

WEIGHT LOSS SURGERY:  
A STUDY IN STIGMA AND DEVIANCE

by

Barbara Pennington

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Master of Arts in Sociology

Middle Tennessee State University  
2014

Thesis Committee:

Dr. Meredith Dye, Chair

Dr. Angela Mertig

Dr. Jackie Eller

I dedicate this paper to the women in my family: my daughter, Hillary Jane Pennington, my sister, Jennifer Hansen Raulie, my aunt, Sammie Risley Lipscomb, my best friend in the world, Jane Greathouse Bowden, my late grandmother, Nancy Alta Minks Risley Prentice, and most of all to my late mother, Charlotte Risley Hansen. I love you all.

## ACKNOWLEDGMENTS

I would like to thank my fabulous daughter, Hillary, for her love and support throughout this adventure. Her faith in me was unwavering and that faith carried me through some tough moments. I would also like to thank Lynn Odom for his support and encouragement over the past two years. He was there when I was at my wit's end and taught me that sometimes canoeing the Duck can solve all of life's ills. Thank you Dad, Jennifer, and Sammie for loving me unconditionally and for that I am truly grateful. Dr. Meredith Dye, your willingness to step up and chair my committee at a moment's notice saved the day. Dr. Angela Mertig and Dr. Jackie Eller, thank you both for your guidance as well. Each one of you motivated me to do my best work. I would like to thank Ann-Marie Couch and the support group members at the Bariatric Center of Excellence in Murfreesboro for their support and willingness to help spread the word about my research. Finally, I would like to give a standing ovation to everyone who has made the difficult and rewarding decision to have weight loss surgery.

## ABSTRACT

While weight loss surgery (WLS) is a valid option for morbidly obese individuals, willpower, as demonstrated through diet and exercise, is constructed as the only acceptable strategy for losing weight. I used a 40-question survey instrument and divided participants into pre-WLS and post-WLS groups to measure respondents' experiences with WLS stigma ( $n = 101$ ). More specifically I examined perceived obesity stigma prior to WLS, perceived WLS stigma after making the decision to have surgery, and respondents' tendencies to hide WLS status. Results indicated: 1) strong evidence of obesity stigma prior to WLS experienced by respondents in both groups, 2) evidence of stigma imputed to WLS despite perceptions of higher levels of support by significant others in respondents' lives, and 3) evidence that WLS patients hide their surgery status from some people in an effort to manage the stigma associated with having surgery.

## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	vii
LIST OF ABBREVIATIONS .....	viii
INTRODUCTION .....	1
BACKGROUND LITERATURE .....	3
Obesity Frames .....	4
Theoretical Perspectives of Stigma and Deviance .....	8
Impression Management Techniques .....	10
Weight Loss Surgery .....	12
WLS Frames.....	14
METHODOLOGY .....	17
Data Collection Strategy .....	17
Sample.....	17
Measures .....	18
Obesity Stigma .....	20
Weight Loss Surgery Stigma .....	21
Tendency to Hide WLS Status .....	23
Analyses .....	24
RESULTS .....	25
Obesity Stigma .....	27
WLS Stigma .....	30
Tendency to Hide WLS Status .....	33

DISCUSSION .....	35
LIMITATIONS .....	45
CONCLUSION .....	46
REFERENCES .....	48
APPENDICES .....	54
Appendix A: Survey Instrument .....	55
Appendix B: Tables .....	67
Appendix C: Institutional Review Board Approval .....	77

## LIST OF TABLES

	Page
Table 1 Respondent Demographics by Surgery Status	68
Table 2 Description of WLS Experience by Surgery Status	69
Table 3 Results of Obesity Stigma Cross Tabulations	71
Table 4 Results of WLS Stigma Cross Tabulations	72
Table 5 WLS Perceived and Enacted Stigma Indices and Reliability Measures	74
Table 6 ANOVA WLS Enacted Stigma by Surgery Type	75
Table 7 Results of Tendency to Hide WLS Status Cross Tabulations	76

## LIST OF ABBREVIATIONS

- WLS = Weight Loss Surgery
- CDC = Center for Disease Control
- NIH = National Institute of Health
- BMI = Body Mass Index



## INTRODUCTION

Despite several competing frames about obesity, Americans are bombarded with the message that being fat is an epidemic in need of eradication. For example, in 2012, the health department for New York City began an ad campaign correlating large portion sizes with health consequences of obesity. Subway posters sprang up featuring an obese amputee sitting on a stool with the message reading: “Portions have grown. So has Type 2 Diabetes, which can lead to amputations. Cut your portions. Cut your risk.” Another poster shows an overweight woman struggling to climb subway stairs (Fones 2012). These messages do not just come from medical authorities; they come from mainstream pop culture as well. In April 2013, the actor Tyrese Gibson, during an interview with AllHipHop.com (Taylor 2013) said,

If you look fat and nasty and you don't like the way you look, do something about it. It's simple. When you take a shower, and you put your fat nasty body in the shower, and by the time you get out the mirrors are all steamed up so you don't look at what you did to yourself. That may sound offensive or insensitive but, ultimately, you are big as hell because you have earned that shit. You worked your ass off to eat everything in sight to get big as hell.

From these messages we learn that fat is neither normal nor desirable and in order to achieve normalcy overweight people must lose weight (Zagorsky 2005; Adler and Stewart 2009). For overweight and obese individuals, these messages are extremely stigmatizing. Based on obesity stigma research dating to the late 1960s, we know a great deal about how obesity affects the quality of life for overweight and obese people (Kalisch 1972; Laslett and Warren 1975). However, little research has been conducted on the de-stigmatization of obesity and the stigma attached to certain weight loss strategies.

The purpose of this study is to examine how one particular method of losing weight, weight loss surgery (WLS), is related to the de-stigmatization of obesity and to determine if weight loss surgery is in itself stigmatized. The intention of WLS is often to achieve weight normalcy (Miller 1981; Granbert 2006; Saguy 2013), yet those who choose surgery often discover that willpower has been socially constructed as the only way to correctly lose weight: the willpower to adhere to a diet, the willpower to stick to an exercise regimen, and the willpower to maintain weight loss (Laslett and Warren 1975; Martin 2000; U.S. Preventive Services Task Force 2004; Saguy and Almeling 2008; Adler and Stewart 2009; St. James, Handelman, and Taylor 2011).

While very little attention has been paid within the empirical literature, WLS stigma is a recurring theme in WLS support groups I have attended over the past eight years. When support group participants discussed this stigma, most mentioned being on the receiving end of behaviors ranging from unkind comments about their character to downright hostility. They expressed feeling perceived as lazy and not trying hard enough to lose weight while obese and then, after having WLS, perceived as having taken the easy way out. Many WLS patients admitted to hiding their surgery status both before and after the procedure. Aside from these anecdotal accounts, very few studies have examined the social experiences of those having WLS. For this reason, my thesis fills an important gap in the research literature.

Through a review of existing literature, I present background literature on how obesity is socially constructed: framed as both a medical and social problem. Following this discussion, I outline the theoretical perspectives of stigma and deviance that pertain to obesity studies. Describing the stigma that morbidly obese individuals experience

adds to our understanding of why some seek a surgical solution. In addition, impression management techniques for dealing with obesity generally and WLS specifically are considered as explanations for why some seek WLS but also why many hide their WLS status.

Through an examination of current WLS literature and the use of my own survey, my thesis examines the following three assumptions about WLS and stigma:

1. People who have had or have considered WLS experienced obesity stigma prior to their surgery.
2. People who have had WLS perceive being stigmatized because of their WLS.
3. People who have had WLS tend to hide their surgery status from others to avoid weight loss surgery stigma.

## BACKGROUND LITERATURE

Obesity is most often measured using the Body Mass Index (BMI). In 1832, the Quetelet Index, named for its creator, Adolphe Quetelet, was developed in an effort to standardize and document human growth throughout the lifespan in a quest to define what was “normal.” The index was renamed the BMI by Ancel Keys in 1972 (Eknayan 2008). The formula for calculating BMI converts weight in pounds (lbs.) multiplied by 703 then divided by height in inches squared ( $BMI = (lbs. * 703)/inches^2$ ). This value is expressed in  $kg/m^2$  although usually only the score is reported. While there are several “obese categories,” for the purpose of this study, I use the same thresholds designated by the Centers for Disease Control (CDC) and the National Institute of Health (NIH). A person is considered overweight if his/her BMI is between 25.0 and 29.9. A person is

obese if s/he has a BMI measurement between 30 and 39.9, and is considered morbidly obese if s/he has a BMI measurement of 40 or greater (Flegal et al. 2002).

### *Obesity Frames*

Erving Goffman (1974) described our use of “framing” as a primary way for us to define our situations and organize our experiences. In doing so, we are able to guide our actions or reactions to those experiences. Taking this framing concept one step further, social movements and the media define issues or frame them in a way to garner the most support and provide a framework for acceptance and a way to sanction those who deviate from an accepted definition (Snow and Benford 1988; Enteman 1993). As evidenced by varying media sources, obesity is primarily framed as deviant with blame being attributed to either a medical problem or an individual moral failure.

When it comes to obesity, being deviant does not necessarily mean being in a statistical minority. According to data from the National Health and Nutrition Examination Survey (NHANES), 72.3% of American adult men and 64.1% of American adult women are overweight or obese (Flegal et al. 2010). The question arises then: How can Americans have a cultural norm of “thinness” when two-thirds of the population is classified as overweight or obese? Henry (2009) stressed that a “norm” is a culturally shared *value*, not necessarily a physical characteristic that a majority of group members share and that for social deviance to occur, there needs to be a person acting in a deviant way and an audience judging them. Distinguishing difference from deviance, he explained that deviants pose some type of threat to the dominant group and are then subject to penalties sanctioned by those in control. To be considered deviant, and thus

“controlled,” obesity was constructed as problematic, either in medical terms or more broadly as a social problem.

News stories about the dangers associated with obesity provide clear indications that obesity has been constructed as a medical problem. “Heavyburden: Obesity may be Deadlier than We Thought” (Fox 2013), “Teen Obesity Linked to Serious Health Problems in Adulthood” (Ellis 2013), and “AMA Declares Obesity a Disease” (Neoporent 2013) are just three examples of headlines in the past year associating obesity with medical issues. According to the U.S. Preventive Services Task Force (2004) of the top ten mortality factors, obesity contributed to five of them: heart disease, cancer, stroke, diabetes, and kidney failure. On average the annual medical cost for an obese person is \$1,429 more than for a normal weight person. Since Ancel Keys used BMI in 1972 to study the relationship between cardiovascular disease and weight, researchers have documented numerous links between excess weight and increased mortality (Eknayan 2008).

Indeed, the National Institute of Health (NIH) sets and adjusts BMI category thresholds in an effort to help medical providers identify increased morbidity risk from other disorders exacerbated by being overweight (Eknayan 2008). The U.S. Department of Health and Human Services, in October of 2008, added BMI to the diagnosis codes (ICD-9) as an additional diagnosis in order to track BMI and facilitate billing to Medicare and Medicaid for medical services given to an overweight or obese person (American Medical Association 2009). Government agencies such as the NIH and the U.S. Department of Health and Human Services define what constitutes overweight and obese, then use their power to promote the use of BMI in identifying overweight citizens and

labeling them as such. ICD-9 (International Classification of Diseases, Ninth Revision Modification) diagnostic codes and BMI are labels instituted by control agents (health care providers, schools, insurance companies) to monitor individuals and attempt to coerce them into achieving a “normal weight” (Eknayan 2008; Mason 2012; McHugh and Kasardo 2012).

Mounting empirical evidence, though, questions BMI as an accurate indicator of health and fitness. Individuals who are sixty to seventy pounds overweight and who exercise regularly *outlive* sedentary people of normal weight (Flegal et al. 2005). Burgard (2009) argued in her analyses that only 9% of healthy outcomes were related to BMI, with the other 91% not addressed in academic literature. Saguy and Almeling (2008) argue that a person can be “fat and fit” and that measuring physical fitness on a treadmill test was a better method of predicting health than BMI measurements. Although these results were reported in prestigious scholarly journals including *The Journal of the American Medical Association*, the consensus that obesity is a disease that must be eradicated remains in the medical community and elsewhere.

Despite the established and influential frame of obesity as a medical problem, competing frames point to obesity as much more than a medical problem. In her book, *What’s Wrong with Fat?*, Saguy (2013) outlined six different fat frames in the U.S.: Immorality, Medical, Public Health Crisis, Health at Every Size, Fat as Beauty, and Fat Rights, separated into two camps. One camp holds the perspective that the obese person needs to change and conform to the valued norm of thinness. Those who consider fat to be *immoral*, a physical manifestation of sloth and gluttony, believe that weight management is properly achieved by overcoming the moral problem of temptation using

self-control and willpower. Others who view obesity as a *medical problem* think obesity should be treated with medical advice, drugs, or surgery. At the very least, medical oversight is necessary while the obese person goes through treatment for the disorder. Those who understand obesity as a *public health crisis* argue that the entire health of the nation is at risk because of unsubsidized medical care costs and increased insurance premiums. Often there is an overlap within this camp i.e. doctors who believe obesity is a medical problem, as well as a moral failing (Saguy 2013:72).

The second camp finds the valued norm of thinness problematic and in need of alteration to allow fat people to enjoy the rights and privileges afforded to thin people. The *Health at Every Size* movement frames fat as just another descriptor without value judgment. Each person should eat when they are hungry and exercise for health reasons. Saguy argues that a person can be both fat and fit at the same time. When fat is constructed in the *Beauty* frame, the goals are to change the ideal body from a thin person to that of a fat person. This frame portrays fat as beautiful and to be celebrated. The *Fat Rights* frame focuses on the discrimination of obese people as a social injustice. Campaigns for civil rights are addressed in a variety of domains: more clothing options in retail stores, larger medical equipment in hospitals and doctor's offices, larger seats on airplanes, and less discrimination in the workplace. Those who agree with the Fat Rights Framing of obesity may use scholarly research in their activism. Multiple research articles illustrate that the social penalties associated with obesity affect nearly every social arena including: education (Canning and Mayer 1966; Zagorsky 2005; Crosnoe 2007; Mason 2012; McHugh and Kasardo 2012 ), employment (Kirkland 2008; Fikkan and Rothblum 2012; McHugh and Kasardo 2012; Smith 2012), income (Kalisch 1972;

Drake 1992; Carlson and Senauer 2003; Puhl and Brownell 2003; Bitler and Currie 2005; Carr and Friedman 2005; Meyerhoefer and Pylepchuk 2008; Kasardo and McHugh 2012; Mason 2012), health care (Puhl and Brownell 2003; Saguy and Almeling 2008; Fikkan and Rothblum 2012; McHugh and Karsardo 2012), romantic relationships (Crosnoe, Frank, and Strassmann-Mueller 2008; Smith 2012), and friendships (Kalisch 1972; Carr and Friedman 2005; Crosnoe 2007; Crosnoe et al. 2008).

### *Theoretical Perspectives of Stigma and Deviance*

The ways in which obesity is framed and the negative consequences for obese individuals can be situated within the theories and research on stigma and deviance. Earlier in this paper, I discussed deviance and how the concept of deviance was used in the framing of obesity. Stigma may occur once a person is labeled as deviant and the negative stereotypes associated with the stigmatized person's differences lead to discrimination or a loss of status (Goffman 1963; Link and Phelan 2001). According to Goffman (1963) when a person falls outside the framework between what a person is and what a person should be (i.e. becomes deviant), that person is stigmatized by others and one of the most challenging things about dealing with a physically apparent stigma is trying to hide it through impression management techniques. Goffman presented the idea that there are three types of stigma: discredited (an abomination of the body), discreditable (a blemish of character), and tribal (characteristics belonging to a group such as a pygmy tribe). Obesity, with its physical characteristics associated with laziness and lack of self-control, is both a discredited and discreditable stigma (Crandall and Biernat 1990; Saguy and Almeling 2008; Smith 2012). The physical characteristics of obesity are so stigmatizing that even the obese person might feel the stigma is justified



(Laslett and Warren 1975; Puhl and Brownell 2003; Saguy and Almeling 2008; Chrisler 2012; McHugh and Kasardo 2012; Smith 2012). A stigmatized person typically wants to achieve normalcy or at least “pass” as normal. Through weight loss an obese person can achieve a kind of normalcy through impression management and the de-stigmatization process (Goffman 1963; Laslett and Warren 1975; Carr and Friedman 2005; Crosnoe 2007; Mason 2012; Smith 2012).

Link and Phelan’s (2001) expansion of Goffman’s concept of stigma incorporated five components: 1) the distinguishing and labeling of human differences, 2) the use of dominant cultural beliefs to link these different people to negative stereotypes, 3) the placement of different people in categories designed to separate them from the normal group, 4) unequal outcomes experienced by these people due to the loss of status and discrimination, and 5) the existence of a power construct that allows the aforementioned labeling, separation, and discrimination of these people. One major consideration in Link and Phelan’s conceptualization is the stigmatized person’s loss of status and their perception of being discriminated against because of the stigma. These two factors affect life chances in many arenas such as medical treatment, health, income, and education. The perception that one is being stigmatized is central to this concept. Goffman (1961) primarily focused on enacted stigma, or stigma imputed to others by “normals.”

A final relevant stigma perspective is that of layered stigma, where the first layer is the stigma imputed by mainstream society with a second layer of stigma coming from the deviant group of which a person is a member (Miller 2012). A person who has had WLS has more than likely experienced obesity stigma. A second layer of stigma may

come from within the obese or WLS population. Many obese individuals, particularly those who adhere to the Fat Rights Frame are highly critical to those wanting to lose weight and join the ranks of the normal (Martin 2000; Burgard 2009; Kasardo and McHugh 2012; Saguy 2013). As evidenced by comments I have heard in WLS support groups, there have been incidences where some who have had WLS attach a negative label to those choosing a particular WLS procedure. Examining obesity and WLS stigma from multiple perspectives helps in the understanding of the experiences of those choosing WLS and what may be driving the surge in using a surgical option for weight loss.

#### *Impression Management Techniques*

Goffman (1959) described individuals' behaviors metaphorically as actors in a play. Depending on each situation, we (actors) perform in certain ways to make an impression on our audience. We are, in essence, "managing" others impressions of us. When considering Saguy's two different camps, obese individuals will either want to conform to the valued norm of thinness or become activists for changing the norm to be inclusive of obese people. Whichever goal is decided upon, those persons will want to give others an impression that identifies them with their particular beliefs. They will lose weight or at least try to lose weight or they may join a group like NAFAA or become a Health at Every Size Advocate.

Impression management techniques differ depending on whether the stigmatized individual perceives her/his stigma as temporary or permanent (Goffman 1963). As evidenced by Americans' participation in the weight loss industry, the majority of overweight and obese people believe obesity is a temporary condition that can be

corrected and their goal is to lose weight in order to conform to the norm of thinness. For decades, diet fads, weight loss programs, self-help books, 12-step programs, dietary supplements, and weight loss pharmaceutical sales have generated billions of dollars for the weight-loss industry, averaging \$60 billion in 2011 alone (Martin 2000; Axtel 2012). At any given time 40% or more of American women are intentionally trying to lose weight in an effort to transform their appearance and in effect their social status.

Impression management goals may change if desired weight goals are not met. For instance, Granbert (2006) studied the dilemma faced by dieters whose experiences with diets did not match their expectations and how they make sense of the results. Often, the physical appearance of the newly “non-overweight” bodies did not live up to the dieter’s expectations, i.e. the dieters did not have more romantic relationships or friends, continued feeling out of shape, and still had feelings of guilt and shame. It is possible that once a person fails at weight loss they may change their goal from losing weight to accepting her/his weight and, in essence, switch sides.

In fact, “shame” has been used throughout the history of the dieting industry to produce programs that teach dieters how to manage the emotions of being overweight. Martin (2000) compared the philosophies and methodologies of Weight Watchers, Overeaters Anonymous, and the National Association for the Advancement of Fat Acceptance (NAAFA) and, specifically, how they taught their members to manage the shame of obesity. All three groups had a common goal of removing shame but vastly different ways of achieving that goal. He found that Weight Watchers believed that it is shameful to have a fat body, as is overeating. The fat body is the outward manifestation of the shame that comes from overeating. Losing weight through willpower, portion

control, and publicly admitting one's culpability in front of other group members is part of the shame management process. Overeaters Anonymous felt that shame was just another feeling and that compulsive overeating occurred in an effort to make oneself feel better. This organization taught shame avowal as a technique to manage the shame overweight people felt. Like other 12-step programs, the process of turning over their shame to a higher power was part of working through their problem with overeating. NAAFA believed that shame could not exist if the member acted in the role of a fat activist promoting fat pride. In an attempt to remove shame from the stigmatization of obesity, they used shame contestation, writing letters to legislatures, outing companies for discriminatory practices and promoting the beauty of fat.

### *Weight Loss Surgery*

An increasingly popular impression management technique for obesity stigma is weight loss surgery (WLS). Losing enough weight, some WLS participants feel, may allow the person to shed the stigma altogether. Individuals one hundred pounds or more overweight are categorized, according to their BMI, as "morbidly obese". For this population, obesity is no longer considered a temporary condition. Attempting to remedy it with diets usually results in small amounts of weight loss quickly regained and exercise can be difficult and painful. For those who consider obesity as something needing a more permanent solution, WLS provides a valuable permanent tool to aid in weight loss (Leff and Health 2009; Arroyo et al. 2010). Since the media revelation of Roseanne Barr's Fobi Pouch surgery in 1998 and the online filming of Carnie Wilson's gastric bypass in 1999, surgeries for the purpose of weight loss have increased exponentially with more than 220,000 people having some form of WLS in 2008 (Saguy and Almeling 2008). Some

even travel out of the U.S. for surgery when they do not have insurance coverage or to seek privacy (Snyder and Crooks 2010).

Four common WLS procedures are performed in the U.S. (Arroyo et al. 2010). The *Gastric Banding* procedure, commonly known as the LAP-Band, involves a flexible band being sewn onto the outside of the upper part of the stomach and connected to a port under the skin in the abdomen. Saline is injected or removed from the band through the port. When injected, the band constricts the top of the stomach making the patient feel full with a small amount of food. Having an adjustable gastric band can result in a loss of 44% to 55% of excess weight and that loss can be maintained up to five years. In a *Roux-n-Y Gastric Bypass* the stomach is divided and the small stomach pouch is attached to the lower portion of the small intestine (jejunum) bypassing a large portion of the small intestine causing decreased food intake and malabsorption of nutrients and fat during digestion. A Roux-n-Y gastric bypass can achieve a loss of between 60% and 80% of excess weight maintaining over 50% loss after 10 years.

A large portion of the stomach is removed during a *Vertical Sleeve Gastrectomy* leaving a banana shaped stomach still attached to the small intestine and upper bowel. The vertical sleeve gastrectomy can result in a loss of 56% of excess weight at six months and 72% at three years. This procedure is often the first stage of a *Biliopancreatic Bypass with Duodenal Switch* where, after the banana shaped stomach is created, the small intestine is completely bypassed and only 100 cm of the bowel comes in contact with food. This is the most complex WLS performed and causes substantial malnutrition and malabsorption. A biliopancreatic diversion with duodenal switch can result in a loss of

84% of excess weight at 27 months and up to 77% of excess weight at 10 years. While it provides the best long-term weight loss rates, it has the highest mortality.

Each procedure has associated pros and cons and varying degrees of success in weight loss. The surgery type attempted is often decided in conjunction with the surgeon in the WLS surgical program in order to address any health issues a surgery candidate may face (Leff and Heath 2009; Arroyo et al. 2010). For example, Roux-n-Y gastric bypass, a vertical sleeve gastrectomy, or a biliopancreatic diversion with duodenal switch alters the physiology of the digestive track; one result of these procedures is the remission of Type II Diabetes (Arroyo et al. 2010). WLS has also resulted in a 52% decline in death rates for those having surgery from all diseases when compared to a control group, primarily from fewer deaths attributed to heart attacks and cancer (Blackburn et al. 2009).

#### *WLS Frames*

WLS can be framed using at least two different deviance perspectives, the “labeling frame” and the “immorality frame.” As mentioned already, deviance and associated stigma occurs when an activity or characteristic falls outside what is considered normal, with “normal” defined as shared cultural values and understandings of what to think, how to act, and how one should appear (Henry 2009). The societal reaction perspective, or *labeling frame*, is the idea that those in power identify and label what is deviant and use their power to establish and maintain social control. Those in control get to decide what is normal and what is deviant and have the authority to adjust the definitions when it suits their needs. Those in power also employ a control agent to keep everyone in line (Pfohl 1994).

In the case of WLS, the labeling frame joins forces with the medical frame. The National Institute of Health holds the power in framing WLS. A 1991 meeting regarding WLS established recommendations and guidelines for surgery patients. Using BMI as its primary measure, the guidelines set parameters for surgery eligibility—only those with a BMI higher than 40 are allowed to have WLS. If a BMI is between 35 and 40, those persons are eligible only if they also have co-occurring “morbidities” or diseases that may cause early death such as Type II Diabetes, sleep apnea, hypertension, or heart disease (Arroyo et al. 2010). This powerful group of medical authorities labeled what constituted “obese enough” for surgery and took measures to control access to WLS. Bariatric surgeons follow the guidelines as agents of control. These added measures of control to a weight loss technique could be construed as another way of labeling WLS as deviant.

In an alternative, yet not always contradictory frame, deviance is a transgression against God with value judgments assigned to actions and characteristics depending on how offensive they are to this higher power (Pfohl 1994). To be deviant is to be sinful. Sloth, pride, and gluttony are all sins associated with obesity. Based on this orientation all people are tempted by the devil so it takes moral strength to overcome temptation. In this *Immorality Frame*, willpower is constructed as the only appropriate way to overcome temptation and the willpower to follow an exercise and diet regimen is the only appropriate way to lose weight (Carr and Friedman 2005; Mason 2012). Individuals who lose weight through WLS are seen less positively than those losing weight by exercising quite possibly because of their inability to lose weight through willpower, even though WLS was their best option for lasting weight-loss success.

In another study, Vartanian and Fardouly (2013) examined attitudes of people with normal weight (BMI < 25) toward subjects after learning the now lean-looking person was once obese and had lost weight through weight loss surgery. Subjects were shown images of a lean man and a lean woman and asked their impressions of their exercise and eating behaviors. Each also rated several stereotypical characteristics, among them attractiveness, intelligence, laziness, competence, self-discipline, and overall sociability. People who lost weight through weight loss surgery were regarded as less attractive, sloppier, lazier, less competent, less sociable and having more unhealthy eating habits than those who lost weight through diet and exercise or were not overweight before. They were also rated as having less control over and less responsibility for their weight loss than those who used diet and exercise. These findings indicate that for even those who lost weight through physical effort (i.e., strenuous exercise) assumptions about laziness and poor self-control remained when previous overweight status was known. Thus, regardless of current weight, if an individual was fat at one time, s/he will always deal with the potential of being treated as a fat person.

Considering the masses of data demonstrating a strong obesity stigma and the large number of WLS procedures performed each year in the U.S., surprisingly few studies address the stigma of WLS. Prior studies of WLS examined stigma directed toward photos of strangers, with no direct interaction, and only measured the stigma of those enacting it, not of perceived stigma of those experiencing it. My study will be the first that measures perceived and enacted stigma among those who have had or plan to have WLS along with their possible tendencies toward hiding WLS status.



## METHODOLOGY

### *Data Collection Strategy*

To measure both perceived and enacted WLS stigma, as well as a possible tendency to hide WLS status, I constructed a 40-question survey instrument (see Appendix A) which I administered to both individuals who had already had WLS (Group 1) and those with a firm plan to have WLS (Group 2). Respondents with a scheduled surgery date or awaiting insurance approval were identified as those with a firm plan. The survey was open to respondents online through Survey Monkey from 12/3/2013 to 2/3/2014. I recruited through an advertisement in a weekly newspaper (Nashville Scene) which ran for four weeks in both the online and printed mediums of the paper. I also used Facebook to post a link to the survey and requested others to repost. I left fliers advertising the survey at WLS support group meetings and informational seminars in Middle Tennessee. In addition to the online survey, I provided hard copies of the survey for the WLS support groups. I collected these surveys from the WLS coordinator's office each week.

### *Sample*

After I deleted four cases without a "firm" plan to have surgery, the sample size ( $n = 101$ ) consisted of 85 women, 15 men, and one leaving the sex/gender question blank. That same respondent did not complete any demographic questions but did respond to the other questions central to the study; therefore, I made the decision to include this case. Demographic information included age (in whole years), sex, race/ethnicity, marital status, educational attainment, and annual income. Ages ranged from 19 to 70 years old

( $\bar{x} = 43.26$ ,  $SD = 11.09$ ) with a normal distribution. Of the respondents, 85% were white and 15% were non-white. Over 64% were married, 15.2% were divorced, and 17.2% were never married/in a committed partnership. Educational attainment varied widely with 17.3% having earned a high school diploma or GED, 14.3% a vocational certificate, and 46.9% graduated from college with at least an Associate's Degree or higher. The modal income category was \$25,000 to \$49,999 with 57% reporting an annual income of less than \$50,000 a year.

### *Measures*

In addition to individual demographics I collected information on WLS through a series of questions. For the first measure, "Surgery Status," respondents were asked: "What is your weight loss surgery status?" and were given the response choices of "I have had WLS" (Group 1), "I have a surgery date scheduled," and "I am waiting for insurance approval and will have surgery as soon as possible." I collapsed the latter two response categories, "I have a surgery date scheduled" and "I am waiting for insurance approval" into "Group 2" or those with a firm plan for WLS. The variable "Surgery Status" was binary coded 0 and 1, where 1 indicated those who had already had WLS. Types of WLS procedure included: 1) adjustable gastric band, 2) Roux-n-Y gastric bypass, 3) vertical sleeve gastrectomy, and 4) other.

Respondents also indicated the year of their surgery and the state or country where their WLS occurred. Those having surgery in another country were asked why they made that decision with the opportunity to choose multiple reasons answering "yes" or "no" to the following: 1) "My insurance company denied my surgery", 2) "There were too many hoops to jump through in the U.S.", 3) "I did not want anyone to know I was

having surgery,” and 4) “Cost”. Respondents who had surgery in the U.S. reported what steps their surgeon and/or insurance company required before having surgery. Eleven response choices were possible (0 = no, 1 = yes) including among others: “Lose 10% of excess body weight before surgery”, “Psychological evaluation”, “Attendance at informational seminar”, “Attendance at surgery support group”, and “Minimum 6 months of medically supervised weight loss attempt.”

I obtained information on height (in inches), highest weight, and current weight for each respondent and used these to calculate highest and current BMI scores as well as BMI differences, BMI categories (Normal, Overweight, Obese, and Morbidly Obese), and BMI category changes, which indicated how many BMI categories each respondent had decreased between highest and lowest BMI measures. I calculated weight differences by subtracting the current weight from the highest weight. I based the BMI categories on the thresholds set by the National Institute of Health (NIH) in 1998 after they lowered the score of what constituted a normal BMI. These categories defined normal weight as BMI less than 25.0, overweight as BMI 25.0 – 29.9, obese as 30.0 – 39.9, and morbidly obese as 40.0 or higher. BMI changes were measured by subtracting current BMI scores from highest BMI scores and computing a continuous variable. To further examine possible differences between the respondents, I compared highest and current BMI categories to determine any substantial changes in BMI categories (e.g., morbidly obese to overweight). In doing so, the surgery status variable was transformed into a variable called “possible outcomes” with three categories: 1) Surgery/No BMI Category Change (Group 1 A), 2) Surgery/BMI Category Change (Group 1 B), and 3) No Surgery/BMI No

Category Change (Group 2). I defined a decrease of one or more BMI categories as a “category change.”

The dependent variable, stigma, was examined three different ways in order to address all three study questions: 1) People who have considered having WLS will have experienced obesity stigma prior to their surgery, 2) People who have had WLS will perceive having been stigmatized because they had surgery, and 3) People who have had WLS tend to hide their WLS status from others to avoid WLS stigma.

*Obesity Stigma.* I included three measures of obesity stigma. First, those who had already had WLS surgery indicated their level of agreement with the statement “People treated me badly before I had WLS because I was obese.” Responses to this question measured perceived obesity stigma on a Likert-type scale with “1” indicating strong disagreement and “5” indicating strong agreement with the statement. A second question asked all respondents about how they were treated by medical providers before their decision to have WLS. They were asked to check all responses they felt matched their experiences. Respondents chose among seven statements including: “My medical providers usually made a big deal out of my weight,” “My medical provider did not like treating me because I was overweight,” “The staff at my medical provider’s office made me feel embarrassed,” and an option stating “I was generally treated well by my medical providers.” Thirdly, respondents were asked if s/he had ever delayed or skipped seeking medical treatment because of her/his weight; for those answering “yes” a follow-up question was asked regarding the reason for delaying treatment. Respondents checked each statement that applied to them, allowing for multiple choices. Those choices included: “I was embarrassed,” “I did not want a lecture about losing weight,” “I wanted

to lose weight before going to a medical appointment,” and “The medical office was not designed for obese people (gowns were too small, chairs were too small, diagnostic equipment did not fit me, etc.)” among others.

*Weight Loss Surgery Stigma.* WLS stigma was measured in a variety of ways. First I analyzed scores from two indices each measuring a different type of stigma (perceived and enacted), then I measured WLS stigma using perceived levels of support from close family and medical providers. Next I assessed whether or not they knew someone who had WLS and how they felt about their surgery, and finally, I analyzed negative comments each respondent had heard about WLS.

I used two scales, the WLS Perceived Stigma Index and the WLS Enacted Stigma Index, which were adapted from the ATOP (Attitudes Toward Obese Persons) scale from the Yale Rudd Center for Food Policy and Obesity (Allison, Basile, and Yunker 1991). Each index was composed of an eight-question Likert-type scale with responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with higher scores correlating with increased levels of stigma. Possible scores ranged from 8 to 40. The “WLS Perceived Stigma Index” (see Question 12, Appendix A) was a scale designed to measure individual stigma experiences perceived by people who have already had WLS. This question was only addressed by respondents who have had WLS (Group 1). Scores for two statements (items noted as “b” and “e”) were reverse coded. The “WLS Enacted Stigma Index” (see Question 20, Attachment 1) was designed to measure WLS stigma in general, enacted by respondents toward others having WLS. All respondents regardless of her/his surgery status were asked to respond to this question. Scores for several statements including items “c”, “f”, and “h” were reverse coded. A new scale variable was created for each

index assigning each respondent an index score. Each of the scales was then measured for reliability. The WLS Perceived Stigma Index had a score of  $\alpha = .57$  prior to removing the two reverse coded statements “People think I am brave because I had WLS” and “People think I am smart because I had WLS”. After removing those variables the reliability increased to  $\alpha = .81$ , therefore the new variable was the appropriate one to use in analyses. The WLS Enacted Stigma Index (with all 8 statements) was reliable with a score of  $\alpha = .72$ . The reliability for the index excluding the reverse-coded statements made a minute statistical difference in the reliability and I made the decision to keep the index intact with the reverse-coded statements.

Levels of family support were measured with the ordinal variable “Was your close family supportive of your decision to have weight loss surgery?” This question was divided between those having had surgery (responses varying from “Yes, both before surgery and after” to “I have not told my close family about having surgery”) and those planning surgery (responses varying from “They are all supportive of my plan” to “I have not told my close family about having surgery.”) Medical provider support in the survey was measured with another ordinal variable, “In general, before your surgery, how supportive were your medical providers of your WLS plans? This includes primary care doctor, OB/GYN, nurse practitioner, or any specialists.” An additional question asked “Are you close to someone who has had WLS?” Follow-up questions inquired about their relationship to the person, how open that person was with them about her/his WLS, and how the respondent felt about that person’s decision. This question measured the respondent’s level of support given to another WLS patient.

In order to measure a respondent's individual experience with WLS stigma, I asked the question, "Have you ever heard negative comments about people who have had WLS?" (0 = no, 1 = yes) with a follow-up question asking which comments had been heard with multiple responses possible. Responses were coded 0 = no and 1 = yes and included: 1) They are lazy, 2) They have no will-power, 3) They aren't as smart as other people, 4) They cheated by having WLS, 5) They almost always gain back the weight, 6) They are crazy for having surgery, and 7) They should have tried harder to lose weight through diet/exercise. An "Other" category was also offered with an opportunity to write in comments not included in the list.

*Tendency to Hide WLS Status.* To analyze a WLS patient's tendency toward hiding their WLS status, I examined several variables. Respondents who had WLS in another country were asked about their decision, with one of the choices being "I did not want anyone to know I was having surgery" (0 = no, 1 = yes). All respondents were asked, regardless of surgery status, how open they were with others about their WLS decision. Response choices ranged from "Very open – I tell everyone that asks or seems interested" to "Not open – I don't talk about my surgery with anyone". Respondents were asked whom they had told about their decision to have WLS surgery. Nine response choices were given and s/he could check all that applied to their situation. For the question "If you have hidden your weight loss surgery or decision to have surgery, why were you not truthful?" respondents also had multiple responses choices. Among the choices were: "It was none of anyone else's business," "I was afraid others might think I was lazy," "I was afraid others might think I was a cheater," and "I wanted others to think

I lost weight the old fashioned way with diet and exercise.” An “Other” category with a text box allowed respondents to write-in a reason not listed.

### *Analyses*

Univariate, reliability, and bivariate analyses were performed using the software package SPSS v.21. Descriptive statistics were calculated to report demographic data after examining each variable for limitations, and cross-tabulated with surgery status to compare groups. Measures of central tendency and spread were completed and new variables were computed from the original data to better facilitate analyses.

Reliability was measured for both the WLS Perceived Stigma Index and the WLS Enacted Stigma Index using the Cronbach’s Alpha coefficient score for each. Questions missing responses were either coded as “missing” or, to maximize cases for the two 8-statement scales, a “3” was assigned to missing values if no more than two statements were missing from a respondent. If more than two statements were missing a value, all responses to the scale questions were coded as “missing.” An independent samples t-test compared attitudes toward WLS in general using the WLS Enacted Stigma Index for surgery status Groups 1 and 2.

Cross tabulations and chi square tests assessed any associations between nominal variables and measures of stigma including perceived levels of support and tendencies to hide WLS status. Independent sample t-tests and one-way analysis of variance (ANOVA) allowed for mean comparisons of all scale and continuous variables.

In particular, I compared mean scores for the Enacted Stigma Scale for each type of surgery (e.g., adjustable gastric band) in order to determine whether respondents exhibited layered stigma, specifically, how those who have had or are planning to have



WLS might feel generally about people who have weight loss surgery. Comparing enacted stigma between types of surgery may identify possible stigma enacted by those having a particular type of surgery or a bias they may hold against those having a different procedure. Another ANOVA compared those same index scores with the computed surgery status variable with three possible outcomes: those who had planned surgery, those who had surgery and not lost enough weight to decrease in BMI category, and those who had surgery and lost enough weight to decrease at least one BMI category.

## RESULTS

A cross tabulation was performed for all categorical variables separating results into two groups. Of all valid cases ( $n = 101$ ) 66 respondents had already had WLS (Group 1) and 35 had a firm plan to have surgery (Group 2), either with a surgery date scheduled or awaiting insurance approval. Demographic results are presented in Table 1.

WLS demographics were separated into the same two groups (see Table 2). The overall preferred surgery was the vertical sleeve gastrectomy, received by 60.6% of Group 1 and planned by 80% of respondents in Group 2. The Roux-n-Y gastric bypass was performed on 24.2% of Group 1 and planned for by 11.4% of Group 2. The adjustable gastric band was favored by 12.1% of Group 1 and only 5.7% of Group 2. The year of respondents' surgery ranged from 2000 - 2014. Only 12 respondents had their WLS prior to 2010 with 34 of them having their surgery performed in 2013. For those awaiting surgery, one had a 2013 date and the thirty-four had a date or expected to have insurance approval in 2014. Of the 101 respondents, five had surgery in Mexico and 96 had or planned to have surgery in the U.S. Thirteen states were represented with 77%

respondents having or planning to have their WLS in TN. All five of those leaving the U.S. to have WLS chose to go to Mexico. Given the opportunity to select multiple reasons for having surgery out of the U.S., 80% reported they went to Mexico because their health insurance denied covering their procedure in the U.S., 60% reported they had surgery out of the US because there were “too many hoops to jump through”, 80% reported they did not want anyone to know they were having WLS, and 100% reported “cost” as a factor in why they crossed the border.

The vast majority of respondents were required to meet specific requirements to qualify for WLS. Most all required a psychiatric evaluation before surgery (98.4% in Group 1 and 100% in Group 2). With the exception of medical tests (Group 1: 73% and Group 2: 40%), similar patterns were evident for all other requirements; none of the comparisons were statistically significant.

Independent-samples t-tests revealed that overall the groups weighed approximately the same at their highest weights – on average, about 320 lbs. Not surprisingly, at the time of data collection, Group 1 (post-WLS) weighed significantly less than Group 2 (pre-WLS) with average current weights of 212 lb. versus 306 lbs. ( $p < .001$ ). Pounds lost ranged from 8 – 322 lbs. ( $\bar{x} = 107$  lbs.) for Group 1 and 0 – 67 lbs. ( $\bar{x} = 12$  lbs.) for Group 2. Again, the difference in means was statistically significant at  $p < .001$ .

When analyzing BMI measures, Group 1 and Group 2 had similar scores at their highest BMI and very different scores at the time of data collection. At their highest BMI, Group 1 ranged from 37 to 83 with  $\bar{x} = 51.15$  ( $SD = 9.98$ ) and Group 2 had nearly identical results with a range of 37 to 84 ( $\bar{x} = 51.49$ ,  $SD = 10.62$ ). Current BMI scores for

Group 2 remained relatively unchanged while Group 1 reported a substantial decrease in BMI with a range from 21 to 54 with  $\bar{x} = 34.11$  ( $SD = 7.88$ ). The difference was statistically significant at  $p < .001$ . For respondents in Group 1 ( $n = 61$ ), the change in BMI score ranged from 1 to 44 with BMI change  $\bar{x} = 16.93$  ( $SD = 8.18$ ). For those in Group 2 ( $n = 32$ ), the change in BMI score ranged from 0 kg/m<sup>2</sup> to 12 with BMI change  $\bar{x} = 2.16$  ( $SD = 2.69$ ). The difference in means between the two groups was statistically significant at  $p < .001$ .

These changes in BMI in Group 1 are further illustrated by their relative BMI categories. Prior to weight loss surgery, no one in either group fell into the “normal weight” or “overweight” categories with more than 90% of all respondents classified as “morbidly obese.” After WLS, Group 1 ( $n = 62$ ) evidenced substantial change in BMI with 9.7% considered “normal weight,” 22.6% considered “overweight,” 48.4% considered “obese,” and only 19.4% in the “morbidly obese” category. When translated into how many BMI categories each respondent in Group 1 decreased, 52.5% decreased one, 16.4% decreased two, and 9.8% decreased three categories (e.g., change from “morbidly obese” to “overweight”).

### *Obesity Stigma*

All three measures for obesity stigma were analyzed using cross tabulations, again comparing results by surgery status, with Group 1 including those who have already had WLS and Group 2 including those planning surgery (see Table 3). Over 36% of respondents strongly agreed with the statement “I was treated badly before having WLS because I was obese” with another 29% agreeing, although less strongly. This question was part of the WLS Perceived Stigma Index answered only by those in Group 1. When

all survey respondents (both Group 1 and Group 2) were asked about how they were treated by medical providers prior to their decision to have WLS, responses were positive overall with only 3% reporting they felt staff made fun of them and 53.6% feeling they had been generally treated well by providers. Of those in Group 1, 18.5% felt the provider's office staff "made them feel embarrassed" with 18.8% of Group 2 feeling similarly. Responses were also similar between the two groups for the statements "My medical providers usually made a big deal out of my weight" (29.9% overall) and "My medical providers told me to lose weight" (77.3% overall). The largest differences between groups were for the statements "Staff at my medical provider's office talked about my weight to each other behind my back" and "My medical provider did not like treating me because I was overweight." Only 4.6% of Group 1 reported they felt staff gossiped about them while 9.4% of Group 2 felt this way. In Group 2, 15.6% felt their medical provider did not like treating them with only 9.2% of Group 1 reporting this form of stigma.

I also used cross tabulations and chi square tests to examine if and why respondents in the two groups delayed or skipped seeking medical treatment because of their weight. Although groups revealed some similar responses and in similar proportions, there were some notable differences. For example, 61.1% of Group 1 versus 52% of Group 2 reported they did not want a lecture about losing weight, and 22.2% of Group 1 and 32% of Group 2 did not go to the doctor because they felt most medical providers did not like obese people. Finally, 44.4% of Group 1 and 28% of Group 2 reported medical offices did not accommodate people of size.

Although there were no significant differences in skipping medical appointments because of weight revealed through cross tabulations between Group 1 and Group 2, when I broke the surgery status into the three possible outcomes categories (Group 1 A - Surgery/No BMI Category Lost, and Group 1 B - Surgery/At least 1 BMI Category Lost, and Group 2 - No surgery/No BMI Category lost) there were three statistically significant differences at  $p < .01$  ( $\chi^2 = 11.27$ ,  $df = 2$ ). For these categories, 19.3% of Group 1 A ( $n = 11$ ), 38.6% of Group 1 B ( $n = 22$ ), and 42.1% of Group 2 ( $n = 24$ ) skipped a medical appointment because of their weight.

A second significant difference was found when examining reasons for skipping a medical appointment. “The medical office was not designed for obese people” ( $n = 57$ ), was identified through a cross tabulation and chi square test of association as statistically significant,  $\chi^2 = 10.76$ ,  $df = 2$  ( $p < .01$ ). When using the three category possible outcomes variable among groups with no BMI category change, 31.8% of Group 2 and 40.9% of Group 1 A reported this as a reason. Only 27.3% of Group 1 B, with substantial decreases in BMI, delayed treatment because of office design. When the cross tabulation was between the Group1/Group2 variable the difference between the two groups was not statistically significant.

Finally, for the perception that medical providers did not like treating the respondent because s/he was overweight ( $n = 57$ ), there was a third statistically significant difference in the three categories of possible outcomes ( $\chi^2 = 6.05$ ,  $df = 2$  ( $p < .05$ ). Only 13.3% of Group 1 B felt this way while 53.3% of Group 2 and 33.3% of Group 1 A believed their medical provider did not like treating them. Again, when the

cross tabulation was performed between the Group 1/Group 2 variable the difference between the two groups was not statistically significant.

### *WLS Stigma*

Each respondent's WLS Perceived Stigma Index score had the potential to range from 6 to 30 with higher scores indicating higher levels of perceived stigma and higher levels of enacted stigma. The distribution was normal for the Perceived Stigma Index with  $\bar{x} = 18.18$  points. Each WLS Enacted Stigma Index score had the potential to range from 8 to 40 points. The distribution was positively skewed for the Enacted Stigma Index with  $\bar{x} = 15.09$  points. See Table 5 for results for indices analyses.

Individual items in each scale had a possible score range of 1-5 with 1 = Strongly Disagree and 5 = Strongly Agree. Results from individual items in the WLS Perceived Stigma Index revealed that the highest average score was for the statement "People treated me badly before I had WLS because I was obese" ( $\bar{x} = 3.58$ ) closely followed by the statement "People think I don't have willpower because I had WLS" ( $\bar{x} = 3.23$ ). Coming in third was the statement "People think I cheated by having WLS" ( $\bar{x} = 3.06$ ). The average score for the statement "People think I am lazy because I had WLS" ( $\bar{x} = 2.92$ ) was nearly identical to the statement "People treat me the same as when I was obese once they find out I had WLS" ( $\bar{x} = 2.94$ ).

Individual items in the WLS Enacted Stigma Index indicated much lower scores. Using the same possible score range of 1 – 5, the highest result was with the statement "The right way to lose weight is through diet and exercise" ( $\bar{x} = 3.72$ ). At more than a full point lower was the statement "People that have WLS are looking for a magic bullet" ( $\bar{x} = 2.58$ ). The rest of the items had means of less than 1.7.

A one way analysis of variance test (ANOVA) compared respondents' WLS Enacted Stigma Index scores by type of surgery ( $n = 95$ ) (See Table 6). When comparing the mean index scores by the different types of surgery, those with an adjustable gastric band had the highest scores indicating higher levels of enacted stigma in general toward WLS. Compared with those having a Roux-n-Y gastric bypass ( $\bar{x} = 15.68$ ,  $SD = 5.52$ ), adjustable band recipients had a mean score of 20.44 ( $SD = 6.22$ ). Those having a vertical sleeve gastrectomy had the lowest mean score ( $\bar{x} = 14.22$ ,  $SD = 3.79$ ) preceded by those having other types of surgery ( $\bar{x} = 15.0$ ,  $SD = 2.65$ ). The  $F$  score was 5.35 and it was statistically significant at  $p < .01$ . Administering a Tukey test, I looked at multiple comparisons. The mean differences between those receiving an adjustable band and those receiving a gastric bypass (4.76) and vertical sleeve (6.23) were significant at  $p < .05$  and  $p < .01$  respectively. The ANOVA comparing individual perceptions of experienced stigma by type of surgery ( $n = 66$ ) yielded an  $F$  score of 2.45 that was not statistically significant.

For the three-category variable I created to measure possible outcomes in BMI category change for Groups 1 and 2, an ANOVA for the WLS Enacted Stigma Index resulted in an  $F$  score of 1.70 with no statistically significant differences between the three groups and the means only varied slightly: Group 1 A, Surgery/No Category Loss ( $\bar{x} = 15.15$  points,  $SD = 5.18$ ); Group 1 B, Surgery/Category Loss ( $\bar{x} = 15.92$  points,  $SD = 5.15$ ); Group 2, No Surgery/No Category Loss ( $\bar{x} = 13.78$  points,  $SD = 3.94$ ). There was less than one point difference in the means between Group 1 A and Group 1 B. The largest mean difference was between the Group 1 B and Group 2 (2.139) however it was not statistically significant.

As revealed through cross tabulations and chi square tests, nearly three-quarters of Group 1 (73.4%) reported their close family was supportive of their decision to have surgery both before and after surgery and only 3.1% indicated they had no support at any time (see Table 4). In Group 2, 40% said all members of their close family were supportive of their plan, 25.7% said most of their family were supportive, and another 28.5% had at least some or most close family members against their WLS decision. When it came to perceived medical provider support of surgery, respondents from each group received varying levels of support. Overall, Group 2 perceived higher levels of provider support than Group 1 with 84.6% reporting all or most of their medical providers supporting their decision to have WLS versus 80.9% of Group 1. Only 1.6% in Group 1 said no providers were supportive of their WLS decision while no one in Group 2 reported this perception.

Almost 70% of Group 1 and 64.7% of Group 2 said they were close to someone who had also had WLS. The relationships had with those “close someone’s” varied widely between the two groups. Friendship was the primary relationship respondents had with their “close someone” (37.8% for Group 1 and 59.1% for Group 2). “Other family member” other than a spouse, parent or child was reported by 22.2% of Group 1 and only 9.1% of Group 2. “Coworker” was approximately the same for both Group 1 and Group 2 (13.3% and 13.6% respectively). Of Group 1, 11.1% reported their “close someone” was a spouse; however, no one in Group 2 reported a spouse or committed partner. None of the respondents in either group reported their “close someone” was a boyfriend or girlfriend. For Group 1, 8.9% reported a parent and 6.7% reported the person as a son or daughter. The remainder of Group 2 was evenly split between parent and son/daughter



(9.1% each). When asked if the respondent was supportive of the “close someone’s” surgery decision, the responses again varied between the groups. For Group 1, 75% reported they were 100% supportive of his/her decision and 12.5% said they were supportive but felt that person should have tried diet and exercise one more time. For Group 2, 88.2% reported being 100% supportive of that person’s decision, with 5.9% supportive but feeling the person should try diet and exercise again, and another 5.9% saying they were not supportive at first, but became supportive after learning more.

In addition to (lack of) support, the vast majority of respondents reported having heard negative comments about people who have WLS. More than 87% of Group 1 and 85.7% of Group 2 reported having heard multiple negative comments about WLS. “WLS patients should have tried harder to lose weight through diet and exercise” was the most commonly heard comment (92.6% of Group 1 and 86.7% of Group 2) with “they have no willpower” (79.6% of Group 1, 66.7% of Group 2) and “they cheated by having WLS” (79.6% of Group 1 and 76.7% of Group 2) following closely behind. The biggest differences between the groups when it came to comments was for “they aren’t as smart as other people” with 20.4% of Group 1 hear this versus only 6.7% of Group 2.

#### *Tendency to Hide WLS Status*

Only five respondents reported surgery in Mexico, and when asked why they chose to leave the U.S. for surgery, four out of five reported they did so because they did not want anyone to know they were having surgery. As shown in Table 7, all survey respondents regardless of surgery status ( $n = 101$ ) were asked about their level of openness about their surgery or plan for surgery. Cross tabulations indicated that in Group 1 ( $n = 66$ ), 56.1% reported being “very open” about their surgery and 25.8% were

“somewhat open.” Those in Group 2 ( $n = 35$ ) reported being less open with 34.3% being “very open” and 45.7% reported being “somewhat open.” In contrast, in Group 1, 16.7% were “not very open” and only 1.5% were “not open.” Similar levels of openness were found for Group 2 (17.1% “not very open” and 2.9% “not open”). Differences between the groups were not statistically significant.

When asked whom each respondent had told about their WLS plan ( $n = 101$ ), there were similar findings for both groups when it came to telling close family, close friends, and support group members. In Group 1 ( $n = 66$ ), 92.4% told close family, 78.8% told close friends, and 59.1% told support group members. In Group 2 ( $n = 35$ ), 91.4% told close family, 62.9% told close friends, and 40% told support group members. Only 1% of the entire sample reported that they told no one about their WLS and they were in Group 2. There were statistically significant differences between the two groups when it came to telling extended family, co-workers, medical providers, acquaintances, and strangers. Extended family was told by 60.6% of Group 1 but only 25.7% of Group 2 ( $p < .001$ ). Coworkers were told by 60.6% of Group 1 versus only 31.4% of Group 2 ( $p < .01$ ). Medical providers were told by 81.8% of Group 1 and by 53.4% of Group 2 ( $p < .01$ ). For acquaintances, 43.9% were told by Group 1 but only 14.3% ( $p < .01$ ) by Group 2. Over 31% of Group 1 told strangers while only 2.9% of Group 2 told strangers about their surgery plan ( $p < .001$ ).

There were nine reasons from which to choose when explaining why a respondent might have hidden his/her WLS status, as well as an option that said “I have not hidden my WLS status” with multiple responses possible. In Group 1 ( $n = 64$ ), 44.6% reported they had not hidden their surgery status which was nearly identical to Group 2 ( $n = 34$ )

with 44.1% not hiding their plan to have WLS. Consequently, over half of respondents in each group had hidden their surgery status from someone. For those who gave reasons for having hidden their surgery status, the biggest reason was that they felt it was no one's business they had surgery and those results were similar between groups (23.4% of Group 1 and 23.4% of Group 2). Group 2 reported higher rates of fear of what others thought about them: lazy (29.3% versus 14.1%), cheaters (29.4% versus 17.2%) and being thought less of (32.4% versus only 15.6). While 23.5% of Group 2 was afraid of being treated differently, only 12.5% of Group 1 felt that way. Only pre-WLS respondents were afraid others might not want to be their friend because of the surgery (5.9%) or afraid for their job (2.9%). There is evidence that stigma remains in this group of individuals despite having WLS and losing enough weight to decrease in BMI category.

## DISCUSSION

This study was an interesting glimpse into WLS as a technique in managing obesity stigma. Obesity stigma is pervasive in American culture and, as evidenced by data from this study, a separate WLS stigma may exist as well. I believe it was important to measure perceived obesity stigma because, as Link and Phelan (2001) emphasized, experiencing discrimination is at the core of stigma. An individual's life chances are greatly affected by his or her loss of status and perception of separation from a dominant group. Even the perception of discrimination may prevent a person from pursuing important and necessary life goals (Crocker and Major 2003).

One of my key assumptions was that people who have already had or are planning WLS have experienced obesity stigma prior to her/his surgery. I found strong evidence of this experience by study respondents not only in direct responses to survey questions, but indirectly by looking at which questions were *not* answered. Despite being assured of anonymity, several people did not respond to the highest weight or current weight questions, even though they responded to questions about height and other demographics.

More than 65% of respondents who had already had surgery reported they were treated badly before surgery because of their weight. Although over half the respondents in both groups stated they were generally treated well by medical providers, 60.4% of respondents delayed or skipped medical treatment because of their weight, primarily due to embarrassment and not wanting to hear a lecture about losing weight. This is an alarming statistic given that obesity is linked to higher mortality rates from preventable diseases, and if an obese person delays or refuses to seek medical attention or preventive care, s/he runs a risk of non-diagnosis of potentially harmful health conditions (Fontaine et al. 1998). This finding indicates that obesity is more than simply a medical problem. It is a problem that potentially affects an obese person's life in every social domain.

When the surgery status variable was divided into three possible outcomes, those who had not yet had surgery (and consequently not decreased in BMI category) had the highest rate of skipping appointments or delaying treatment (42.1%) followed by those who had had surgery and decreased at least one BMI category (38.6%). Surprisingly, only 19.3% of those who had WLS but not lost enough weight to decrease a BMI category admitted to skipping an appointment because of their weight. This could be due to the timing of the survey. Nine of the thirteen respondents in this category had their

surgery in 2013 and were still in the beginning stages of losing weight. They most likely have several follow up appointments with the surgeon and may have been factoring these visits in when responding to the question. It is also possible that those who lost at least one BMI category skipped appointments because they did not lose as much weight as they expected or had lost weight, then gained some back. Perhaps they decreased only one BMI category and had a goal of two or three. This is something to examine in future studies.

Respondents were given the opportunity to state their opinions in their own words about medical providers in general when it comes to treating obese patients and their reasons for not seeking medical treatment. Several of the respondents reported they did not go to the doctor because they did not want to step on the scale and/or did not want to know their weight and one respondent said she knew that even if she had a bad cough, it would be attributed to her weight so she saw no point in going. One woman wrote, "I found it very frustrating. They told me you need to lose some weight ... well, DUH, like I don't have a mirror! They all said it, but no one had a way to help me do that, except diet pills." Other comments included, "They treat fat people like they are all lazy and good for nothing" and "They are often aloof and dismissive, hesitant to touch or talk with the patient or just treat the patient with an air of disdain or disgust."

When the three-category variable (No surgery/No BMI change, Surgery/No BMI category change, and Surgery/At least 1 BMI category change) was used to examine differences between the three possible outcomes, there was a statistically significant difference in whether or not they felt medical providers do not like treating obese patients. Not surprisingly, the highest rate of agreement was found among those not

having surgery yet. Of those who had surgery yet had not lost enough weight to decrease a BMI category, 33.3% agreed with the statement. Only 13.3% of those decreasing at least one BMI category following surgery felt that doctors did not like treating obese patients. Here again, the differences in stigma experiences are based on losing a substantial amount of weight via WLS, as well as the quality of the WLS experience. It is likely that as those who had surgery lose more weight and decrease in BMI category, their attitudes may change and they may experience less perceived stigma from their medical provider.

Of particular interest were the comments about the medical environment and the accommodation of obese patients' needs. Several respondents wrote that the gowns did not fit them, and the waiting room chairs usually had arms so, instead of trying to fit into the chair, one respondent would stand and wait for his appointment. Not fitting in an MRI machine was also a common complaint. One respondent said she did not like that the scales were in a public area of her doctor's office, where weight and blood pressure were measured. She was embarrassed that others could see her weight. When analyzed with the three-category surgery status variable, there were statistically significant differences between the three groups. While 40.9% of those who had surgery yet not decreased a BMI category reported they skipped an appointment because of the design of the medical office environment, only 27.3% of those who decreased at least one BMI category reported this. Perhaps this experience was not as recent as those who had recently had surgery. After losing weight, medical gowns fit better, chairs are more comfortable, and blood pressure cuffs go around their arms easier and the embarrassment is less than

before losing weight. Thus, losing weight seems to have some effect on the perceptions of obesity stigma received from medical providers.

A second assumption I examined was that people who have had WLS perceive being stigmatized because of their surgery. My study revealed evidence that there is a stigma associated with having WLS, however, evidence points to that stigma being imputed by those who have neither had, nor planned to have WLS rather than by those who have made a WLS decision. Over the years, I heard negative comments about WLS and wanted to measure them for this study. This was also a frequent topic of discussion during support groups. With nearly 90% of respondents admitting to hearing negative comments about WLS, this is a strong indication that there is a stigma associated with surgery. Over time, as they lose more weight and “pass” as a thin person, they may be more inclined to hide their surgery status. WLS patients hear they are lazy cheaters with no willpower who should have tried harder to lose weight with diet and exercise, a.k.a. “the old-fashioned way.” Respondents were again given the opportunity to state in their own words comments they had heard about WLS. One commonly reported comment was, “You took the easy way out.” Other comments alluded to the idea that WLS was cosmetic and a “magic bullet” or a gimmick. One man even wrote, “My brother told me I was a bad example to my kids because I was a quitter.” Many of these comments are similar to comments made about obese people.

There were several noteworthy findings in the examination of the individual score means within the indices. In the WLS Perceived Stigma Index, all but one statement in the scale had a mean higher than the possible mathematical mean of 2.5 with three statements having a mean higher than 3.0. The lowest average score was for the statement

“People think less of me because I had WLS ( $\bar{x} = 2.45$ ).” Because of the higher scores for the individual statements and the overall index mean ( $\bar{x} = 18.18$ ) these results indicate a moderate level of perceived stigma mostly surrounding the perception that they lack willpower, cheated by having WLS, and are lazy.

When examining the individual item scores from the WLS Enacted Stigma Index, the lower individual scores indicated low levels of enacted stigma for all but two statements. This was not surprising considering the respondents all have either had WLS or are about to have surgery to lose weight. The most striking finding among the individual items was the average score for the statement “The right way to lose weight is through diet and exercise” ( $\bar{x} = 3.72$ ). This finding is ironic considering these individuals have all plotted a course to weight loss using surgical interventions precisely because diet and exercise did not work for them. I believe this could be in large part because diet and exercise have been constructed as the only proper way to lose weight and, for overweight people, willpower to follow through with diet and exercise is a moral obligation. Because obesity is considered controllable, even the obese person feels the stigma is justified (Crandall and Biernat 1990; Puhl and Brownell 2003; Chrisler 2012; McHugh and Kasardo 2012). Interestingly, the next highest average score ( $\bar{x} = 2.58$ ) was for the statement “People that have WLS are looking for a magic bullet.” Surgery is a permanent alteration of the digestive tract and certainly does not qualify as a “magic” anything.

What I found most interesting about the perception of WLS stigma was the lack of internalization of the stigma, or it seemed that way. Scores on the WLS Perceived Stigma Index averaged 18.8 out of a possible 30 points with a normal distribution. While attending support group meetings and reading message boards in the online support group



chat room, there seems to be an awareness of WLS stigma. If someone who had WLS internalized these feelings of stigma, I would expect the average stigma index score to be higher. I purposely avoided measuring WLS stigma enacted by the general public because I wanted to measure how the stigma was perceived and internalized by the affected person. If I had offered the WLS Enacted Stigma Index to the general public, I might have had much different results. It is as if the person who has WLS is so ready for a change and believes so much in WLS as a way to effectively de-stigmatize obesity that s/he does not internalize the negative comments. Many of the respondents experienced obesity stigma and may now perceive WLS stigma, but they do not seem to believe the unkind things they hear about those having weight loss surgery. The only way to measure if they do eventually start to apply the negative comments to themselves is to study a group longitudinally, measuring attitudes at different times: before surgery, just after surgery, and at other points along the way.

After analyzing each part of the two indices, I noticed that one negative trait associated with obese people that was not associated with people having WLS in this study was lack of intelligence. In previous studies, being obese was linked with being considered not smart (Kraig and Keel 2001; Carr and Friedman 2005). This may be due to a perception that someone who has had WLS was smart enough to do something about their weight or other factors like the ability of a WLS patient to hide his or her status.

The finding that people who have the adjustable gastric banding procedure have more negative attitudes towards WLS than those having other procedures supports Miller's concept of layered stigma (2012). There have been, at times, a divide over which procedure was best and what "kind" of person has which procedure. During the year

following my own gastric bypass in 2005, the surgeon had begun offering the adjustable gastric band as an option after only performing Roux-n-y gastric bypasses up until then. A new crop of WLS patients started coming to the support group meetings. Several of them were outspokenly negative about the decision the bypass patients had made because we had chosen something permanent and that the banding was “reversible” so that when they got their eating under control, they were going to have their bands removed. One man even went so far as to say that getting a gastric bypass was “totally giving up” rather than just using a band to lose weight then using willpower to stay thin. Some in the gastric bypass group became very upset and tried explaining that they did not have a different surgical option when they had their surgery and that it still had better outcomes. They started calling the lap-band a fad and disparaging the newcomers calling them delusional and unrealistic. The gastric banding patients responded by calling the bypass patients quitters and taking the lazy way out. As fascinating as I found the interplay, I did not find it helpful and stopped attending. Several months later I was told that the support group had been separated into two different groups meeting on different nights.

Experiencing negative comments is a common topic in support group meetings I have attended. The lack of people several years post-surgery in attendance may be, in part, because of the reluctance to admit they have had surgery. Support group attendance is required of nearly all of those having WLS in the United States. This is a good policy because according to Livhits et al. (2010) support group attendance is positively correlated with weight loss after WLS. That same study also determined that the number of close confidants one has positively correlates with weight loss success. The overwhelming majority (73%) of respondents to this survey who had already had WLS

reported strong family support from their close family members while only 40% of the pre-WLS group had strong family support. This higher level of support post-surgery may have something to do with their witnessing the weight loss experienced by the surgery patient. Once they see the success, it may be easier to be supportive. One woman who had already had surgery commented that she did not fully support her daughter's WLS plan because she was afraid for her safety during surgery, but that she was more supportive after the surgery. Not surprisingly, levels of medical provider support did not vary much between the groups. A letter of medical necessity is usually required by insurance companies, according to the bariatric program director at Middle TN Medical Center, so the respondents who participated in the survey already had the written support of their primary care doctor.

Interestingly, many of those who were close to someone who had WLS reported that person was a friend, especially those in the group who had not yet had surgery with other family members coming in second. Indicative of possible enacted WLS stigma is the result that 12.5% of those who already had WLS reporting they felt their "close someone" should have tried diet and exercise one more time before having surgery. Further study would need to be conducted to clarify if this feeling is due to negative feelings about WLS or possibly just feelings of concern over their loved one having a surgical procedure.

The third assumptions I examined was that people who have had WLS tend to hide their surgery status from others to avoid WLS stigma. There was evidence pointing to this being the case. Those planning WLS were more secretive about their surgery decision than those who had already had surgery and from comments respondents left in

their own words, it is due in part to their fear that they will not lose weight. One woman wrote that she had not told anyone other than close family because if she did not lose weight, then she would not have to explain herself and admit to failure. This finding is illustrative of the feelings of shame associated with obesity. One interesting statistic was that over 30% of those who already had surgery tell strangers about their status, as opposed to less than 3% of those planning surgery. As one woman said in the survey, “I tell everyone. I want everyone to know that it could work for them. I want to be a good example.” Even though almost half reported they had not hidden their surgery status, nearly 30% of those in the planning stages hid their status out of fear they would be considered lazy.

How one loses weight matters when it comes to stigma (Mattingly et al. 2009). Those who lose weight with surgery are thought, by others, to be less responsible for their weight loss than those who use diet and exercise. My study provides further evidence of this, albeit from the point of view of the person having the surgery rather than that of the general public. Vartanian and Fardouly (2013) found that regardless of current weight, if a person was ever fat, that stigma remains even after weight loss. If this is true, then there might be greater motivation to hide one’s surgery status once s/he can pass for a normal weight person. I think it is more a fear of discreditable stigma that influences whether or not someone reveals their WLS status. Whether it is actual stigma or fear of stigma, the idea of being discredited for something easily hidden may lead a person to keep the fact s/he had surgery a secret. This is one of the impression management techniques Goffman (1963) discussed. Stigma may affect a surgery candidate’s adherence to the necessary behavioral changes after s/he has surgery

(Vartanian and Fardouly 2013). Maintaining weight loss following WLS requires following a post-surgery care plan which includes decreased caloric intake and exercise (Bauchowitz et al. 2005). Studies have shown that experiencing weight stigma is correlated with avoidance of physical activities as well as overeating (Puhl and Brownell 2006; Vartanian and Shaprow 2008; Vartanian and Novak 2011).

After analyzing the data, I have come to the conclusion that regardless of weight loss surgery and decreases in BMI category after having surgery to lose weight, stigma remains. High levels of social supports may counteract the negative effects of WLS stigma and lead to higher rates of success considering social supports are positively correlated to WLS success (Livhits et al. 2010). These are findings bariatric surgery centers should take into consideration when preparing people who are planning WLS. Acknowledging the existence of weight loss surgery stigma may lead to policies addressing stigma issues in bariatric surgery programs, as well as in support groups.

## LIMITATIONS

There were several limitations to my study. A convenience sample had to be used in light of the small number in this population. Because of limited resources, the only people participating from out of the middle-Tennessee area heard about the survey through Facebook sharing and through an online post in a bariatric surgery online support group. Of the sixty-six respondents who had already had surgery, thirty-four had their surgery in 2013 and only twelve had surgery prior to 2010. There may be differences in attitudes and perception of stigma over time; however, given the cross-sectional design,

the lack of variation in surgery year, and the convenience method employed, it is impossible to address this possibility.

When I constructed the indices, I used a middle level of agreement but named it “unsure,” which was a mistake. I should have asked the respondent to rank their level of agreement between 1 and 5 and give me a number rather than call a mid-level of agreement as “unsure.” This did not give clarity to the results. Because of these results, however, I now know that WLS stigma is experienced differently than obesity stigma and I will be able to incorporate what I have learned into a new research design to better measure attitudes and experiences.

Despite these limitations, however, the study was very inclusive demographically. The sample demographics mirror the population demographics of people having WLS, which are primarily white, female, married, with at least some post-high school education. The survey was voluntary and anonymous, and respondents felt free to comment on a variety of subjects. This opportunity was utilized over and over. Several times respondents would approach me after a group meeting and thank me for giving them a voice. While my sample was too small to generalize to a broader population, the responses gave me a new direction in which to go for future study of WLS.

## CONCLUSION

This study provides evidence of stigmatizing attitudes toward using weight loss surgery as a weight management technique. If Crocker and Major (2003) are correct in their belief that even the perception of stigma may keep someone from achieving life

goals, it is important to further study of this kind of stigma. The acknowledgement of the existence of WLS stigma has already moved some bariatric surgery practices toward addressing stigma in their educational literature and support group discussion content, as evidenced by information sheets offered at the bariatric support group meetings I have attended.

It would be interesting to perform a similar cross-sectional study in different areas of the United States to see how outcomes compare regionally. It would also be advantageous to conduct a longitudinal study directed at one particular group of WLS patients, measuring their attitudes and beliefs prior to surgery, then following those same patients throughout their insurance and surgery approval process, and at different points after surgery would provide more concrete evidence of the nature of WLS stigma. Layered stigma would also be easier to observe in a longitudinal survey and trends toward stigmatizing different WLS procedures could be measured as those procedures increase and/or decrease in popularity. Until then, we can use the information learned in this study to inform those having WLS that they may experience a stigma very similar in some ways to the one they experienced with obesity with some interesting differences. Where an individual seems to internalize obesity stigma, someone who has WLS may not internalize WLS stigma, at least in the early months and year following WLS and while acknowledging the stigma exists, s/he can manage the effects of stigma more effectively with a strong support network.

## REFERENCES

- Adler, Nancy E. and Judith Stewart. 2009. "Reducing Obesity: Motivating Action while Not Blaming the Victim." *The Milbank Quarterly* 87(1):49-70.
- Allison, David B., Vincent C. Basile, and Harold E. Yuker. 1991. "The Measurement of Attitudes Toward and Beliefs About Obese Persons." *International Journal of Eating Disorders* 10(5):599-607.
- American Medical Association. 2009. "ICD-9-CM Official Guidelines for Coding and Reporting." Amaassn.org. Retrieved November 22, 2013 ([http://www.amaassn.org/resources/doc/cpt/icd9cmcoding\\_guidelines08\\_09\\_full.pdf](http://www.amaassn.org/resources/doc/cpt/icd9cmcoding_guidelines08_09_full.pdf)).
- Arroyo, Kervin, Kini U. Subhash, John E. Harvey, and Daniel M. Herron. 2010. "Surgical Therapy for Diabetes." *Mount Sinai Journal of Medicine* 77:418-430.
- Axtel, Brooke. 2012. "How to Be a Shameless Woman: Making Peace with Our Bodies Ourselves." *Forbes*. April 2, 2013 ([http://www.forbes.com/sites/she\\_negotiates/2012/09/26/how-to-be-a-shameless-woman-making-peace-with-our-bodies-ourselves/](http://www.forbes.com/sites/she_negotiates/2012/09/26/how-to-be-a-shameless-woman-making-peace-with-our-bodies-ourselves/)).
- Bauschowitz, Andrea U., Linda A. Gonder-Frederick, Mary-Ellen Olbrisch, Leila Azarbad, Mi-Young Ryee, Monique Woodson, Anna Miller, and Bruce Schirmer. 2005. "Psychosocial Evaluation of Bariatric Surgery Candidates: A Survey of Present Practices." *Psychosomatic Medicine* 67:825-832.
- Bitler, Marianne P. and Janet Currie. 2005. "Does WIC Work? The Effects of WIC on Pregnancy and Birth Outcomes." *Journal of Policy Analysis and Management* 24 (1):73-91.
- Blackburn, George L, Matthew M. Hutter, Alan M. Harvey, Caroline M. Apovian, Hannah R.W. Boulton, Susan Cummings, John A. Fallon, Isaac Greenberg, Michael E. Jiser, Daniel B. Jones, Stephanie B. Jones, Lee M. Kaplan, John J. Kelly, Rayford S. Kruger, Jr., David B. Lautz, Carine M. Lenders, Robert LoNigro, Helen Luce, Anne McNamara, Ann T. Mulligan, Michael K. Paasche-Orlow, Frank M. Perna, Janey S.A. Pratt, Stancel M. Riley, Jr., Malcolm K. Robinson, John R. Romanelli, Edward Saltzman, Roman Schumann, Scott A. Shikora, Roger L. Snow, Stephanie Sogg, Mary A. Sullivan, Michael Tarnoff, Christopher C. Thompson, Christina C. Wee, Nancy Ridley, John Auerbach, Frank B. Hu, Leslie Kirle, Rita B. Buckley, and Catherine L. Annas. 2009. "Expert Panel on Weight Loss Surgery: Executive Report Update." *Obesity* 17(5):842-862.



- Burgard, Deb. 2009. "What is Health at Every Size?" Pp. 42-53 in *The Fat Studies Reader*, edited by E. Rothblum and S. Solovay. New York: New York University Press.
- Canning, Helen and Jean Mayer. 1966. "Obesity: Its Possible Effect on College Acceptance." *The New England Journal of Medicine* 275:1172-1174.
- Carlson, Andrea and Ben Senauer. 2003. "The Impact of the Special Supplemental Nutrition Program for Women, Infants, and Children on Child Health." *American Journal of Agricultural Economics* 85(2):479-491.
- Carr, Deborah and Michael A. Friedman. 2005. "Is Obesity Stigmatizing? Body Weight, Perceived Discrimination, and Psychological Well-being in the United States." *Journal of Health and Social Behavior* 46(3): 244-259.
- Chrisler, Joan C. 2012. "Why Can't You Control Yourself? Fat Should Be a Feminist Issue." *Sex Roles* 66:608-616.
- Crandall, Christian and Monica Biernat. 1990. "The Ideology of Anti-fat Attitudes." *Journal of Applied Social Psychology* 20:227-243.
- Crocker, Jennifer and Brenda Major. 2003. "The Self-protective Properties of Stigma: Evolution of a Modern Classic." *Psychological Inquiry* 14(3/4):232-237.
- Crosnoe, Robert. 2007. "Gender, Obesity, and Education." *Sociology of Education* 80(3): 241-260.
- Crosnoe, Robert, Kenneth Frank, and Anna Strassmann-Mueller. 2008. "Gender, Body Size and Social Relations in American High Schools." *Social Forces* 86:1189-1216.
- Drake, Mary Anne. 1992. "The Nutritional Status and Dietary Adequacy of Single Homeless Women and their Children in Shelters." *Public Health Reports* 107: 312-319.
- Eknoyan, Garabed. 2008. "Adolphe Quetelet (1796-1874) The Average Man and Indices of Obesity." *Nephrology Dialysis Transplantation* 23:47-51.
- Ellis, Marie. November 19, 2013. "Teen Obesity Linked to Serious Health Problems in Adulthood." *Medicalnewstoday.com*. Retrieved March 25, 2014 (<http://www.medicalnewstoday.com/articles/268983.php>).
- Entman, Robert M. 1993. "Framing: Toward Clarification of a Fractured Paradigm." *Journal of Communication* 43(4):51-58.

- Fikkan, Janna L. and Esther D. Rothblum. 2012. "Is Fat a Feminist Issue? Exploring the Gendered Nature of Weight Bias." *Sex Roles* 66:575-592.
- Flegal, Katherine M., Margaret D. Carroll, Cynthia L. Ogden, and Lester R. Curtin. 2010. "Prevalence and Trends in Obesity Among US Adults, 1999-2008." *Journal of the American Medical Association* 303(3):235-241.
- Flegal, Katherine M., Barry I. Graubard, David F. Williamson, and Mitchell H. Gall. 2005. "Excess Deaths Associated with Underweight, Overweight, and Obesity." *Journal of the American Medical Association* 293(15):18861-1867.
- Fones, Ansley. February 8, 2012. "NYC Anti-obesity Ads: Scare Tactic or Credible Warnings?" Wellnesstoday.com. Retrieved March 25, 2014 (<http://www.wellnesstoday.com/nyc-anti-obesity-ads-scare-tactic-or-credible-warnings>).
- Fontaine, Kevin, Myles S. Faith, David B. Allison, and Lawrence J. Cheskin. 1998. "Body Weight and Health Care among Women in the General Population." *Archives of Family Medicine* 7:381-84.
- Fox, Maggie. August 15, 2013. "Heavyburden: Obesity May be Even Deadlier than Thought." Nbcnews.com. Retrieved March 25, 2014 (<http://www.nbcnews.com/health/health-news/heavy-burden-obesity-may-be-even-deadlier-thought-f6C10930019>).
- Goffman, Erving. 1959. *The Presentation of Self in Everyday Life*. New York: Doubleday.
- Goffman, Erving. 1963. *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, NJ: Prentice Hall.
- Goffman, Erving. 1974. *Frame Analysis: An Essay on the Organization of Experience*. New York: Harper Colophon.
- Granbert, Ellen. 2006. "Is That All There Is?" Possible Selves, Self-change and Weight Loss." *Social Psychology Quarterly* 69(2):109-126.
- Henry, Stuart. 2009. *Social Deviance: Short Introductions*. Malden, MA: Polity Press.
- Kalisch, Beatrice J. 1972. "The Stigma of Obesity." *American Journal of Nursing* 72(6): 1124-1127.
- Kasardo, Ashley Elizabeth and Maureen C. McHugh. 2012. "Fighting Fat Prejudice and Embracing Size Diversity." *Sex Roles* 66:698-700.

- Kirkland, Anna. 2008. "Think of the Hippopotamus: Rights Consciousness in the Fat Acceptance Movement." *Law and Society Review* 42:397-431.
- Kraig, KA, and P.K. Keel. 2001. "Weight-based Stigmatization in Children." *International Journal of Obesity* 25:1661-1666.
- Laslett, Barbara and Carol A.B. Warren. 1975. "Losing Weight: The Organizational Promotion of Behavior Change." *Social Problems* 23(1):69-80.
- Leff, Daniel R. and Dugal Heath. 2009. "Surgery for Obesity in Adulthood." *British Medical Journal* 339:740-746.
- Link, Bruce G. and Jo C. Phelan. 2001. "Conceptualizing Stigma." *Annual Review of Sociology* 27:363-85.
- Livhitis, M., C. Mercado, I. Yermilov, J.A. Parikh, E. Dutson, A. Mehran, C.Y. Ko, P.G. Shekell, and M.M. Gibbons. 2010. "Is Social Support Associated with Greater Weight Loss After Bariatric Surgery?: A Systematic Review." *Obesity* 12:142-148.
- Martin, Daniel D. 2000. "Organizational Approaches to Shame: Avowal, Management, and Contestation." *The Sociological Quarterly* 41(1):125-150.
- Mattingly, Brent A., Mark A. Stambush, and Ashley E. Hill. 2009. "Shedding the Pounds but not the Stigma: Negative Attributions as a Function of a Target's Method of Weight Loss." *Journal of Applied Biobehavioral Research* 14(3):128-144.
- Mason, Katherine. 2012. "The Unequal Weight of Discrimination: Gender, Body Size, and Income Inequality." *Social Problems* 59(3): 411-435.
- McHugh, Maureen C. and Ashley E. Kasardo. 2012. "Anti-fat Prejudice: The Role of Psychology in Explication, Education and Eradication." *Sex Roles* 66: 617-627.
- Meyerhoefer, Chad D. and Yuriy Pylypchuk. 2008. "Does Participation in the Food Stamp Program Increase the Prevalence of Obesity and Health Care Spending?" *American Agricultural Economics Association* 90(2):287-305.
- Miller, Amy Chasteen. 2012. "On the Margins of the Periphery: Unassisted Childbirth and the Management of Layered Stigma." *Sociological Spectrum* 32:406-423.
- Miller, Barbara. 1981. "Jejunioileal Bypass: A Drastic Weight Control Measure." *American Journal of Nursing* 81(3):564-568.

- Neoporent, Liz. June 19, 2013. "AMA Declares Obesity a Disease." Abcnews.go.com Retrieved 3/25/14 (<http://www.abcnews.go.com/Health/american-medical-association-classifies-obesitydisease/story?id=19439304>).
- Pfohl, Stephen. 1994. *Images of Deviance and Social Control: A Sociological History*. 2<sup>nd</sup> ed. New York, NY: McGraw-Hill.
- Puhl, Rebecca M. and K. D. Brownell. 2003. "Psychosocial Origins of Obesity Stigma: Toward Changing a Powerful and Pervasive Bias." *Obesity Reviews* 4:213-227.
- Saguy, Abigail and Rene Almeling. 2008. "Fat in the Fire? Science, the News Media, and the Obesity Epidemic." *Sociological Forum* 23(1):53-83.
- Saguy, Abigail C. 2013. *What's Wrong with Fat?* New York: Oxford University Press.
- Smith, Christine A. 2012. "The Confounding of Fat, Control, and Physical Attractiveness for Women." *Sex Roles* 66:628-631.
- Snow, David and Robert D. Benford. 1988. "Ideology, Frame Resonance and Participant Mobilization." *International Social Movement Research* 1:198.
- Snyder, Jeremy and Valorie A. Crooks. 2010. "Medical Tourism and Bariatric Surgery: More Moral Challenges." *The American Journal of Bioethics* 10(12):28-30.
- St. James, Yannik, Jay M. Handelman, and Shirley F. Taylor. 2011. "Magical Thinking and Consumer Coping." *Journal of Consumer Research* 38(4):632-649.
- Taylor, Kareem. April 9, 2013. "Tyrese Doesn't Want Comparisons to Steve Harvey; Talks 'Black Rose' Film and Manology." Allhiphop.com. Retrieved March 25, 2014 (<http://www.allhiphop.com/2013/04/09/tyrese-doesnt-want-comparisons-to-steve-harvey-talks-black-rose-film-and-manology/>).
- U.S. Preventive Services Task Force. 2004. "Screening for Obesity in Adults: Recommendations and Rationale." *The American Journal of Nursing* 104(5):94-102.
- Vartanian, Lenny R. and Jasmine Fardouly. 2013. "The Stigma of Obesity Surgery: Negative Evaluations Based on Weight Loss History." *Obesity Surgery* 23:1545-1550.
- Vartanian, Lenny R. and Sarah A. Novak. 2011. "Internalized Societal Attitudes Moderate the Impact of Weight Stigma on Avoidance of Exercise." *Obesity* 19(4): 757-762.

- Vartanian, Lenny R. and Jacqueline G. Shaprow. 2008. "Effects of Weight Stigma on Exercise Motivation and Behavior: A Preliminary Investigation among College-aged Females." *Journal of Health Psychology* 13(1):131-138.
- Zagorsky, Jay. 2005. "Health and Wealth: The late 20th Century Obesity Epidemic in the U.S." *Economics and Human Biology* 3:296-313.

APPENDICES

APPENDIX A – SURVEY INSTRUMENT

## Weight Loss Surgery Attitudes Survey

Thank you for participating in this voluntary survey. We are asking people who have had weight loss surgery (or have surgery planned) how they feel about the surgery and some of their experiences before and after. It should take no more than 30 minutes to complete. The data collected will be used in a research study about attitudes toward weight loss surgery. Your input is valuable to this study and we appreciate your taking the time to complete this survey. Understanding more about the social experiences of people having weight loss surgery can help programs identify and address the needs of this group of people.

This survey is anonymous; you will not be asked to give your name at any time and your responses can not be linked to you. Issues of weight sometimes can stir uncomfortable feelings for some people. If you feel distressed during the survey and do not wish to continue, please remember you may skip questions or exit out of the survey at any time. If these feelings worsen or linger, you may want to talk to someone, perhaps a counselor.

If you would like more information about the study before or after taking the survey, please email the researcher at: [bep2e@mtmail.mtsu.edu](mailto:bep2e@mtmail.mtsu.edu). Address and other contact information are at the end of the survey. For information about the approval for this research, contact the Compliance Officer at [Compliance@mtsu.edu](mailto:Compliance@mtsu.edu) or [Kellie.Hiker@mtsu.edu](mailto:Kellie.Hiker@mtsu.edu). Clicking to continue and start the survey indicates your consent to take the survey and that you understand:

- ❖ Participation is Voluntary
- ❖ You shall remain Anonymous (you will not be asked to give your name or address), and
- ❖ The subject matter might stir uncomfortable feelings

Again, we'd like to thank you for your participation and your valuable time.

---

1. What is your weight loss surgery status? (check one)

- I have had weight loss surgery
- I have a surgery date scheduled
- I am waiting for insurance approval and will have surgery as soon as possible
- Other \_\_\_\_\_ (please specify)



2. How familiar are you with different weight loss surgery options? (check one)
- Very familiar
  - Somewhat familiar
  - Not very familiar
  - Only familiar with the surgery I had or will have
3. Where did you have, or plan to have, weight loss surgery? (Name of state or country)
- \_\_\_\_\_
4. If your surgery was, or will be, in a country other than the U.S., why did you make this decision? (check all that apply)
- My insurance company denied my surgery
  - There were too many hoops to jump through here in the U.S.
  - I did not want anyone to know I was having surgery
  - Cost
  - Other \_\_\_\_\_ (please specify)
5. If you had, or will have, weight loss surgery in the U.S. what steps were (are) you required to complete before having surgery? (check all that apply)
- Lose 10% of excess body weight before surgery
  - Psychological Evaluation
  - Attendance at Informational Seminar
  - Attendance at surgery support group
  - Minimum 6 months of medically supervised weight loss attempt
  - Medical tests
  - Insurance approval
  - Agreement to purchase supplements from bariatric surgery program
  - Gym membership or evidence of exercise program
  - Other \_\_\_\_\_ (please specify)
  - No requirements of any kind
6. What kind of weight loss surgery did you have or plan to have? (check one)
- Adjustable Gastric Band (Lap Band)
  - Roux-n-Y Gastric Bypass
  - Biliopancreatic Bypass with Duodenal Switch
  - Vertical Sleeve Gastrectomy
  - Two step procedure – Lap Band, followed by Gastric Bypass several months later
  - Other \_\_\_\_\_ (please specify)

7. In what year did you, or will you, have your surgery? (enter 4-digit year, for example 1995 or 2013)

\_\_\_\_\_

8. How open are you with others about having had weight loss surgery or, if you haven't had surgery yet, how open are you about your upcoming surgery? (check one)

- Very open - I tell everyone that asks or seems interested  
 Somewhat open - I only tell people who know me well  
 Not very open - I only tell people who need to know  
 Not open - I don't talk about my surgery with anyone

9. Who have you told about your weight loss surgery (if you've had it already or plan to have it)? (check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Close family      | <input type="checkbox"/> Acquaintances         |
| <input type="checkbox"/> Extended family   | <input type="checkbox"/> Support Group members |
| <input type="checkbox"/> Close friends     | <input type="checkbox"/> Strangers             |
| <input type="checkbox"/> Co-workers        | <input type="checkbox"/> No one                |
| <input type="checkbox"/> Medical Providers |  |

10. Was your close family supportive of your decision to have weight loss surgery? (check one)

**If you had surgery already**  
**surgery**

- Yes, both before surgery and after  
 Yes, after surgery, but not before  
 Yes, before surgery, but not after  
 No, not before or after surgery  
 I do not have any close family  
 I have not told my close family about having surgery

**If you plan to have**

- They are all supportive of my plan  
 Most are supportive  
 Some are supportive, some are against it  
 Most are against it  
 No one supports my surgery plan  
 I do not have any close family  
 I have not told my close family about having surgery

11. If you have hidden your weight loss surgery or decision to have surgery, why were you not truthful? (check all that apply)

- It was none of anyone else's business  
 I was afraid others might think I was lazy  
 I was afraid others might treat me differently

- I was afraid others might not want to be my friend
- I was afraid for my job
- I was afraid others might think less of me
- I was afraid others might think I wasn't smart
- I was afraid others might think I was a cheater
- I wanted others to think I lost weight the old fashioned way with diet and exercise
- Other \_\_\_\_\_ (please specify)
- I have not hidden my weight loss surgery status

*Please remember that continuing this survey is voluntary. You may skip questions or exit out at any time.*

*Your continued participation is greatly appreciated!*

12. This question is for those of you who have already had weight loss surgery. If you have not had surgery yet, please skip to Question 13. Also, if you have had surgery and *told no one at all* about having surgery, you may also skip to Question 13.

Please check the box that most closely matches how you feel about each statement		1 Strongly Disagree	2 Mildly Disagree	3 Unsure	4 Mildly Agree	5 Strongly Agree
a.	People think I am lazy because I had weight loss surgery.					
b.	People think I am brave because I had weight loss surgery.					
c.	People think I don't have willpower because I had weight loss surgery.					
d.	People think I cheated by having weight loss surgery.					
e.	People think I am smart because I had weight loss surgery.					
f.	People treated me badly before I had weight loss surgery because I was obese.					
g.	People treat me the same as when I was obese once they find out I had weight loss surgery.					
h.	People think less of me because I had weight loss surgery.					

13. In general, before your surgery, how supportive were your medical providers of your weight loss surgery plans? This includes primary care doctor, OB/GYN, nurse practitioner, or any specialists. (check one)
- All were supportive

- Most were supportive
  - Some were supportive
  - Few were supportive
  - None were supportive
  - I did not tell any of my medical providers before having surgery
14. In general, how were you treated by medical providers before you had weight loss surgery or made the decision to have weight loss surgery? (check all that apply)
- My medical providers usually made a big deal out of my weight
  - My medical providers told me to lose weight
  - The staff at my medical provider's office talked about my weight to each other behind my back
  - My medical provider did not like treating me because I was overweight
  - The staff at my medical provider's office made fun of me
  - The staff at my medical provider's office made me feel embarrassed
  - I was generally treated well by my medical providers
15. Have you ever delayed or skipped seeking medical treatment because of your weight? (check one)
- Yes
  - No
16. If "yes", why? If "no", please skip to the next question. (check all that apply)
- I was embarrassed
  - I did not want a lecture about losing weight
  - I think most medical providers do not like obese people
  - I wanted to lose weight before going to a medical appointment
  - The staff made fun of me
  - The medical office was not designed for obese people (gowns were too small, chairs were too small, diagnostic equipment did not fit me, etc.)
  - Other \_\_\_\_\_ (please specify)
17. What are your feelings about medical providers in general when it comes to treating obese patients? (Please comment)

---

---

---

---



---



---

18. Are you satisfied with your current weight? (check one)
- Yes, I am satisfied with my weight right now
- No, I have not lost enough weight and need to lose more
- No, I lost too much weight and need to gain some weight back
19. On a scale of 1-10, how happy are you that you had weight loss surgery? Choose a number that best represents how you feel, with 1 being "If I could go back in time, I would not have surgery again" and 10 being "I am 100% glad I had surgery and would do it all over again".

\_\_\_\_\_ (please enter a number between 1 - 10)

*Your input is valuable to this study and is greatly appreciated. Please remember that continuing this survey is voluntary. You may skip questions you do not wish to answer or exit out of the survey at any time.*

20.

Check the box that most closely matches how you feel about each statement concerning weight loss surgery in general (disregarding your own surgery).

		1 Strongly Disagree	2 Mildly Disagree	3 Unsure	4 Mildly Agree	5 Strongly Agree
a.	The right way to lose weight is through diet and exercise.					
b.	People who have weight loss surgery lack willpower.					
c.	Having weight loss surgery is a good choice for someone more than 100 lb. overweight.					
d.	Having weight loss surgery is cheating.					
e.	People that have weight loss surgery are lazy.					
f.	People that have weight loss surgery are brave.					
g.	People that have weight loss surgery are looking for a magic bullet.					
h.	I would feel OK if I found out my spouse or partner had weight loss surgery before I knew them.					

21. Why do you think some people might regain a lot of their weight back? (please comment)

---

---

---

---

---

---

---

---

22. Are you close to someone who has had weight loss surgery? (check one)

- Yes
- No

23. What is your relationship with that person? If you are close to more than one person who has had weight loss surgery, think about the person you feel closest to and answer the following questions about her/him. (check one)

- Spouse/Committed Partner
- Boyfriend/Girlfriend
- Parent
- Son/Daughter
- Other family member
- Friend
- Co-worker

24. Did you know him/her before s/he had surgery? (check one)
- Yes
  - No
25. If “yes”, did that person tell you s/he was having weight loss surgery beforehand? (check one)
- Yes
  - No
26. If “yes”, how did you feel about his/her upcoming surgery? Please select the statement that best matches your experience. (check one)
- I was 100% supportive with no reservations
  - I was supportive, but thought s/he should try diet/exercise once more
  - I was supportive, but was afraid our relationship would change
  - I was not supportive at first, but learned more and was supportive later
  - I was not supportive at first, but was supportive after surgery
  - I was not supportive at any point before or after surgery
27. If you knew this person before s/he had surgery, had you already had or planned your weight loss surgery? (check one)
- Yes
  - No
28. Have you ever heard negative comments about people who have had weight loss surgery? (check one)
- Yes
  - No
29. If “yes”, which comments have you heard? (check all that apply)
- They are lazy
  - They have no willpower
  - They aren't as smart as other people
  - They cheated by having weight loss surgery
  - They almost always gain back the weight
  - They are crazy for having surgery
  - They should have tried harder to lose weight through diet/exercise
  - Other \_\_\_\_\_ (please specify)

**Background Information**

Almost done now! In order for us to more fully understand people's responses to the previous questions, we are asking you a few things about your background. Please remember that your answers are anonymous; you will not be asked to provide your name or address and there will be no way to connect you to your answers. *Please remember that continuing this survey is voluntary. You may skip questions you do not wish to answer or exit out of the survey at any time.*

30. What is your sex? (check one)

- Male
- Female

31. What is your age? (fill in the blank)

\_\_\_\_\_ years

32. What is your race/ethnicity?

- White
- Black or African American
- Hispanic or Latino
- Asian
- Other \_\_\_\_\_ (please specify)

33. What is your marital status?

- Never married or in a committed partnership
- Married/In a Committed Partnership
- Divorced
- Widowed

34. What is your current weight? (fill in the blank)

\_\_\_\_\_ lbs.

35. What is your current height? (fill in the blanks)

\_\_\_\_\_ ft. \_\_\_\_\_ inches

36. What was your highest weight ever? (fill in the blank)

\_\_\_\_\_ lbs.

37. What is the highest level of education that you have completed? (check one)



- Did not graduate high school
- High school graduate or GED
- Vocational or Trade school graduate
- Associates Degree (2 year degree)
- Some college (did not graduate or are currently enrolled in a Bachelor's program)
- Bachelor's Degree (4-year degree)
- Graduate or Professional Degree

38. What is your annual income level? (check one)

- \$0 to \$24,999 per year
- \$25,000 to \$49,999 per year
- \$50,000 to \$74,999 per year
- \$75,000 to \$99,999 per year
- \$100,000 or more per year

39. How did you hear about this survey? (check one)

- Ad – The Nashville Scene
- Flier
- MTSU website
- Weight loss surgery seminar
- Weight loss surgery support group
- A friend told me about the survey
- Facebook
- Other \_\_\_\_\_ (please specify)

40. Please use this space to comment on anything you'd like to add.

---

---

---

---

Thank you for your participation!

If you have any other comments or questions you would like to share with us, feel free to email the researcher, Barbara Pennington at [bep2e@mtmail.mtsu.edu](mailto:bep2e@mtmail.mtsu.edu). Your email will not be tied in any way to your responses to the survey. If you prefer to contact her by mail, please respond to:  
Department of Sociology, Attn: Barbara Pennington, MTSU P.O Box 10, 1301 East Main St.,  
Murfreesboro, TN 37132.

APPENDIX B – TABLES

Table 1. Respondent Demographics by Surgery Status (% or  $\bar{x}$  (SD))

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
Age	(n = 64)	(n = 35)	(n = 99)
$\bar{x}$ (SD)	44.6 (11.03)	40.8 (11.24)	
Range (age in years)	21 - 70	19 - 65	
Sex	(n = 65)	(n = 35)	(n = 100)
Male	18.5	8.6	15.0
Female	81.5	91.4	85.0
Race/Ethnicity	(n = 65)	(n = 35)	(n = 100)
White	89.2	77.1	85.0
Black/African-American	9.2	20.0	13.0
Hispanic/Latino	1.5	0.0	1.0
Other	0.0	2.9	1.0
Educational Attainment	(n = 63)	(n = 35)	(n = 98)
HS Diploma/GED	20.6	11.4	17.3
Vocational Training	12.7	17.1	14.3
Associates Degree	7.9	2.9	6.1
Some College	17.5	28.6	21.4
Bachelor's Degree	30.2	25.7	28.6
Graduate/Professional Degree	11.1	14.3	12.2
Income – annual	(n = 61)	(n = 34)	(n = 95)
\$0-\$24,999	13.1	29.4	18.9
\$25,000 - \$49,999	39.3	35.3	37.9
\$50,000 - \$74,999	24.6	17.6	22.1
\$75,000 - \$99,999	16.4	8.8	13.7
\$100,000 and up	6.6	8.8	7.4
Marital Status	(n = 64)	(n = 35)	(n = 99)
Never married or in a committed partnership	15.6	20.0	17.2
Married/in a committed partnership	65.6	62.9	64.6
Divorced	14.1	17.1	15.2
Widowed	4.7	0.0	3.0

Group 1 = Post WLS, Group 2 = Pre-WLS

Table 2. Description of WLS Experience by Surgery Status (% or  $\bar{x}$  (SD))

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
Location of Surgery	(n = 66)	(n = 35)	(n = 101)
United States	92.3	100.0	95.0
Mexico	7.7	0.0	5.0
Type of Surgery	(n = 66)	(n = 35)	(n = 101)
Adjustable Gastric Band	12.1	5.7	9.9
Roux-n-Y Gastric Bypass	24.2	11.4	19.8
Vertical Sleeve Gastrectomy	60.6	80.0	67.3
Other	3.0	2.9	3.0
Requirements before Surgery	(n = 61)	(n = 35)	(n = 96)
Lose 10 of body weight	47.5	42.9	45.8
Psychological Evaluation	98.4	100	99
Informational Seminar attendance	88.5	91.4	89.6
Support Group attendance	77.0	82.9	79.2
6 months Medically Supervised Diet	49.2	45.7	47.9
Medical Tests	73.0	40.0	61.2
Insurance Approval	93.4	97.1	94.8
BMI Category Highest	(n = 61)	(n = 32)	(n = 93)
Normal Weight < 25 kg/m <sup>2</sup>	0.0	0.0	0.0
Overweight 25 - 29.9 kg/m <sup>2</sup>	0.0	0.0	0.0
Obese 30 - 39.9 kg/m <sup>2</sup>	6.6	3.1	5.4
Morbidly Obese ≥ 40 kg/m <sup>2</sup>	93.4	96.9	94.6
		$\chi^2 = .486$ (1)	
BMI Category Current	(n = 62)	(n = 34)	(n = 93)
Normal Weight < 25 kg/m <sup>2</sup>	9.7	0.0	6.3
Overweight 25 - 29.9 kg/m <sup>2</sup>	22.6	0.0	14.6
Obese 30 - 39.9 kg/m <sup>2</sup>	48.4	5.9	33.3
Morbidly Obese ≥ 40 kg/m <sup>2</sup>	19.4	94.1	45.8
		$\chi^2 = 49.65$ (3)*	
BMI Category Change	(n = 61)	(n = 32)	(n = 93)
BMI decreased 0 categories	21.3	96.9	47.3
BMI decreased 1 category	52.5	3.1	35.5
BMI decreased 2 categories	16.4	0.0	10.8
BMI decreased 3 categories	9.8	0.0	6.5
		$\chi^2 = 48.12$ (3)*	

Table 2. Description of WLS Experience by Surgery Status (% or  $\bar{x}$  (SD) (cont'd)

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
Highest Weight	(n = 62)	(n = 32)	(n = 94)
$\bar{x}$ (SD)	320.53 (71.9)	318.25 (63.9)	--
Range	230 - 544	240 - 476	--
	$t = -.151$ (92)		
Weight at time of Survey	(n = 63)	(n = 34)	(n = 97)
$\bar{x}$ (SD)	212.57 (46.9)	306.0 (64.1)	--
Range	126 - 334	213 - 470	--
	$t = -8.21$ (95)*		
Weight Difference	(n = 62)	(n = 32)	(n = 94)
$\bar{x}$ (SD)	107.27 (57.7)	12.81 (15.4)	--
Range	8 - 322	0 - 67	--
	$t = -9.07$ (92)*		
BMI Highest	(n = 61)	(n = 32)	(n = 93)
$\bar{x}$ (SD)	51.15 (10)	51.49 (10.6)	--
Range	37 - 83	37 - 84	--
	$t = .15$ (91)		
BMI at time of Survey	(n = 62)	(n = 34)	(n = 96)
$\bar{x}$ (SD)	34.11 (7.9)	49.23 (10.0)	--
Range	21 - 54	34 - 83	--
	$t = 8.15$ (94)*		
BMI Change	(n = 61)	(n = 32)	(n = 93)
$\bar{x}$ (SD)	16.93 (8.2)	2.16 (2.7)	--
Range	1 - 44	0 - 12	--
	$t = -9.91$ (91)*		

---

Group 1 = Post WLS, Group 2 = Pre-WLS; \*  $p < .001$

Table 3. Results of Obesity Stigma Cross Tabulations (%)

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
People treated me badly before I had WLS because I was obese. <sup>a</sup>	(n = 66)		
Strongly Agree	36.4	--	--
Mildly Agree	28.8	--	--
Unsure	10.6	--	--
Mildly Disagree	4.5	--	--
Strongly Disagree	19.7	--	--
Perceived treatment by medical providers (MP) prior to WLS decision.	(n = 65)	(n = 32)	(n = 97)
MP usually made a big deal out of my weight.	29.2	31.3	29.9
MP told me to lose weight.	78.5	75.0	77.3
Staff at MP talked about my weight to each other behind my back.	4.6	9.4	6.2
MP did not like treating me because I was overweight.	9.2	15.6	11.3
Staff at MP made fun of me.	3.1	3.1	3.1
Staff at MP made me feel embarrassed.	18.5	18.8	18.6
I was generally treated well by MP.	53.8	53.1	53.6
Have you ever delayed or skipped seeking medical treatment because of your weight?	(n = 66)	(n = 35)	(n = 101)
Yes	54.5	71.4	60.4
Reasons for delaying treatment	(n = 36)	(n = 25)	(n = 61)
I was embarrassed.	75.0	76.0	75.4
I did not want a lecture about losing weight.	61.1	52.0	57.4
I think most MP do not like obese people.	22.2	32.0	26.2
I wanted to lose weight before going to a medical appointment.	44.4	48.0	45.9
The staff made fun of me.	5.6	4.0	4.9
The medical office was not designed for obese people (gowns too small, chairs too small, etc.)	44.4	28.0	37.7

Group 1 = Post WLS, Group 2 = Pre-WLS; <sup>a</sup> Only those who had already had WLS answered this question.

Table 4. Results of WLS Stigma Cross Tabulations (%)

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
Was your family supportive of your WLS decision?	(n = 65)	(n = 35)	(n = 100)
Yes, both before and after surgery	73.8	--	--
Yes, after surgery, but not before	12.3	--	--
Yes, before surgery but not after	7.7	--	--
No, not before or after surgery	3.1	--	--
I do not have any close family	1.0	--	--
I have not told my close family about surgery	1.0	--	--
They are all supportive of my plan	--	40.0	--
Most are supportive	--	25.7	--
Some are supportive, some are against it	--	17.1	--
Most are against it	--	11.4	--
No one supports my surgery plan	--	0	--
I do not have any close family	--	2.9	--
I have not told my close family about surgery	--	2.9	--
In general, before your surgery, how supportive were your medical providers of your WLS plan?	(n = 63)	(n = 26)	(n = 89)
All were supportive	49.2	57.7	51.7
Most were supportive	31.7	26.9	30.3
Some were supportive	6.3	11.5	7.9
Few were supportive	11.1	3.8	9.0
None were supportive	1.6	0	1.1
Are you close to someone who has had WLS?	(n = 65)	(n = 34)	(n = 99)
Yes	69.2	64.7	67.7
Relationship with "close someone"	(n = 45)	(n = 22)	(n = 67)
Spouse/Committed Partner	11.1	0.0	7.5
Boyfriend/Girlfriend	0.0	0.0	0.0
Parent	8.9	9.1	9.0
Son/Daughter	6.7	9.1	7.5
Other family member	22.2	9.1	17.9
Friend	37.8	59.1	44.8
Co-worker	13.3	13.6	13.4
Were you supportive of that person's surgery plan?	(n = 32)	(n = 17)	(n = 49)
100 supportive	75.0	88.2	79.6
Supportive, but thought s/he should try diet and exercise once more	12.5	5.9	10.2
Supportive, but thought our relationship would change	3.1	0.0	2.0
Not supportive at first, but learned more and became supportive	6.3	5.9	6.1
Not supportive at first, but was supportive after	3.1	0.0	2.0
Not supportive at any point	0.0	0.0	0.0



Table 4. Results of WLS Stigma Cross Tabulations (%) (cont'd)

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>
Have you ever heard negative comments about people who have had WLS?	( <i>n</i> = 62)	( <i>n</i> = 35)	( <i>n</i> = 97)
Yes	87.1	85.7	86.6
Negative comments heard about people who have had WLS	( <i>n</i> = 54)	( <i>n</i> = 30)	( <i>n</i> = 84)
They are lazy.	75.9	63.3	71.4
They have no willpower.	79.6	66.7	75.0
They aren't as smart as other people.	20.4	6.7	15.5
They cheated by having WLS.	79.6	76.7	78.6
They almost always gain back the weight.	77.8	70.0	75.0
They are crazy for having surgery.	68.5	40.0	58.3
They should have tried harder to lose weight through diet and exercise.	92.6	86.7	90.5

Group 1 = Post WLS, Group 2 = Pre-WLS

Table 5. WLS Perceived and Enacted Stigma Indices and Reliability Measures

	$\bar{x}$	<i>SD</i>	Range
WLS Perceived Stigma Index ( <i>n</i> = 66)	18.18	5.44	7-29
People think I am lazy because I had WLS	2.92	1.26	1-5
People think I don't have willpower because I had WLS.	3.23	1.29	1-5
People think I cheated by having WLS.	3.06	1.21	1-5
People treated me badly before I had WLS because I was obese.	3.58	1.51	1-5
People treat me the same as when I was obese once they find out I had WLS.	2.94	1.21	1-5
People think less of me because I had WLS	2.45	1.13	1-5
$\alpha = .81$ , possible index score range 6 - 30			
WLS Enacted Stigma Index ( <i>n</i> = 95)	15.13	4.72	8-28
The right way to lose weight is through diet and exercise.	3.72	1.28	1-5
People who have WLS lack willpower.	1.69	1.13	1-5
Having WLS is a good choice for someone more than 100 lbs. overweight. (Reverse coded)	1.38	0.75	1-5
Having WLS is cheating.	1.37	0.75	1-5
People that have WLS are lazy.	1.42	.86	1-5
People that have WLS are brave. (Reverse coded)	1.64	1.00	1-5
People that have WLS are looking for a magic bullet.	2.58	1.37	1-5
I would feel OK if I found out my spouse or partner had WLS before I knew them. (Reverse coded)	1.33	0.83	1-5
$\alpha = .72$ , possible index score range 8 - 40			

Individual items scale ranged from 1=Strongly Disagree to 5=Strongly Agree. Higher scores indicate higher levels of perceived or enacted stigma

Table 6. ANOVA WLS Enacted Stigma by Surgery Type ( $n = 95$ )

	$n$	$\bar{x}$ ( $SD$ )	$SS$ ( $df$ )	$F$
Adjustable Gastric Band	9	20.44 (6.22)		
Roux-n-Y Gastric Bypass	19	15.68 (5.52)		
Vertical Sleeve Gastrectomy	64	14.22 (3.79)		
Other	3	15.00 (2.65)		
Between Groups			313.22 (3)	5.35**
Within Groups			1777.27 (91)	

Multiple Comparisons - Tukey

WLS Type		Mean Difference	$SE$
Adjustable Band	Gastric Bypass	4.76*	1.79
	Vertical Sleeve	6.23**	1.57
	Other	5.44	2.95
Gastric Bypass	Adjustable Band	-4.76*	1.79
	Vertical Sleeve	1.47	1.16
	Other	.684	2.75
Vertical Sleeve	Adjustable Band	-6.23**	1.57
	Gastric Bypass	-1.47	1.16
	Other	-.781	2.61
Other	Adjustable Band	-5.44	2.95
	Gastric Bypass	-.684	2.75
	Vertical Sleeve	.781	2.61

\*  $p < .05$ , \*\*  $p < .01$

Table 7. Results of Tendency to Hide WLS Status Cross Tabulations

	<u>Group 1</u>	<u>Group 2</u>	<u>Total</u>	<u><math>\chi^2</math> (df)</u>
Level of openness about WLS decision	(n = 66)	(n = 35)	(n = 101)	5.23 (3)
Very open	56.1	34.3	48.5	--
Somewhat open	25.8	45.7	32.7	--
Not very open	16.7	17.1	16.8	--
Not open	1.5	2.9	2.0	--
Who have you told about your WLS decision?	(n = 66)	(n = 35)	(n = 101)	
Close family	92.4	91.4	92.1	0.03 (1)
Extended family	60.6	25.7	48.5	11.15 (1)***
Close friends	78.8	62.9	73.3	2.96 (1)**
Co-workers	60.6	31.4	50.5	7.79 (1)**
Medical providers	81.8	53.4	72.3	8.65 (1)**
Acquaintances	43.9	14.3	33.7	9.01 (1)**
Support Group members	59.1	40.0	52.5	3.34 (1)
Strangers	31.8	2.9	21.8	11.26 (1)***
No one	0	1.0	1.0	1.91 (1)
Reasons for hiding WLS decision	(n = 64)	(n = 34)	(n = 98)	
It was no one's business.	23.4	23.5	23.5	0.00 (1)
I was afraid others might think I was lazy.	14.1	29.4	19.4	3.35 (1)
I was afraid others might treat me differently.	12.5	23.5	16.3	1.98 (1)
I was afraid others might not want to be my friend.	0	5.9	2.0	3.84 (1)
I was afraid for my job.	0	2.9	1.0	1.90 (1)
I was afraid others might think less of me.	15.6	32.4	21.4	3.70 (1)
I was afraid others might think I wasn't smart.	4.7	2.9	4.1	.173 (1)
I was afraid others might think I was a cheater.	17.2	29.4	21.4	1.97 (1)
I wanted others to think I lost weight the old-fashioned way with diet and exercise.	10.9	5.9	9.2	0.68 (1)
I have not hidden my weight loss surgery status.	44.6	44.1	44.4	.002 (1)

Group 1 = Post WLS, Group 2 = Pre-WLS; \*\* p<.01, \*\*\* p<.001

APPENDIX C – INSTITUTIONAL REVIEW BOARD APPROVAL



November 27, 2013

Barbara Pennington, Dr. Meredith Dye  
Department of Sociology  
[bep2e@mtmail.mtsu.edu](mailto:bep2e@mtmail.mtsu.edu), [Meredith.Dye@mts.edu](mailto:Meredith.Dye@mts.edu)

Protocol Title: "Survey of Attitudes towards People who have Weight Loss Surgery"

**Protocol Number: 14-157**

Dear Investigator(s),

The exemption is pursuant to 45 CFR 46.101(b) (2). This is because the research being conducted involves the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior.

You will need to submit an end-of-project report to the Compliance Office upon completion of your research. Complete research means that you have finished collecting data and you are ready to submit your thesis and/or publish your findings. Should you not finish your research within the three (3) year period, you must submit a Progress Report and request a continuation prior to the expiration date. Please allow time for review or requested revisions. Your study expires on **November 27, 2016**.

**Any change to the protocol must be submitted to the IRB before implementing this change.**

According to MTSU Policy, a researcher is defined as anyone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to provide a certificate of training to the Office of Compliance. **If you add researchers to an approved project, please forward an updated list of researchers and their certificates of training to the Office of Compliance before they begin to work on the project.** **Once your research is completed, please send us a copy of the final report questionnaire to the Office of Compliance.** This form can be located at [www.mtsu.edu/irb](http://www.mtsu.edu/irb) on the forms page.

Also, all research materials must be retained by the PI or **faculty advisor (if the PI is a student)** for at least three (3) years after study completion. Should you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Andrew W. Jones  
Compliance Office  
Graduate Assistant to:  
Kellie Hilker, PhD  
[Compliance@mts.edu](mailto:Compliance@mts.edu)