery, studies have shown improvement in "depressive symptoms, self-esteem, health related quality of life, and body image" of obese patients (Kubik *et al.* 2013:2). Further, Kubik and colleagues interpreted these findings to suggest that, "psychopathology in the morbidly obese is likely attributable to their obesity as opposed to their underlying character. The magnitude of mental health gain may also be related to the amount of weight loss after surgery" (Kubik *et al.* 2013:2). Self-conception is deeply embedded in the physical presence of one's body. However, many patients begin to gain weight two years post bariatric surgery and positive gains in mental health may decline during this time (Kubik *et al.* 2013).

Contribution to Understanding Problem

To better understand the social consequences of obesity, assessing individuals who have had bariatric surgery is a rich opportunity because they have the perspective of both conditions; the condition of severe obesity, as well as the condition of a more socially acceptable, 'normal' BMI. Thus individuals can pinpoint how their social status has changed after weight loss, and the stigma they faced prior to surgery, that may have now changed. In the larger picture, understanding stigma regarding the obese condition can provide more insight into why so many individuals fail to lose weight, and what motivates individuals to get weight loss surgery, which has many positive physical and psychological health effects. Understanding stigma can also inform public policy to protect the rights of obese persons, and direct campaigns to fight such stigma. This gives ample opportunity for individuals with obesity to feel comfortable and empowered to change their physical condition and health if desired, or embrace their current physical presence.

Chapter 2 Methodology

Study Design

The research question asks whether an individual's perceived social status changes after significant weight loss. The study is a two part design using qualitative and quantitative techniques. The study was approved by the Institutional Review Boards at Ellis Hospital and Union College. The qualitative data came from patient interviews that were conducted at the Ellis Medicine Bariatric Care Clinic, in Niskayuna, NY. The interview questions focused on societal perceptions of obesity and how people feel their lives have changed after bariatric surgery. A total of thirteen interviews were conducted. The full interview questions can be found in the appendix. While interviews were done in January and February of 2020, additional time was spent understanding the Ellis Bariatric Clinic. In October, November, and December of 2020, I spent time shadowing a physician assistant at the office. The physician assistant allowed me to be in the room as he saw patients. We talked at length about the body biochemistry of obesity, and why some individuals are successful after bariatric surgery, while others are

unsuccessful. Interestingly, the idea of food addiction was mentioned in our discussions. Patients are screened before surgery by a psychiatrist to make sure they do not have behaviors that would make surgery a poor option for them. Likewise, half of patients scheduled for appointments in a given day in the clinic do not show up. It was the opinion of the physician assistant that many individuals cannot confront the issue of their weight which is why they fail to actually come to their scheduled appointments. As the physician assistant and I came to know one another in a professional capacity, he introduced me to patients in a positive, upbeat way, such that only one patient asked to participate in an interview declined.

The quantitative data was collected using a survey that was posted in the private Facebook group of individuals who have undergone bariatric surgery through Ellis Hospital, located in Schenectady, NY. There are about 2,000 individuals in the Facebook group, including administrators and practitioners at Ellis Hospital who are responsible for adding patients into the group who wish to join, and monitoring what is posted in the group. The Weight Bias Internalization Scale (WBIS) was used to assess individuals' own self-stigma regarding obesity before and after bariatric surgery (Durso and Latner 2008). The survey also included an abbreviated version of the Stigmatizing Situations Inventory (SSI). The SSI is a 50 item instrument developed by Myers in 1999, and measures how often individuals experience stigmatizing / discriminatory situations or behaviors. The SSI was shortened to 25 items. Included items have been proven to have high reliability and consistency (Vartanian 2015). Both the WBIS and SSI contain Likert scale style questions. The WBIS question responses ranged from “strongly agree” to “strongly disagree”. Survey participants were asked how often they experienced items on the SSI before and after their bariatric procedure. The SSI question responses ranged from “never” to “daily”. The full survey sent to the Facebook group can be

found in the appendix. Participants who had undergone surgery less than one year ago were excluded.

IBM SPSS software was used for statistical analyses. Paired sample t-tests (95% CI) were done to compare means for each item on the WBIS and SSI for before and after bariatric surgery. Indices for subscales of questions in the SSI were then created, normalized to the number of questions in each subscale, and then paired sample t-tests were done (95% CI). Subscales were modified from Vartanian, 2015. Final indices were created to combine all items in the WBIS and SSI for before and after bariatric surgery. The 11 item WBIS had a maximum individual score of 77, which would indicate high self-stigma due to obesity. The 25 item SSI had a maximum individual score of 225, which would indicate high perceived discrimination due to obesity. Paired sample t-tests (95% CI) were done using the created indices to determine whether self-stigma and perceived discrimination were different before and after bariatric surgery and subsequent weight loss. For indices, Cronbach's alpha was calculated to determine reliability. Bivariate correlations were done using Pearson's R to determine whether there was a correlation between scores on the WBIS and SSI prior to and after bariatric surgery.

Chapter 3 Results

Patient Interviews

In January and February of 2020, a total of thirteen patient interviews were conducted. Patients interviewed had ages ranging from 31 to 70. Included were 11 females and 2 males, which reflects the gender distribution of patients treated in Ellis Medicine's Bariatric Care Center. Interviews were conducted immediately following patients' regularly scheduled office appointments, and typically lasted for 10-15 minutes.

Tipping the Scale: Cost versus benefit of surgery

Patients were asked what was the most profound change they experienced after bariatric surgery. Every patient when answering this question cited the positive impacts bariatric surgery had had on their physical health. Many patients felt more energized, more active, and healthier, and cited better sex lives. Many patients also cited that they felt better about themselves, they

had improved self-esteem, and they were more comfortable going out in public. One patient stated, "I have more self-confidence and feel closer to who I am. I am less introverted. I used to use weight as an excuse not to do things." By and large, bariatric surgery was looked upon favorably by interviewed individuals. However, one individual who had lost 120 pounds since bariatric surgery did actually indicate that she was more unhappy with her body after bariatric surgery compared to before. She felt she was now "mourning the loss of being able to eat whatever you want," and felt unprepared for the extra skin flaps that form after dramatic weight loss. Positive health aspects of weight loss surgery such as reducing comorbidities such as asthma and diabetes mellitus appear to outweigh other consequences (such as extra skin) for most patients.

Ten of the thirteen people interviewed indicated that they were happier now compared to before bariatric surgery. The other three individuals indicated that they felt the same in terms of happiness before and after bariatric surgery. Individuals indicate increased happiness for a variety of reasons: "Yes, I'm happier...for many reasons. I'm healthier, look better, participate in things, and have a better relationship with my family." Increased happiness after surgery was attributed mainly to individual scale factors (improved self-esteem, better physical health, greater confidence) as opposed to societal scale factors.

Post-surgery Social Encounters

Patients were asked whether they felt individuals treated them differently after they had lost weight. Every person interviewed answered this question with an immediate and firm "yes" or "no". Interestingly, several of the people who answered "no" provided further explanation to say that strangers and people of the opposite sex treated them differently, but their friends and family treated them the same. People who answered yes typically echoed the same sentiment—

especially women. One woman stated "most people are nicer, especially men. I'm nicer to people as well, I don't push them away from me." Not only did informants feel as though people are nicer and do not stare as much, hold doors in public etc., after weight loss many individuals are themselves more open to social interactions because in their new social status they do not have to be ashamed of their physical state.

Individuals were also asked about what particular social situations they felt more comfortable in after weight loss. Many people cited the fact that they felt more comfortable going to parties, grocery shopping, working out at the gym, going out to dinner, and in social interactions that require "dressing up" or evening wear. One woman stated, "beautiful dresses come in sizes 6 and 8. You can't find anything beautiful in a size 22." There were a few people who indicated that they never felt uncomfortable in social situations and weight loss did not change how they felt.

Perceived Discrimination

Individuals were asked if they ever felt discriminated against or stigmatized because of their size, and if so did the perceived discrimination lessen after weight loss. Eleven out of thirteen people responded that they have felt discriminated against because of their size. There were several common instances where people felt discriminated against—buying clothes, in amusement parks, places of employment, public transit, and airplane seats. One person shed light on job discrimination that hit multiple dimensions described above. She responded that when she was younger she worked in a department store, stating "I was always stuck hidden away where people didn't see me." She felt as though the brand of the store was ashamed of having overweight employees, and thus assigned her job tasks that did not involve human interaction. Another individual worked in law enforcement and expressed discrimination from

coworkers because as a person with obesity, he could not chase after criminals. Likewise, individuals expressed frustrations with being forced to buy two tickets on airplanes because they could not fit into one standard seat, or being denied a chance to go on amusement park rides because they could not fit safely into the seat.

Most individuals cited that after significant weight loss, discrimination lessened. During several interviews the concept of arguments and name calling was discussed. Many individuals pointed out that the first retort individuals go to during arguments with an overweight or obese person is to say "you're fat." Many post-bariatric surgery patients cited that when they argue with people now, the person they are arguing with can no longer use their weight against them or in a derogatory way. Likewise, women find buying attractive clothing easier and discussed increased attention from males. Overweight and obese people, especially women, are often discriminated against in the world of dating. One woman indicated that weight loss surgery was a bit alienating in this context. While dating/romantic partner discrimination lessened, she cited that with a thinner figure came a new set of issues: "I got attention from males I didn't know how to handle. It made me think about running to a Snicker's bar." The physical state changes quickly after bariatric surgery, as does social status, and many individuals are unprepared for how it changes their day to day social interactions.

Societal Perceptions of the Obese

Individuals were asked about how they think society in general views individuals with obesity, and whether or not they agree with such generalizations. One person stated, "obese people are treated cruelly. It is a disease that needs to be treated. It is also a learned behavior similar to alcoholism or drug abuse. People don't understand that." Many parallels were drawn to alcoholism as an addictive behavior, and how overeating as an addiction and subsequent obesity

can be understood in the same way. However, interviewed individuals discussed how society at large assumes obesity is a choice. In society's view if someone chooses to be obese, character judgements are drawn. Individuals who were interviewed indicated that they feel society thinks individuals with obesity are lazy, "couch-potatoes", undisciplined, and unemployed. One person stated that obese people are considered, "Lesser-thans. They're like black people—don't get the same respect. Doesn't matter how smart or creative they are, all you see is an obese person." Obesity is a characteristic that outweighs many other attributes of a person, especially in first impressions.

While one person indicated that they do understand why some individuals place judgement on lifestyle habits of obese persons, the vast majority of patient's disagreed with societal generalizations. "No I don't agree with generalizations. Society treats people with obesity as if they are in another world. They're lepers." Many patients expressed frustration with people who are not overweight or obese, because they do not understand what it is like to live in a society that places so much stigma on obesity. When talking about obesity one patient stated, "it is an addiction. It can't be overcome with willpower. There's no easy fix. It is difficult...I work in a poor school district...you can't eat healthy with no money." Interviewed patients highlighted that people should not make automatic assumptions about obese people in general because genetics, medications, addictions, underlying medical conditions, stress, and financial limitations can all interplay to make it very difficult for an individual to lose weight. Obesity is not always a choice.

Survey Data

Characteristics of Survey Participants

A total of 85 individuals responded to the survey submitted to the Facebook group, with 90% (76) of respondents being female and 10% (9) being male. Seventy-four individuals met the exclusion criteria of being at least one year post-operation from bariatric surgery. The age of respondents ranged from 23 to 69. The mean amount of weight lost from an individual's starting weight before bariatric surgery to their current weight was 119 pounds, while the median amount of weight lost was 104 pounds. The mean and median duration of obesity was 34 and 30 years, respectively.

Analyses are outlined as follows. Paired sample t-tests were conducted for each individual item on the SSI and WBIS comparing scores before and after surgery. Items in the SSI were then put into subscales that were modified from Vartanian (2015). Prior subscales with fewer items were created by Vartanian, and I took liberty to pick more questions from the SSI to be included in the survey, and placed the questions in the appropriate subscales. While some of the subscales only contained a single item, Cronbach's alpha was calculated for subscales with more than one item to measure internal consistency. Total indices containing all items used from the WBIS and SSI were created and analyzed using paired sample t-tests as well as Cronbach's alpha. Pearson correlations coefficients were also done for the SSI and WBIS before and after bariatric surgery, to see if the two instruments correlated with each other, individually before and after.

Self-Stigma Measures

Paired sample t-tests with individual items from the WBIS were conducted to determine how scores changed before and after surgery. Items are intended to measure how much an individual has internalized stigma due to obesity. Each individual item had a minimum score of

1, which would indicate a response of “strongly disagree” and a maximum score of 7 which would indicate a response of “strongly agree”.

Table 1. WBIS Individual Item Before and After Bariatric Surgery Comparison of Means

WBIS variable	Mean before	SD before	Mean after	SD after	Mean after - mean before	Significance (2-tailed)
As an overweight person I felt that I am just as competent as anyone	4.13	2.42	4.97	2.04	0.84	0.000
I was less attractive than most people because of my weight	5.47	2.04	3.34	1.65	-2.13	0.000
I felt anxious about being overweight because of what people might think of me	5.54	2.05	3.59	1.92	-1.95	0.000
I wished I could drastically change my weight	6.11	1.66	4.2	1.92	-1.91	0.000
When I thought a lot about being overweight, I felt depressed	5.71	1.86	4.04	1.89	-1.67	0.000
I hated myself for being overweight	5.23	2.11	3.89	2.1	-1.34	0.000
My weight is a major way that I judged my value as a person	4.7	2.26	3.67	2.03	-1.03	0.000
I felt that I do not deserve a really fulfilling social life, as long as I am overweight	3.55	2.28	2.78	1.82	-0.77	0.000
I was OK being the weight that I was	1.88	1.89	3.03	1.8	1.15	0.000

Because I was overweight, I didn't feel like my true self	4.91	2.26	3.51	1.8	-1.4	0.000
Because of my weight, I didn't understand how anyone attractive would want to date me	5.3	2.17	3.95	2.01	-1.35	0.000

As shown in table 1 above, each item in the WBIS had a statistically significant difference in means for before and after bariatric surgery. All items indicate a lesser degree of self-stigmatization due to obesity after bariatric surgery. The items highlighted in red changed the most before and after bariatric surgery, whereas the items highlighted in blue had the smallest difference in means before and after bariatric surgery. The greatest change was how people interpreted their own attractiveness. To the item "I was less attractive than most people because of my weight" the mean answer before bariatric surgery was near 5.5, which is between the responses of "slightly agree" and "moderately agree." After bariatric surgery, the mean score was a 3.3, which is between responses of "slightly disagree" and "neither agree or disagree." People also showed similar response patterns to items "I wished I could drastically change my weight" and "I felt anxious about being overweight because of what people might think of me." While there was still a statistically significant change, people had a less robust change for items "as an overweight person I felt that I am just as competent as anyone" and "I felt that I do not deserve a really fulfilling social life, as long as I am overweight." This indicates that internalized stigma manifests as anxiety about physical appearance and a desire to lose weight, but to a lesser degree as feelings of being less intelligent or less competent as their 'normal' BMI counterparts.

Experienced Stigma Measures

Paired sample t-tests with individual items from the SSI were done to assess changes in how often individuals experience certain situations in which they feel stigmatized or discriminated against because of their weight. Means scores of the SSI were compared before and after bariatric surgery, to see how mean scores changed. Each individual item had a minimum score of 0, which would indicate a response of "never" and a maximum score of 9 which would indicate a response of "daily".

Table 2. SSI Individual Item Before and After Bariatric Surgery Comparison of Means

SSI variable	Mean before	SD before	Mean after	SD after	Mean after - mean before	Significance (2-tailed)
A doctor blaming unrelated physical problems on your weight	3.8	2.61	1.29	1.88	-2.51	0.000
A parent of other relative nagging you to lose weight	4.96	3.15	1.47	2.41	-3.49	0.000
Being called names, laughed at, or teased by other children when you were young	5.41	3.51	1.21	2.35	-4.2	0.000
Being glared at or harassed by bus passengers for taking up "too much" room	2.75	3.23	0.79	2.03	-1.96	0.000
Being passed up for a promotion, given bad assignments, or otherwise discriminated against at work	2.01	2.84	0.59	1.69	-1.42	0.000
Being singled out as a child by a teacher, school nurse, etc. because of your size	2.41	3.11	0.41	1.57	-2.00	0.000
Being stared at in public	4.75	3.3	1.72	2.63	-3.03	0.000

Being told "all you really need is a little willpower"	5.28	2.93	2.07	2.78	-3.21	0.000
Being unable to get a date because of your size	3.62	3.23	1	2.15	-2.62	0.000
children loudly making comments about your weight to others	3.46	3.33	0.82	1.82	-2.64	0.000
Friends, acquaintances, co-workers etc. making fun of your appearance	2.47	2.98	0.74	1.84	-1.73	0.000
Having a doctor make cruel remarks, ridicule you, or call you names	1.42	2.25	0.33	1.3	-1.09	0.000
Having a doctor recommend a diet even if you did not come in to discuss weight loss	3.21	2.17	0.74	1.52	-2.47	0.000
Having a romantic partner exploit you, because s/he assumed you were "desperate" and would put up with it	1.58	2.73	0.25	1.38	-1.33	0.000
Having family members feel embarrassed by you or ashamed of you	2.46	2.93	0.5	1.57	-1.96	0.000
Having people assume that you binge-eat because you are overweight	4.45	3.18	1.12	2.25	-3.33	0.000
Having people assume you have emotional problems because you are overweight	3.91	3.76	1.28	2.31	-2.63	0.000
Not being able to fit into bus or airplane seats, into small cars, or into standard seat belts	3.12	3.01	0.58	1.83	-2.54	0.000
Not being able to fit through turnstiles, on amusement	2.99	2.63	0.58	1.71	-2.41	0.000

park rides, or other places not already mentioned						
Not being hired because of your weight, shape, or size	1.41	2.05	0.29	1.14	-1.12	0.000
Overhearing other people making rude remarks about you in public	2.92	2.87	0.64	1.52	-2.28	0.000
Parents or relatives telling you how attractive you would be, if you lost weight	3.46	3.08	0.74	1.93	-2.72	0.000
People telling you that you will never find a partner if you don't lose weight	2.14	2.85	0.47	1.79	-1.67	0.000
When eating in public being told "you really shouldn't be eating that"	3.04	2.98	0.93	1.78	-2.11	0.000
Having strangers suggest diets to you	3.04	2.78	0.86	1.91	-2.18	0.000

Table 2 above indicates that each item in the SSI had a statistically significant difference in means for before and after bariatric surgery. All items indicate fewer stigmatizing / discriminatory situations due to obesity after bariatric surgery. The items highlighted in red changed the most before and after bariatric surgery, whereas the items highlighted in blue had the smallest difference in means before and after bariatric surgery. The item with the highest mean score before bariatric surgery was “Being called names, laughed at, or teased by other children when you were young.” This had a mean score of 5.41 before bariatric surgery, indicating the average response experienced this item between “once a month” or “several times a month.” After bariatric surgery the mean response was 1.21, indicating individuals responded with “once in your life” and “several times in your life” to this item.

Items in the subscale that were indicated to happen most frequently before bariatric surgery (highest before mean scores) changed the most after bariatric surgery. This includes items such as “a parent of other relative nagging you to lose weight,” “being stared at in public,” “being told "all you really need is a little willpower,” and “having people assume that you binge-eat because you are overweight.” Items that had a low mean score before bariatric surgery, indicating the stigmatizing situation happened less often, had the least change (but still statistically significant) before and after bariatric surgery. This includes items such as “having a doctor make cruel remarks, ridicule you, or call you names,” “having a romantic partner exploit you, because s/he assumed you were ‘desperate’ and would ‘put up with it’,” and “not being hired because of your weight, shape, or size.” This indicates that passive aggressive remarks and negative assumptions are more common forms of experienced stigma, and change considerably after bariatric surgery. The more combative stigmatizing situations such as doctors ridiculing a person are less frequent, and change less after bariatric surgery.

Indices and Correlations

The individual items in the SSI can be organized into a set of sub scales, which were created by Vartanian (2015). Additional questions that were included in this version of the survey were put into the existing subscale categories. Below is how the items were categorized:

Table 3: SSI Item Subscale Categorization

Subscale	**SSI variable**
comments from doctors	A doctor blaming unrelated physical problems on your weight
comments from family	A parent of other relative nagging you to lose weight

comments from children	Being called names, laughed at, or teased by other children when you were young
physical barriers	Being glared at or harassed by bus passengers for taking up "too much" room
job discrimination	Being passed up for a promotion, given bad assignments, or otherwise discriminated against at work
avoided, excluded or ignored	Being singled out as a child by a teacher, school nurse, etc. because of your size
being stared at	Being stared at in public
comments from others	Being told "all you really need is a little willpower"
avoided, excluded or ignored	Being unable to get a date because of your size
comments from children	children loudly making comments about your weight to others
comments from others	Friends, acquaintances, co-workers etc. making fun of your appearance
comments from doctors	Having a doctor make cruel remarks, ridicule you, or call you names
comments from doctors	Having a doctor recommend a diet even if you did not come in to discuss weight loss
comments from family	Having a romantic partner exploit you, because s/he assumed you were "desperate" and would put up with it
loved ones embarrassed	Having family members feel embarrassed by you or ashamed of you
negative assumptions	Having people assume that you binge-eat because you are overweight
negative assumptions	Having people assume you have emotional problems because you are overweight
physical barriers	Not being able to fit into bus or airplane seats, into small cars, or into standard seatbelts
physical barriers	Not being able to fit through turnstiles, on amusement park rides, or other places not already mentioned
job discrimination	Not being hired because of your weight, shape, or size
comments from others	Overhearing other people making rude remarks about you in public
comments from family	Parents or relatives telling you how attractive you would be, if you lost weight
comments from others	People telling you that you will never find a partner if you don't lose weight
comments from others	When eating in public being told "you really shouldn't be eating that"
comments from others	Having strangers suggest diets to you

Using the created indices, paired sample t-tests and Cronbach's alpha were calculated for the subscale items. Cronbach's alpha was not calculated for subscales that contained one item.

Table 4. SSI Subscale Indices Before and After Bariatric Surgery Comparison of Means

Subscale Item	# of items	Mean before	SD before	Cronbach's alpha before	Mean after	SD after	Cronbach's alpha after	Significance (2-tailed)
comments from children	2	8.86	6.21	0.784	2.02	3.49	0.544	0.000
comments from doctors	3	8.42	6.09	0.831	2.355	4.06	0.814	0.000
comments from family	3	10	7.35	0.754	2.46	4.67	0.715	0.000
comments from others	6	18.89	14.29	0.904	5.71	8.86	0.843	0.000
negative assumptions	2	8.35	6.25	0.901	2.39	4.21	0.826	0.000
physical barriers	3	8.86	7.61	0.819	1.95	4.74	0.807	0.000
avoided, excluded or ignored	2	6.03	5.81	0.810	1.41	3.32	0.719	0.000
being stared at	1	4.75	3.3		1.72	2.63		0.000
job discrimination	2	3.42	4.64	0.860	0.88	1.55	0.716	0.000
loved ones embarrassed by your size	1	2.46	2.93		0.5	1.57		0.000

Each SSI subscale item also changed significantly from before and after bariatric surgery. Comments from children and being stared at are the subscale items that had the highest mean from the beginning (happened most frequently), and changed the most after bariatric surgery. Job discrimination and having loved ones embarrassed by your size changed the least, and also had the lowest mean score before bariatric surgery, indicating that they happened less frequently than other items to begin with. The subscales had high internal consistency, the

Cronbach's alpha was above .7 for all indices except for comments from children before bariatric surgery

The items in the SSI and WBIS can each be combined into a single index for each measure. The 11 WBIS items were summed (minimum possible = 11 maximum possible = 77) for before and after bariatric surgery. The 25 items in the SSI were combined as well, into an index that ranges from 0 to 225, for before and after bariatric surgery. Paired sample t-tests were done using the indices. Cronbach's alpha was used to analyze internal consistency of the instrument. Percent decline was also used to measure the degree to which mean scores changed for both instruments.

Table 4. WBIS and SSI Complete Indices Before and After Bariatric Surgery Comparison of Means

Instrument	Mean before	SD before	Cronbach's alpha before	Mean after	SD after	Cronbach's alpha after	Significance (2-tailed)	% decline
WBIS	48.82	12.54	.880	34.97	13.17	.836	0.000	28%
SSI	80.07	54.04	.964	21.41	34.35	.960	0.000	73%

As indicated in Table 4 above, the WBIS and SSI have high internal consistency as measured by Cronbach's alpha. Index scores on both the WBIS and SSI changed significantly for before and after bariatric surgery. This indicates self-stigma due to obesity, as well as experienced discrimination / stigma due to the obese condition lessened after bariatric surgery. The average of the WBIS scores declined by 28%, whereas the average SSI scores declined by 73%. While both the WBIS and SSI had statistically different means, the change in means for the

SSI was much larger. This indicates that experienced stigma changed more than self-stigma post bariatric surgery.

Table 5. Pearson's Correlation Coefficients

		SSI after	SSI before	WBIS after	WBIS Before
SSI after	Pearson Correlation	1	.494**	.455**	.263*
	N	76	76	74	75
SSI before	Pearson Correlation	.494**	1	0.173	.273*
	N	76	76	74	75
WBIS After	Pearson Correlation	.455**	0.173	1	.626**
	N	74	74	74	74
WBIS Before	Pearson Correlation	.263*	.273*	.626**	1
	N	75	75	74	75

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 5 demonstrates that the WBIS typically correlated significantly with the SSI. The one case in which this is not true is the SSI before bariatric surgery does not have a statistically significant correlation with the WBIS after surgery. However, this demonstrates a strong correlation between internalized stigma and experienced stigma (before-before and after-after correlations), as well as before-after correlations for the individual instruments.

Chapter 4 Discussion and Conclusion

Study Purpose and Summary of Research Findings

Over 30% of the United States population is clinically obese, yet obesity remains a highly stigmatized condition. Understanding how obesity impacts a person's social status is important in determining how public policy and public health efforts can combat obesity as a medical condition and simultaneously mitigate social stigma placed on persons with obesity. In this study, the Weight Bias Internalization Scale (WBIS) and the Stigmatizing Situations Inventory (SSI) were used to assess internal and external stigma / discrimination due to obesity. In individuals who had undergone bariatric surgery, self-stigma as well as experienced stigmatizing situations decreased after bariatric surgery and subsequent weight loss. Every item measured was statistically significant, as well as every subscale item, indicating that obesity is a strong social identifier and impacts many dimensions of a person's life. These same conclusions were echoed in interviews with patients who had undergone bariatric surgery. Interviewed patients felt that bariatric surgery positively impacted their lives. Bariatric patients assumed a new social status after surgery and subsequent weight loss. Having experienced significant weight loss, bariatric patients pinpointed negative assumptions people make about persons with obesity, and how many of these negative assumptions placed on person's with obesity (self-indulgent, lazy, gluttonous) are not necessarily true. Many patients argue that obesity is not always a choice, which society often assumes.

As mentioned in the literature review, after the early 2000s rhetoric about the 'obesity epidemic', a counterculture evolved to combat people's obsession with weight loss and what is considered a 'normal' BMI. Health at every size and body positivity were praised as alternatives to traditional methods of weight loss. Bariatric surgery was also considered a way to fix an artificial problem; scholars argued that the idea of obesity was socially created to fuel biases

against racial minorities, justify the treatment of individuals in lower socioeconomic classes, and to legitimize a target population for the diet industry to profit off of. However, based on the results of this study, people who have actually undergone bariatric surgery view obesity as a medical condition that requires treatment. After bariatric surgery people feel physically healthier, have better social interactions, and have increased self-esteem. While this does not mean that every individual who wishes to lose weight should have an invasive, life-changing procedure, for those individuals who qualify for bariatric surgery, it appears to be a positive life change—medically, mentally, and socially.

To Be or Not to Be...Obese?

The stigma of obesity is more difficult to address. Obesity is a highly visible condition, unlike many other diseases such as mental illnesses or sexually transmitted diseases that carry a great deal of stigma, but can also be easily concealed in public. Erving Goffman describes visible stigma as follows: "when an individual's stigma is very visible, his mere contacting others will cause his stigma to be known about" (Goffman 1963:49). Individuals whose stigma is apparent from the start of a social encounter are "discredited" individuals (Goffman 1963:41). In interactions between the 'normal' and the discredited, the normal individual makes assumptions, and may treat the discredited in a certain way, even though what actually discredits the individual (obesity) may never be addressed. The discredited individual cannot conceal what discredits him or her. What Goffman describes as Stigma associated with obesity also blurs the lines between what Goffman describes as "blemishes of individual character" and "abominations of the body" (Goffman 1963:2), because obese individuals can face both forms of stigma—physical barriers and negative assumptions of character. A great deal of obesity is driven by

lifestyle factors such as diet and exercise, which are presumably under the control of the individual. However, shaming persons with obesity has been ineffective in motivating people to live healthier lives. Not all public health issues can be addressed like cigarette smoking. Understanding the complex factors that influence a person's weight such as genetics, medications, underlying medical conditions, addictive tendencies, economic situation, familial socialization, employment, availability to healthy foods, and coping mechanisms to stress must be taken into account. Due to the dual nature of the causes of obesity, both personal choices and situational variables, addressing the stigma associated with obesity is a complicated task.

There are individual and societal costs to destigmatizing obesity, as well as individual and societal costs to the current stigma associated with obesity. Both the qualitative and quantitative data reported here have made apparent how stigma associated with obesity negatively impacts an individual's self-esteem and self-perception. Discriminating against individuals with obesity likewise negatively impacts society; there are fewer obese individuals in higher education and in higher socioeconomic strata. As mentioned in the review of literature, whether this correlation is causal remains unknown; however, obesity likely contributes to limiting an individual's educational / career potential, which means that obese individual's contribution to society is not always as meaningful or impactful as it could be if there was no stigma associated with obesity. On the opposite side of the issue, destigmatizing and consequently normalizing obesity is a bad public health initiative. Being overweight and or obese has many negative effects on individual's health. Treating a greater deal of individuals with comorbidities related to obesity such as diabetes, heart disease, asthma, sleep apnea etc. also carries a societal cost in terms of healthcare expenses and decreased life expectancy. Therefore

one must strike a balance between promoting healthy living and discouraging behaviors that lead to obesity, and empowering overweight and obese individuals to fight stigma.

Public Policy Recommendations

As mentioned in the literature review, nationally only 1% of the population eligible for bariatric surgery actually undergoes a bariatric procedure. Likewise, practitioners at Ellis Medicine cite that their bariatric program is the second most profitable specialty / department in the entire hospital. While not every hospital can, nor should have a bariatric surgery program, policy makers must realize that bariatric surgery, when done correctly from both clinical and business standpoints is efficacious and profitable. The prevalence of obesity in the United States also demonstrates that there is a large market for bariatric surgery. As such, more people need to be aware of bariatric surgery as an option, and not just a 'quick fix' for people who are 'too lazy' to lose weight through diet and exercise alone. Thus public policy should advocate and assert the importance of certain screening criteria for bariatric surgery candidacy. Individuals who wish to undergo bariatric surgery still need to demonstrate that they are able and willing to make lifestyle changes. Bariatric surgery is not magic, it is hard work, but it is beneficial for people who are dedicated to living a healthier life.

Recommendations to Medical Professionals

While public policy and public health initiatives may be able to better address health and stigma associated with obesity on a macro scale, it is the responsibility of medical practitioners to mitigate the stigma of obesity and address the health issues associated with obesity in individual, micro-level interactions. Peter Conrad, the father of medical sociology defines the process of medicalization as "defining a problem in medical terms, usually as an illness or

disorder or using a medical intervention to treat it" (Conrad 2005). Conrad argues that the forces driving medicalization have been the authority of the medical profession as a whole, as well as social movements. Medicalization that came from social movements is described as follows, "organized efforts were made to champion a medical definition for a problem or to promote the veracity of a medical diagnosis. The classic example here is alcoholism, with both Alcoholics Anonymous and the "alcoholism movement" central to medicalization" (Conrad 2005). The medical profession began to treat alcoholism as a disease because of social movements to de-stigmatize the addiction to alcohol. While there is less research on food addiction, many bariatric patients draw parallels between obesity and alcoholism, so a medicalization / social movement paradigm to understand and address obesity as a social issue can be used.

Increasing the medicalization of obesity is vital to reducing stigma associated with obesity, as well as addressing the health issues that are linked to the obese condition. One may argue that the medicalization of obesity has already happened; bariatric surgery has been an option for obese persons who meet certain criteria for decades, and medical practitioners already lecture patients ad nauseum to lose weight through diet and exercise. However, increased medicalization, or new wave medicalization of obesity recognizes that obesity cannot always be treated by diet and exercise alone, and removes the blame placed on individuals for their current physical state. Telling an obese individual to lose weight is advice similar to telling an alcoholic to not drink alcohol—intention aside, this type of advice is often ineffective. Medical professionals have authority that is perceived to be legitimate. If medical professionals are more outspoken about obesity as a physical consequence of the complex interaction of life circumstances (socioeconomic status, genetics) and lifestyle choices (diet and exercise), obesity will be viewed as a more legitimate medical condition in the eyes of the public. Thus more

people will be willing to talk about it openly, and seek treatment for it as a medical condition. This addresses both decreasing the stigma associated with obesity, as well as empowering persons with obesity to take control over their health.

Recommendations for Patients

If the goal is to decrease stigma and empower obese individuals to lose weight, social movements need to take place. Obese individuals need to come together to create advocacy groups that demand changes in public policy and the health profession. Ultimately, obese individuals need to express the detrimental effects of the stigma placed on persons with obesity, and communicate the barriers to the medical treatment of obesity. People who have gone through bariatric surgery should talk about their experiences, and encourage others to do so in support-style groups so people do not feel like they have to face managing one's weight alone. As came up in many patient interviews throughout data collection, obese persons often feel invisible, or have internalized stigma and are therefore ashamed of themselves and make themselves invisible in public spaces. This needs to end. Obese people are the only people who can truly speak to what it is like to be obese and how they feel discriminated against. Making oneself invisible only makes worsens stigma. People with obesity need to be outspoken about their struggle, or it will never improve.

Study Limitations

There is inherent bias in the study design. Individuals who responded to the survey may not be representative of the bariatric population on the whole, and excludes those individuals who do not have access to or use Facebook. Likewise, individuals who are active on the

Facebook page, and active in the bariatric community may be more likely to endorse bariatric surgery. Additionally, individuals were asked questions about life before bariatric surgery retrospectively, and their current situation may skew how they viewed life before bariatric surgery. Likewise only 13 interviews were conducted, with bariatric patients from one medical practice due to a limited time frame for the study, so ideally more patients should be interviewed. The experiences of individuals who have undergone bariatric surgery through Ellis Medicine may not be generalizable to the larger bariatric population.

Future Research

A longitudinal analysis of patients, assessing their internalized stigma and experienced stigma using the WBIS and SSI before the patient undergoes surgery, as well as at their one year post-surgery follow up appointment should be done. The surveys should also be done on paper or electronically in the office, so individuals who are not active on Facebook can participate. This would also eliminate bias from the retrospective design. Likewise, this research should be expanded to include patients who have undergone bariatric surgery through other health systems besides Ellis Medicine to see if the results of the study hold true for patients in different hospital systems. The interview questions also did not directly prompt individuals to talk about self-esteem and how they perceived themselves differently post-bariatric surgery. While many individuals brought this topic up on their own accord, patients should be directly prompted to talk about self-perception before and after surgery. The interviews focused more on experienced discrimination in a social context, and less about changes in internalized stigma.

Appendix

Survey questions for the WBIS and SSI were taken from Krystal Waldo's PhD dissertation at Louisiana State University (2016). Additionally, the original authors of instruments are cited below. Patients were asked questions from the WBIS and SSI considering themselves before and after bariatric surgery, and filled out the questions formatted in a Google Form.

Survey Submitted to Facebook Group:

Opening message: Call for research study participants. My name is Kara Leyden and I am a pre-med student at Union College. I am currently conducting research about stigma faced by persons with obesity. If you went through bariatric surgery through Ellis Medicine, please consider participating. You will not be asked any questions that could be used to identify you. Participation is voluntary. The survey will take about 5-10 minutes to complete, and is accessible by the link below.

Age

Sex

Weight lost

Duration of obesity

Time post-op

Weight Bias Internalization Scale (Durso and Latner 2008)

Please rate your agreement with each item.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Moderately agree	Strongly agree

1. As an overweight person, I feel that I am just as competent as anyone.

2. I am less attractive than most other people because of my weight.

3. I feel anxious about being overweight because of what people might think of me.

4. I wish I could drastically change my weight.

5. Whenever I think a lot about being overweight, I feel depressed.

6. I hate myself for being overweight.

7. My weight is a major way that I judge my value as a person.

8. I don't feel that I deserve to have a really fulfilling social life, as long as I am overweight.

9. I am OK being the weight that I am.

10. Because I am overweight, I don't feel like my true self.

11. Because of my weight, I don't understand how anyone attractive would want to date me.

Stigmatizing Situations Inventory (Myers and Rosen 1999)

Below is a list of situations that people encounter because of their weight. Indicate whether, and how often, each of these situations happens to you. In the spaces below, write the number which best describes how often you encounter each situation. Use the scale below:

0	1	2	3	4	5	6	7	8	9
Never	Once in your life	Several times in your life	About once per year	Several times per year	About once a month	Several times per month	About one per week	Several times per week	Daily

1. ____ A doctor blaming unrelated physical problems on your weight.
2. ____ A parent or other relative nagging you to lose weight.
3. ____ Being called names, laughed at, or teased by other children when you were young.
4. ____ Being glared at or harassed by bus passengers for taking up "too much" room.
5. ____ Being passed up for a promotion, given bad assignments, or otherwise discriminated against at work.
6. ____ Being singled out as a child by a teacher, school nurse, etc. because of your size
7. ____ Being stared at in public.
8. ____Being told, "All you really need is a little willpower."
9. ____ Being unable to get a date because of your size.
10. ____ Children loudly making comments about your weight to others.
11. ____Friends, acquaintances, co-workers, etc. making fun of your appearance.
12. ____ Having a doctor make cruel remarks, ridicule you, or call you names.
13. ____Having a doctor recommend a diet even if you did not come in to discuss weight loss

14. ____ Having a romantic partner exploit you, because s/he assumed you were "desperate" and would put up with it.
15. ____ Having family members feel embarrassed by you or ashamed of you.
16. ____ Having people assume that you overeat or binge-eat because you are overweight.
17. ____ Having people assume you have emotional problems because you are overweight.
18. ____Having strangers suggest diets to you.
19. ____Not being able to fit into bus or airplane seats, into small cars, or into standard seatbelts.
20. ____ Not being able to fit through turnstiles, on amusement park rides, or other places not already mentioned.
21. ____Not being hired because of your weight, shape, or size.
22. ____ Overhearing other people making rude remarks about you in public.
23. ____ Parents or other relatives telling you how attractive you would be, if you lost weight.
24. ____People telling you that you will never find a partner if you don't lose weight.
25. ____ When eating in public, being told “You really shouldn't be eating that."

Interview Questions:

1. Age
2. Sex
3. Time post-op from bariatric surgery
4. Amount of weight lost
5. What do consider to be the most profound change that you have experienced after bariatric surgery (physical, emotional, social)?
6. Do you think that people treat you differently now that you have lost weight? Are there any anecdotes you wouldn't mind sharing?
7. Are you more comfortable in certain social situations after weight loss?
8. Are you happier now compared to before bariatric surgery? If yes, why do you think that is?
9. Have you ever felt stigmatized or discriminated against because of your size? If so, in what situations was it most prevalent?
10. Has this stigma or discrimination lessened since weight loss?
11. In general, how do you think society views individuals with obesity? Do you agree with these generalizations?
12. What is one thing you wish people who are not overweight or obese could understand about obesity?

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Honor Code Affirmation

I affirm I have carried out my academic endeavors with full academic honesty.

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