

EFFECTS OF A PSYCHOSOCIAL INTERVENTION ON
EATING BEHAVIOR COMPLIANCE IN
BARIATRIC SURGERY PATIENTS

by

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A DISSERTATION

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ABSTRACT

Obesity is a leading cause of preventable death in America and its prevalence is increasing at an alarming rate. Given the medical and psychosocial consequences of obesity, surgical intervention for weight loss (“bariatric” surgery) is now considered a viable option. Although the initial success rate of bariatric surgery is high, sustained weight loss requires adherence to strict post-surgical guidelines. There is increasing evidence that a percentage of patients have difficulties adhering to the post-surgical guidelines, with reemergence of poor eating habits (overeating, binge eating) being a major contributing factor. Recurrence of such eating habits can be detrimental to successful weight loss after surgery. Given the difficulties many patients face after surgery, it is possible that the typical post-surgical eating behavior guidelines presented to bariatric surgery patients are ineffective in motivating some individuals to comply. Protection Motivation Theory (PMT), a model that specifies the components of health messages that increase compliance with a health behavior, has been proven to be a reliable model for creating health promotion messages. The present study utilized a PMT-based intervention directed at patients undergoing bariatric surgery. Eighty-two obese individuals seeking surgical treatment of obesity were recruited to participate in this study. Participants were divided into two groups: PMT vs. Control. In addition to routine messages from the bariatric surgeon, participants in the PMT group received an intervention focused on the importance of adhering to post-surgical eating behavior guidelines and how best to adhere to these guidelines. This intervention was in the form of lectures, guided readings, and participant discussion. Participants in the control group received standard of care information from the bariatric surgeon. Those

participants who had bariatric surgery during the time frame of the study were followed after surgery to assess post-surgical eating habits and weight loss. Results indicated that overall, the PMT intervention did not have a significant impact. However, follow-up analyses indicated that perceived self-efficacy and perceived threat of not following the guidelines may predict patients' intentions to comply with post-surgical guidelines. In addition, perceived self-efficacy was found to be a significant predictor of post-surgical weight loss. Findings are discussed in terms of the methodological compromises that resulted from the applied research setting as well as promising avenues for future investigation.

LIST OF ABBREVIATIONS AND SYMBOLS

F	A test statistic computed based on the F distribution
M	The mean: the sum of a set of measurements divided by the number of measurements in the set
SD	Standard deviation: a measure of the dispersion of a set of numbers
p	The probability that a certain relation could have occurred as extreme as it did by random chance
r	Pearson's least squares correlation coefficient
t	A computed test statistic based on the t distribution
$<$	Less than
$=$	Equal to
$d+$	Magnitude of the relationship between two variables
β	Beta coefficient: represents the contributions of each independent variable to the prediction of the dependent variable
R^2	The proportion of variability in a data set that is accounted for by a statistical model

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CHAPTER 1

Obesity is now an epidemic in the United States. According to recent health surveys, over 1/3 of American adults are considered obese (Ogden, Carroll, McDowell, & Flegal, 2007). Over the last 20 years, the number of obese Americans has increased by more than 30% (Mehler, Lasater, & Padilla, 2003), with the most rapid increase seen in those considered extremely obese. Such trends are higher than ever before in history.

Obesity is linked to a number of medical complications, such as hypertension, type II diabetes, stroke, gallbladder disease, and certain types of cancers. It is a leading cause of preventable death in America, contributing to over 150,000 excess deaths per year (Flegal, Graubard, Williamson, & Mitchell, 2007) and accounting for nearly 10% of national expenditures on health care in the U.S. (Mehler et al., 2003). In addition to the medical and physical consequences of obesity, obese individuals face severe psychological and social consequences. Discrimination and social isolation are commonly reported by obese individuals, as are depression, feelings of inferiority, and poor quality of life (Brownell & Wadden, 1992; Stunkard & Wadden, 1992; Visscher & Seidell, 2001).

Obesity is defined in terms of body mass index (BMI), calculated as weight in kilograms divided by the square of height in meters. BMI is a reliable measure of body fat because it is highly correlated with fat mass and minimally with height (Mehler et al., 2003). A BMI of greater than 30 kg/m^2 constitutes obesity, whereas a BMI of greater than 40 kg/m^2 defines extreme obesity. For the extremely obese, there is considerable evidence that traditional

nonsurgical obesity treatments, such as diet, exercise, and pharmacotherapy, are ineffective for achieving long term, significant weight loss (Buchwald et al., 2004). Although weight may be reduced initially, a major drawback to the use of many of the nonsurgical approaches is failure to maintain reduced body weight in most patients. Due to the failure of such noninvasive treatments and excessive costs related to treatment of obesity-related medical comorbidities, increasing numbers of obese individuals are electing to have weight loss surgeries (termed “bariatric” surgeries) which modify the stomach and/or intestines to reduce the amount of food that can be eaten and absorbed.

The number of bariatric surgeries performed in the United States increased by over 10-fold between 1992 and 2005 (Colwell, 2005). It is currently the treatment of choice for obese persons who either: (a) have a BMI ≥ 40 or (b) have a BMI between 35 and 39.9 and secondary medical condition(s). Initial surgical procedures to treat extreme obesity were designed to interfere with the absorption of calories as a means of weight reduction (Griffen, 1992). Due to life-threatening sequelae following such procedures, surgeons began to experiment with gastric bypass procedures (Mason & Ito, 1969). Through the years, several modifications have been made to the gastric bypass procedure. The most widely performed procedure (Mehler et al., 2003), Roux-en-Y gastric bypass (RGB) surgery, is considered by some to be the gold standard of surgical treatments for extreme obesity (Griffen, 1992). RGB is a combination of restrictive (limiting food intake) and malabsorbtive (i.e., altering the way nutrients are absorbed) surgeries. In this procedure, the stomach size is decreased by creating a one ounce pouch, approximately the size of an egg, at the top of the stomach. This small pouch is then connected to the lower part of the small intestine, bypassing the rest of the stomach and the upper part of the small intestine. By circumventing most of the stomach and small intestine, calorie absorption is bypassed. The

upper part of the small intestine is then reconnected to the lower part of the small intestine, creating the “Y” configuration. Thus, weight loss after RGB surgery occurs by two methods; reduced caloric intake due to a significant reduction in the size of the stomach, and reduced absorption of calories due to bypassing a portion of the intestine.

Weight Loss Surgery Guidelines

In 1991, the National Institute of Health brought health care specialists together to address the surgical treatment for obesity and the criteria for patient selection. The consensus panel concluded that patients for bariatric surgery should be aware of the compliance needed in the post-operative regimen, and of the possible short and long-term complications from surgery. Patients should also have a basic understanding of the surgical procedure and acknowledge that the surgery does not guarantee weight loss without adherence to a post-surgical diet (Brolin, 2001). Selection of candidates and education about surgical guidelines is best done via a multidisciplinary team, often including physicians, psychologists, and nutritional counselors (Stocker, 2003). These teams, which vary by health care facility, are largely responsible for the development of appropriate pre-and post-surgical care. Thus, although the consensus guidelines provide a general basis for patient education, health professionals differ in the methods they use to educate patients about the surgery. Consequently, post-surgical eating behavior guidelines vary between health care facilities (Marcason, 2004).

Approximately 90% of patients who undergo RGB surgery can expect to lose 30-50% of their body weight after surgery (Mun, Blackburn, & Matthews, 2001), although sustained weight loss requires adherence to strict post-surgical guidelines. After surgery, the amount of food the stomach can hold is significantly reduced to one ounce, whereas the typical stomach can hold approximately one quart. Patients are usually instructed to eat slowly and completely chew their

food to avoid blockage of the stomach, as the entrance to the stomach is greatly reduced. Certain foods, such as simple sugars, should be strictly limited or completely eliminated from the diet. Excessive eating or consumption of certain foods (usually those high in sugar or carbohydrates) can lead to dumping syndrome, which occurs when food moves too quickly through the small intestine. Dumping can cause nausea, sweating, faintness, and vomiting. Overeating can also lead to what is often referred to as “plugging”, or vomiting in response to food that has become lodged in the upper digestive tract. Lack of nutritious foods in the diet can lead to other post-surgical dietary complications such as constipation, headaches, and hair loss.

There is growing evidence that patients have difficulties following post-surgical guidelines that are necessary for sustained weight loss. Unfortunately, many patients who undergo bariatric surgery have unrealistic expectations regarding surgical outcome. Rabner and Greenstein (1991) found that after bariatric surgery, a number of patients consumed the same percentage of calories from fat that they did prior to surgery. Additionally, although strongly contradicted by their post-surgical guidelines, nearly 70% of patients continued to snack after surgery. Those patients that continued to snack after surgery reported that they believed the surgery would prevent them from snacking and that they would maintain an ideal weight after surgery.

Lack of adherence to the post-surgical eating guidelines and eating-related complications, such as nausea, plugging, vomiting, and dumping syndrome all may be a result of a return to pre-surgical eating habits (Kolanowski, 1997; Shah, Simha, & Garg, 2006). Initially, RGB surgery imposes physiological constraints on eating habits because the stomach is unable to hold large portions of food. Although it appears that such restrictions would force patients to strictly adhere to post-surgical eating guidelines, the post-surgical stomach pouch is able to expand over time,

allowing for gradual increased food intake. Overeating after RGB surgery may occur as patients learn how to circumvent the surgical and dietary restrictions by either consuming large amounts of soft foods or calorie-dense liquids, or by continually grazing on small amounts of high caloric foods (Hsu, Bentancourt, & Sullivan, 1996; Hsu et al., 1998). In addition, a small percentage of patients are not afflicted by the dumping syndrome, and may introduce simple sugars or other high calorie foods back into their diets. Leite, de Oliveria, Pereira, and Kiyomi (2008) found that when followed an average of 2 years after bariatric surgery, close to 20% of post-surgical patients consumed an additional 150 kcal per day in the form of snacks and 36% of patients continued to consume sweets. Such eating habits can reduce or even reverse post-surgical weight loss (e.g., Halverson & Koehler, 1981; Hsu, Sullivan, & Benotti, 1997; Kalarchian et al., 2002; Rabner & Greenstein, 1991; Sarwer et al., 2008).

Binge Eating

Recent attention has begun to focus on the presence of disturbed eating in the obese population. Binge eating, defined as recurrent episodes of uncontrolled overeating, was first described in obese individuals over 40 years ago (Stunkard, 1959). In a later series of studies, Spitzer et al. (1992, 1993) collected evidence for what is now recognized as Binge Eating Disorder, a diagnosis requiring further study in the 4th Edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; APA, 2000). The essential features of this disorder are regular episodes of binge eating at least two days per week for a minimum of 6 months. These episodes must be accompanied by a sense of loss of control over and significant distress about the binge eating episode. These binge eating episodes occur in the absence of inappropriate compensatory behaviors (i.e., vomiting, laxative and diuretic abuse, excessive

exercising). Binge eaters often report eating very rapidly until they are uncomfortably full and feeling intense shame or guilt after overeating.

Since its introduction into the DSM-IV, there has been much debate over the diagnostic criteria for Binge Eating Disorder. Much of this disagreement centers on the criteria of the frequency (on average, at least twice per week) and duration (6 months) of binge eating, as many experts feel that these requirements are too stringent (Hay & Fairburn, 1998; Striegel-Moore, Wilson, Wilfley, Elder, & Brownell, 1998). Researchers have also debated the necessity of the criterion “large amount of food” for a diagnosis of Binge Eating Disorder (Niego, Pratt, & Agras, 1997; Pratt, Niego, & Agras, 1998), and have suggested that a sense of loss of control overeating may be a more defining feature of binge eating than the amount of food consumed (Telch, Pratt, & Niego, 1998).

While binge eating is not confined strictly to obesity, individuals with Binge Eating Disorder are generally at a much higher weight than individuals without this eating pattern (de Zwaan, 2001). Obese binge eaters differ qualitatively from their non-binge counterparts (Hsu et al., 2002) in that binge eaters have lower levels of self esteem, higher levels of depression and anxiety, and eat significantly more calories than non-bingers when asked to eat normally (Yanovski et al., 1992). Clinically, it is common to find individuals who engage in recurrent episodes uncontrolled overeating, but do not meet DSM-IV criteria. Research has demonstrated that such individuals do not differ significantly from individuals who binge twice per week on variables such as weight or shape concern, treatment seeking, or psychological comorbidities (Garfinkel et al., 1995; Striegel-Moore et al., 1998, 2000).

The overall prevalence of Binge Eating Disorder ranges from 0.7 – 4.0% in non-clinical samples, and females are more likely to engage in binge eating than males (APA, 2004). Studies

have reported similar rates of binge eating among different ethnic groups. Research has suggested that the prevalence of eating disturbances among African Americans has been underestimated and may be comparable to that of Caucasians (Smith, Marcus, Lewis, Fitzgibbon, & Schreiner, 1998). A recent survey found Binge Eating Disorder to be the most prevalent eating disorder among African American adults (Taylor, Caldwell, Baser, Faison, & Jackson, 2007).

Binge eating has been found to be one of the most common psychiatric diagnoses in bariatric surgery candidates (Sarwer et al., 2004). Prevalence rates of eating disorders in this surgical population are not well documented, but it is speculated that anywhere from 6-64% of these patients engage in binge eating behavior. The large variance in these prevalence rates is likely due to different methods of assessing binge eating (i.e., self report vs. interview) and differing criteria for qualifying binge eating behavior. Post-operatively, use of the formal diagnostic criteria is problematic, as it is impossible for patients to eat an objectively large amount of food. As such, several studies have utilized less stringent criteria to assess binge eating in bariatric surgery patients (e.g., Hsu et al., 2002; Kalarchian, Wilson, Brolin, & Bradley, 1998; Malone & Alger-Mayer, 2004; Powers, Perez, Boyd, & Rosemurgy, 1999; Saunders, Johnson, & Teschner, 1998). For instance, de Zwaan et al. (2003) followed patients an average of 13.8 years post-surgically and found that only 5.4% of patients met diagnostic criteria for Binge Eating Disorder after surgery. Interestingly, when the criterion “large amount of food” was removed, this number rose to 11.5% of patients meeting criteria. Other studies have lessened the criteria for the frequency of binge eating episodes. Hsu and colleagues (2002) defined “binge eating” as eating an objectively large amount of food on average twice per week within the last three months (as opposed to the six-month criterion set by the DSM-IV). These researchers also included a “partial binge eating” category, defined by an average of at least one binge within the

last three months. Malone and Alger-Mayer (2004) separated patients into categories of “non binge eaters”, “moderate binge eaters” and “severe binge eaters” based on questionnaire scores.

Although not plentiful, some research suggests that those who engage in episodes of overeating/binge eating prior to bariatric surgery are likely to see these behaviors reoccur after surgery. Hsu et al. (1997) reported that patients with pre-surgical eating disturbances were more likely to exhibit eating disturbances after surgery. Another study (Mitchell et al., 2001) found that patients who engaged in binge-like eating after bariatric surgery were more likely to have eating disturbances (particularly Binge Eating Disorder) prior to surgery. Kalarchian, Wilson, Brolin, and Bradley (1999) found that a percentage of patients continued to eat a subjectively large amount of food at least once per week 4 months post-surgically. Saunders (2004) found that binge eating behaviors re-emerged after surgery and continued to worsen over time. Many participants in this study reported that although they could not eat an objectively large amount of food post-surgery, they considered episodes of “grazing” to be binge behavior because it was associated with a sense of loss of control.

Re-emergence of binge eating behaviors has also been shown to adversely affect bariatric surgery outcome (Hsu et al., 1997; Mitchell et al., 2001; Scholtz et al., 2007). Wölnerhanssen et al. (2008) found binge eating to be a significant predictor of poor post-surgical outcome at 5-year follow-up. Dymek, le Grange, Neven, and Alverdy (2001) followed RGB patients 6 months after surgery, and found that those with binge eating behaviors prior to surgery lost significantly less weight at follow-up as compared to non bingers (53.9% reduction in excess weight in non-bingers vs. 38.5% in bingers). One study with a 2-7 year follow-up (Kalarchian et al., 2002) found that binge eaters regained significantly more weight after reaching their lowest post-op

weight than did non-binge eaters, and de Zwaan et al. (2002) found that binge eating patients had lower overall reductions in BMI post-surgically than non-binge eaters.

Alternatively, some studies have shown no difference in weight loss outcomes between patients with and without binge eating prior to surgery (e.g., Alger-Mayer, Rosati, Polimeni & Malone, 2009; Bocchieri-Ricciardi et al., 2006; Busetto et al., 1996; Malone & Ager-Mayer, 2004). In fact, one study (Latner, Wetzler, Goodman, & Glinski, 2004) found that pre-surgical binge eating disturbances were actually a positive predictor of weight reduction with RGB surgery. Thus, although the results are mixed, there is evidence to suggest that in some bariatric surgery patients, binge eating behaviors may manifest themselves post-surgically and lead to weight re-gain.

It is difficult to deny the success of bariatric surgery as a treatment for extreme obesity. However, the success of the surgery is contingent upon patients' strict adherence to the post-surgical guidelines (Pontiroli et al., 2007), and such lifestyle changes are difficult for most people to maintain. Numerous studies have demonstrated that some patients struggle to adhere to the post-operative eating behavior guidelines (i.e., Anderson & Larson, 1989; MacLean, Rhode, & Shizgal, 1983, Sarwer et al., 2008). Reemergence of poor eating habits is likely a contributing factor to patients' inability to maintain necessary eating behavior changes after surgery. It is not yet documented whether the information provided to patients is successful in motivating patients to comply with the post-surgical guidelines and there is nothing that accurately predicts which patients will do well after surgery. At present, there are no accepted standards of practice regarding the composition of the postoperative diet and appropriate eating behaviors (Sarwer, Wadden, & Fabricatore, 2005). Because eating guidelines and other health information presented to bariatric patients is not theory-based and is not systematically presented, it is difficult to

determine if this information is successful in motivating patients to adhere to post-surgical guidelines recommended by their health care provider.

Protection Motivation Theory

Traditionally, education has been the primary method used to encourage preventive health behaviors. Although such an approach increases knowledge, it usually produces little change in behavior (e.g., Prentice-Dunn, McMath, & Cramer, in press). More promising results have been shown by interventions that seek to not only educate, but also motivate people to act (e.g., McMath & Prentice-Dunn, 2005). Such messages use threat to energize individuals into performing a behavior. Although often successful, these fear appeals do not universally change people's behavior (Rippetoe & Rogers, 1987), and there is evidence that hearing threatening information can, at times, lead to anxiety and avoidance (Witte & Allen, 2000).

In recent years, research on health-promotion messages has shifted to include suggestions for how to cope with the threat presented (e.g., McClendon & Prentice-Dunn, 2001, Prentice-Dunn, Floyd, & Flournoy, 2001). Fry and Prentice-Dunn (2005, 2006) and McMath and Prentice-Dunn (2005) have demonstrated that threatening information energizes an audience to act both adaptively and maladaptively; however, providing the audience with suggested coping options decreases the probability that they will act maladaptively. Clearly, individuals are sensitive to how threatening health information is presented.

Protection Motivation Theory (PMT; Prentice-Dunn & Rogers, 1986; Rogers & Prentice-Dunn, 1997) is a psychosocial model that explains how cognitive processes lead to healthy behavioral changes. This model specifies the components of a health-promotion message that increase compliance with a health behavior. These message components are included in two appraisal processes that occur when one receives health information: threat appraisal and coping

appraisal (see Figure 1). PMT holds that to change a maladaptive behavior (such as overeating), individuals must first detect a substantial threat to their health and then be provided with an effective way to avert the threat. This is accomplished through suggestions on how to substitute an adaptive, healthy behavior for the maladaptive one.

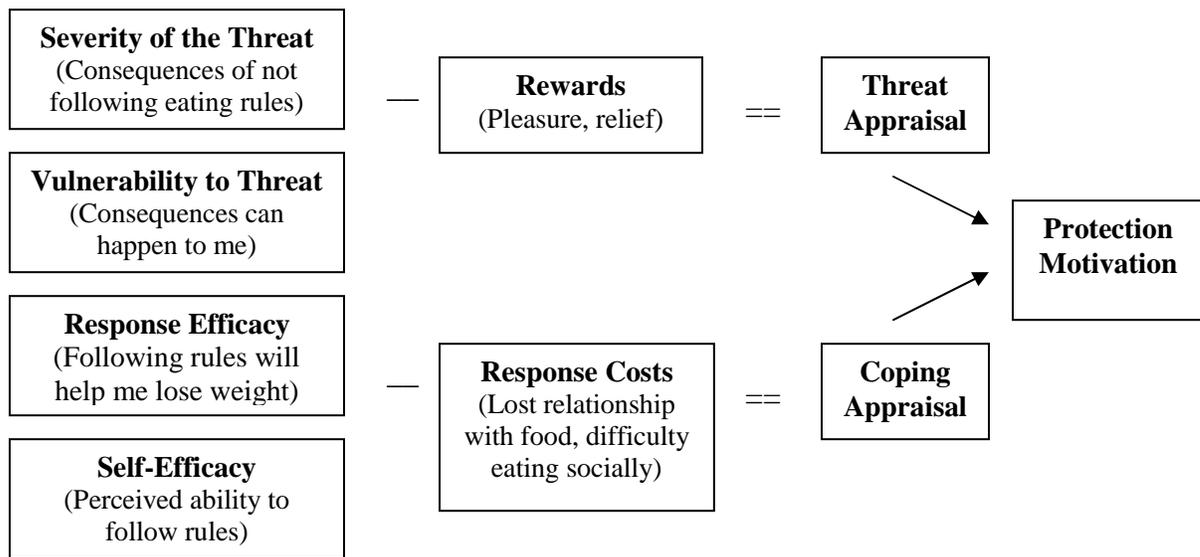


Figure 1. Cognitive mediating processes of protection motivation theory (adapted from McMath & Prentice-Dunn, 2005; Rogers & Prentice-Dunn, 1997).

In this instance, threat appraisal is linked to the maladaptive behavior (poor eating behavior compliance after RGB surgery). Threat appraisal is affected by three variables: severity, vulnerability, and rewards. Perceived severity of the threat (e.g., adverse consequences of not following eating behavior guidelines) and how vulnerable one feels to the threat decrease the chances of poor eating behavior compliance, whereas the rewards from eating (pleasure and relief of tension) increase these chances of poor compliance. Ultimately, the amount of threat

that one experiences depends on the rewards from eating inappropriately minus the perceived severity and vulnerability of the threat.

The coping appraisal process is linked to the suggested adaptive response (adhering to eating behavior guidelines). Coping appraisal involves three variables: response efficacy, self-efficacy, and response costs. Response efficacy is the perception that adhering to the guidelines will enable one to avoid negative health consequences, whereas one's perceived ability to follow the guidelines is called self-efficacy. The personal and social costs of performing the adaptive behavior (e.g., losing a relationship with food; inability to engage in social eating) are labeled response costs. Therefore, the amount of coping appraisal experienced depends on the sum of response efficacy and self-efficacy, minus any response costs.

In a meta-analysis, Floyd, Prentice-Dunn, and Rogers (2000) examined 65 studies that included nearly 30,000 participants. Studies investigated PMT components in over 20 health domains, including cancer prevention, smoking cessation, and adherence to medical treatment. The authors found at least a moderate effect size for all PMT variables in the predicted directions, with the largest effect sizes for self efficacy ($d+ = .88$) and response efficacy ($d+ = .54$). In line with the theory, increases in threat severity, vulnerability, response efficacy and self efficacy were all positively associated with adaptive intentions or behaviors. An independent meta-analysis (Milne, Sheeran, & Orbell, 2000) corroborated these conclusions.

Many of the studies included in the above meta-analyses were laboratory experiments that tested the content of individual PMT variables and their relation to one another. However, in recent years interventions based on the entire model have been tested. Typically, such treatments have been comprised of discussions, lectures, essays, and video clips that address threat appraisal and coping appraisal. For example, McClendon and Prentice-Dunn (2001) found that a PMT-

based intervention targeting sun exposure produced increased sunscreen use and decreased tanning compared to a wait-list control group. These results were corroborated by McMath and Prentice-Dunn (2005). In addition, Fry and Prentice-Dunn (2006) found increased performance of breast self-examinations in the months following a PMT-based intervention.

Rationale

It has not been documented that health behavior information directed at RGB patients leads to compliance with suggested eating modifications after surgery. In fact, it may be that the typical information presented to RGB patients is ineffective in motivating some individuals, given that (a) eating disturbances have been found to reemerge after surgery (e.g., Hsu et al., 1996, 1997; Lang, Hauser, Buddeberg, & Klaghofer, 2002; Mitchell et al., 2001; Saunders, 2004) and (b) a percentage of patients are not able to maintain weight loss in the long run (e.g., Hsu et al., 1997; Kalarchian et al., 2002; Sarwer et al., 2008). A systematically presented, motivating message that encourages compliance with post-surgical guidelines may be needed for patients to maintain weight loss after RGB surgery. Because the most effective information for motivating RGB patients to comply with post-surgical guidelines is not well-understood, the present study will utilize a PMT-based intervention directed at patients undergoing RGB surgery. To date, no study has utilized such an intervention to target health behavior compliance in bariatric surgery patients.

The primary objectives of the proposed study are to: (a) use a well-established preventive health model to present health behavior information to patients seeking RGB surgery, (b) determine what factors are important in increasing compliance with strict eating behavior recommendations after RGB surgery, (c) add to the under-researched body of literature on the effects of binge eating

in gastric bypass patients, and (d) better understand specific psychological characteristics that affect the outcomes of weight loss surgery.

Hypotheses

This study involved a treatment group (those who received a PMT-based intervention) and a control group of patients pursuing RGB surgery. Each group consisted of those participants who were identified as binge eaters and non-binge eaters based on standard diagnostic criteria. Measures were taken during an initial information session, one week following this session, and at 3 months post-surgery for those patients who had surgery during the course of the study. Specific hypotheses of the present study are as follows:

It was predicted that group would have a main effect on a variety of measures. Compared to those in the control group, patients who received the PMT intervention were expected to: (a) show greater intentions to comply with eating behavior recommendations, (b) lose more weight at follow up, (c) report greater adherence to recommended eating behaviors, (d) report fewer eating-related complications (i.e., dumping), and (e) report fewer binge-eating symptoms at follow up.

Exploratory Analyses

The effects of binge eating status on the dependent variables were also explored. Given that there is no guidance in the literature about what shape the effects might take, such effects were regarded as exploratory. One possibility was that those who were classified as binge eaters would show defensiveness or avoidance when completing the questionnaires. Such reactions would cause this intervention group to show decreased intentions to comply with post-surgical eating behavior recommendations, lose less weight, report poorer compliance, and report a greater number of post-surgical eating-related complications as compared to their non-bingeing

counterparts. However, it was possible that the opposite effects could occur since overeating/binge eating was more heavily targeted in the intervention.

Differences among ethnic groups were also investigated as exploratory analyses. Approximately 32% of patients who undergo bariatric surgery at the site of the current study identify as African American, and it was thought that this patient population may be useful for examining health outcome disparities among minority and underserved populations. In line with previous research, it was expected that the prevalence of binge eating among African Americans would be comparable to that of Caucasians. In addition, there is evidence that Caucasians tend to fare better after bariatric surgery than African Americans (Capella & Capella, 1993; Latner et al., 2004; Parikh et al., 2006). This general finding was to be assessed in the current study as well.

CHAPTER 2

Methods

Design

The original design of this study was a 2 (Group: intervention vs. control) X 2 (presence vs. absence of binge eating pathology) X 3 (Time: Session 1 vs. 1-week booster vs. 3-month follow-up) mixed factorial design. The two between-subjects variables were group and the presence/absence of binge eating behaviors and the within subjects variable was time.

The dependent measures were intentions to comply with dietary recommendations, post-surgical percent excess weight loss, self-reported eating behavior compliance, post-surgical eating-related complications, and presence of binge eating behaviors at follow up (i.e., scores on eating questionnaires).

Participants

Participants were 84 adults (≥ 19 years of age) who were seeking bariatric surgery at a major medical center in the Southeast. All participants met criteria for bariatric surgery (i.e., body mass index of 40 or greater, or body mass index of 35 or greater with comorbid conditions such as uncontrolled hypertension, diabetes, obstructive sleep apnea, etc.) and were therefore by definition obese.

Because it is likely that patients seeking another type of bariatric surgery may differ qualitatively from those seeking RGB surgery, only those seeking RGB surgery were allowed to participate in this study. This criterion was set to ensure a more homogeneous group of

participants in terms of motivations for surgery, expected weight loss, and health behavior compliance after surgery. For instance, patients seeking the laproscopic banding procedure (a less invasive and solely restrictive bariatric surgery) are usually at a lower BMI than those seeking RGB surgery and may be motivated for surgery by different reasons, since laproscopic banding surgery requires less stringent post-surgical compliance and has the possibility to be reversed. Presence of bipolar disorder or schizophrenia was also regarded as exclusionary criteria, as these psychiatric disorders are considered contraindications for surgery by the bariatric surgeon at this hospital.

After the initial session, it was discovered that one female patient in the group receiving the PMT intervention and one male participant in the control group were pursuing laproscopic banding surgery. Data from these participants was thus deleted and all information presented here reflects only those patients who were pursuing RGB surgery ($n = 82$).

Patients were recruited prior to their initial evaluation for bariatric surgery at this hospital. Recruitment involved the use of two methods: Method 1: Patients were contacted via telephone prior to their initial evaluation with the bariatric surgeon and asked of their interest to participate in this study. The purpose of the study was explained as an effort to develop an educational program to provide pre-bariatric surgery candidates with information on the post-surgical guidelines. Interested patients were told to arrive one hour before their scheduled evaluation in order to be included in the study. Patients were told that in exchange for their participation, they would be given credit for attendance at one of two required bariatric support group meetings. To ensure consistency in the study's description, only the investigator of this project was responsible for contacting the patients and explaining the study. This method was responsible for recruitment of over 98% of the study's participants. Method 2: A flyer advertising

the study (see Appendix A) was included in all patient information packets mailed by the bariatric surgeon's office to individuals pursuing bariatric surgery. Interested patients were instructed to contact the study's investigator for more information and to determine eligibility for the study.

Participants were randomly assigned to one of two groups: PMT Group (those receiving the PMT-based intervention) and the Control Group. The PMT Group ($n = 44$) consisted of 15 males (33%) and 29 females (67%) and the Control Group 2 ($n = 38$) consisted of 14 males (36%) and 24 females (64%). Both groups had completed an average of 14 years of education (range: 11-18 years) and the majority of participants in both groups identified as Caucasian (PMT Group: $n = 33$, 72%; Control Group: $n = 24$, 63%). The average BMI of patients in the PMT Group was 51.83 kg/m² and that of the Control Group was 50.13 kg/m², both of which are well above the cut off for meeting criteria for bariatric surgery eligibility. There were no significant differences between the two groups on any demographic variables (see Table 1).

Table 1. *Demographic characteristics of the participants included in the analyses ($n=82$) and split by group (PMT Group; $n = 44$, and the Control Group; $n = 38$).*

	PMT Group	Control Group	Total Sample
Sex: Male	$n = 15$ (34%)	$n = 14$ (37%)	$n = 29$ (35%)
Female	$n = 29$ (66%)	$n = 24$ (63%)	$n = 53$ (65%)
Age (years)	41.26 (7.76)	41.69 (9.16)	41.48 (8.44)
Race: Caucasian	$n = 33$ (77%)	$n = 24$ (63%)	$n = 27$ (70%)
African American	$n = 11$ (23%)	$n = 14$ (37%)	$n = 25$ (30%)
Income Adequacy ⁺	59%	47%	53%
Years of Education	13.91 (2.25)	13.44 (2.65)	13.68 (2.47)
Body Mass Index (kg/m ²)	51.83 (13.04)	50.13 (8.52)	50.97 (10.94)
BED Diagnosis	$n = 8$ (22%)	$n = 6$ (17%)	$n = 14$ (20%)

* = $p \leq .05$
⁺ = Income adequacy. Number of participants who rated their income as adequate to cover monthly expenses.

Based on self-reported binge eating questionnaire data, participants were categorized into groups within each condition. Binge eating criteria was defined by responses on the Questionnaire on Eating and Weight Patterns-Revised (QEWP-R; described below) indicating at least one episode per week of uncontrolled overeating during the past 6 months. Participants must have endorsed at least two of the following: (a) eating much more rapidly than usual, (b) eating until feeling uncomfortably full, (c) eating large amounts of food when not physically hungry, (d) eating alone because of embarrassment over the amount of food being eaten, or (e) feelings of disgust, depression, or guilt after overeating. At the start of the study, 22% ($n = 8$) of participants in the PMT Group and 17% ($n = 6$) of those in the Control Group met criteria for Binge Eating Disorder as measured by the QEWP-R. Because so few met the criteria, the diagnosis of Binge Eating Disorder was not included in the primary statistical analyses.

Measures and Materials

Weight Loss Surgery Patient Health Questionnaire. (See Appendix B). This questionnaire gathers information about personal health and medical history, weight and dieting histories, and eating and exercise habits. All patients seeking bariatric surgery are required to complete this questionnaire before their initial evaluation. Information from this questionnaire is obtained for the standard clinical evaluation and is not intended solely for research purposes. Information used in the current study included basic demographic information and scores from two well-validated and reliable self-report eating measures included in the questionnaire: the Questionnaire on Eating and Weight Patterns-Revised (QEWP-R) and the Binge Eating Scale (BES).

Questionnaire on Eating and Weight Patterns-Revised. (QEWP-R; Spitzer et al., 1993). This 21-item self-report measure assesses components of the proposed DSM-IV Binge Eating

Disorder diagnostic criteria: specific eating behaviors (overeating, eating rapidly, eating without hunger, feelings of guilt over eating) and duration (over the last six months) and frequency (how many times per week on average) of overeating episodes. Suggested scoring for the questionnaire provides decision rules for diagnosing Binge Eating Disorder and has the ability to discriminate between clinical and nonclinical binge eaters. Specific items on the QEWP-R (items 10 to 13, 15, and 16) correspond to the suggested DSM-IV criteria for a diagnosis of Binge Eating Disorder. This questionnaire provides a categorical measure of binge eating; subjects either meet diagnostic criteria for the disorder or they do not. The QEWP-R has been shown to have moderate reliability and validity (Nangle, Johnson, Carr-Nangle, & Engler, 1994).

Binge Eating Scale (BES; Gormally, Black, Daston, & Rardin., 1982). The Binge Eating Scale contains 16 groups of numbered statements designed to assess severity of binge eating behavior, with higher scores indicating greater severity (range: 1 – 36). Items assess several binge eating characteristics, such as speed of eating, loss of control over eating, and feelings of guilt after overeating. Typically, scores from 1 to 17 indicate minimal binge eating symptoms, scores from 18 to 26 indicate moderate binge eating symptoms, and scores above 27 indicate severe binge eating symptoms. This measure has been shown to have high internal consistency (Gormally et al., 1982) and good test-retest reliability (Saunders et al., 1998).

PMT manipulation checks. At the end of Session 1, at 1-week Booster, and 3 -month follow-up, participants completed a questionnaire (See Appendix C) that contained manipulation check items for the primary PMT variables (severity of threat, vulnerability, response efficacy, and self-efficacy). Each PMT variable was represented by a sum of seven to eight items, each rated on a 14-point Likert scale. These items were similar in structure to items used in prior PMT studies (e.g., Fry & Prentice-Dunn, 2005, 2006; McMath & Prentice-Dunn, 2005; Prentice-Dunn

et al., in press). Some items were in reverse order to control for response set and to sustain participant attention.

Severity of the threat presented during the PMT-based intervention was assessed by items such as “Eating restricted foods after surgery can lead to complications like constipation, headaches, and hair loss”. Vulnerability to overeating after surgery was measured by items such as “I can suffer health problems if I overeat after surgery.” An example of an item assessing costs of avoiding overeating after surgery was “Foods like ice cream and cake taste so good that I cannot give them up”. Response efficacy was illustrated by items similar to “When people don’t overeat after surgery, the chances of permanent weight loss are high” and self-efficacy items were similar to “I believe that I can successfully avoid overeating after surgery.”

Intentions to comply. The impact of the intervention was assessed by a Behavioral Intentions questionnaire (See Appendix D) that contained items assessing participants’ intentions to comply with eating behavior guidelines post-surgically. This questionnaire was completed at the end of Session 1 and one week later (1-week Booster). Examples of items on this questionnaire include “After surgery, I plan on limiting my portion sizes so that I don’t overeat” and “Following surgery, I plan to closely follow the recommended eating behavior guidelines”. Similar behavioral intentions items have been used successfully in prior studies (e.g., Fry & Prentice-Dunn, 2005; Prentice-Dunn et al., in press) and intentions have been shown to positively correlate with actual behavior (Floyd et al., 2000).

Follow-up Questionnaire. Patients completed the Post-Surgical questionnaire (see Appendix E) 3 months after they had bariatric surgery (or as close to 3 months post-surgery as was possible to obtain data). This questionnaire assesses patient medical information, weight lost since surgery, current eating behaviors, complications experienced since surgery, and participant

self-reported compliance with the post-surgical guidelines. The BES and QEWP-R are included in this questionnaire.

Procedure

This study was approved by the university and hospital institutional review boards. Data was primarily collected in a small group format prior to routine pre-surgical evaluations for patients interested in pursuing RGB surgery. These pre-surgical evaluations are held approximately two to three times per month in a small conference room at this hospital. An average of 4 patients (50%) attending each of the pre-surgical evaluations also agreed to participate in this study. Reasons given by patients for choosing not to participate in the study session included lack of time (e.g., difficulty taking off of work for an extra hour, having to travel a long distance to the session and being unable to leave home an hour earlier) and already having completed their two required support groups.

Both the intervention and control condition were held in this small group format and were conducted on alternating weeks to ensure an adequate number of participants in each group. See Table 2 for an overview of each condition.

Five patients who were unable to attend the group session but expressed an interest in participating were included in this study in conjunction with another medical appointment. Thus, data from these five individuals were not collected in the group format as described above. These participants were included in the Control Group to control for any effect that being in a group might have on patients' understanding and interpretation of presented information.

Table 2. *Outline of procedures for intervention and control conditions.*

	Intervention Group	Control Group
<u>Session 1</u>	Overview of procedures Read PMT-based essay Group discussion Guided reading of material Review of session Complete questionnaires	Overview of procedures Complete questionnaires
<u>1-week Booster</u>	Receive information via mail highlighting PMT components Complete questionnaires and return to investigator	Complete questionnaires and return to investigator
<u>Follow-up (3 months after surgery)</u>	Complete post-surgical questionnaire, PMT-based questionnaire Obtain weight information from medical charts	Complete post-surgical questionnaire, PMT-based questionnaire Obtain weight from medical charts

Intervention condition

Session 1. When participants arrived for the session, they were seated in the small conference room with other study participants. Patients' family members were often present for the evaluation and were asked to wait outside the room during the session. Thus, the only individuals present for the information sessions were the study participants and the investigator. The entire session was designed to last one hour and ended promptly before the group visit with the bariatric surgeon. Consequently, if participants arrived at the session significantly late (>10 minutes) they were not allowed to participate given the limited amount of time that was available for the study session.

In this group format, participants were given an overview of the study's purpose as an attempt to develop an educational program for bariatric surgery candidates. Participants were told that the investigator was interested in what patients know about the post-surgical eating behavior guidelines and how to follow them. Participants were allowed to ask questions about the nature of the study and consent was obtained from all participants (see Appendices F & G for informed consent documents).

An 8-page essay containing information about eating behavior guidelines after weight loss surgery was read aloud by the study's investigator (see Appendix H). Patients were given copies of the essay to follow along as the essay was read. This essay was written at a 9th grade reading level to ensure participant comprehension.

The essay first presented threatening information about the effects of not complying with eating behavior guidelines post-surgery. Consequences of not following the post-surgical eating behavior guidelines (e.g., dumping syndrome, hair loss, and weight gain) were emphasized. Next, information about the susceptibility of each patient to these effects was presented. The essay explained that each patient is at risk for such consequences after surgery. The essay then presented adaptive behaviors that patients can engage in to combat these effects, such as never eating more than the stomach pouch can hold and planning meals in advance. Finally, the essay emphasized that all patients are capable of performing the recommended behaviors to avoid complications.

After the essay was read, participants were given the opportunity to ask questions about the essay content. Any misconceptions were also addressed. The investigator used a checklist of the main points of the essay to guide the discussion in order to maintain continuity among group discussions of the essay. If no questions were asked or if a main point from the checklist was not brought up, the investigator reminded the group of the appropriate information.

Selected passages from two books written by Carnie Wilson (Wilson & Kleber, 2001; Wilson & Perlman, 2003), a celebrity who had bariatric surgery, were presented next (see Appendix I). These excerpts detailed both Ms. Wilson's struggles to follow post-surgical eating guidelines and her success with weight loss. The investigator guided participants through the reading in order to highlight important points. Participants then read a testimonial from a non-celebrity patient (see Appendix J). This short passage described a patient's struggle adhering to the post-surgical guidelines. Coping information was particularly highlighted.

The investigator then gave an overview of the session. Participants were reminded of the following important points from the session: (a) failure to follow the post-surgical guidelines can cause weight re-gain and consequences to their health; (b) each patient is vulnerable to these consequences; (c) there are many things that patients can do to prevent consequences; and (d) these recommendations can be incorporated into every lifestyle. Patients then completed the PMT-based questionnaire to ensure that the intervention had the desired effect on participants' adaptive and maladaptive coping strategies. Participants completed the Behavioral Intentions questionnaire and provided their contact information so that they could be mailed follow-up questionnaires.

One-week Booster. Approximately one week after completion of Session 1, participants were mailed a packet to their home address containing the PMT-based questionnaire, the Behavioral Intentions questionnaire, and a 3-page summary of the information presented during the group session containing the threat and coping components (see Appendix K). Participants had not undergone surgery at this time. The summary focused on the deleterious effects of poor eating behavior compliance after RGB surgery and adaptive behaviors that patients can engage in to combat these effects. Response efficacy and self-efficacy were particularly emphasized.

Participants were asked to read the information, complete the questionnaires, and mail the questionnaires back to the study's investigator via an addressed, stamped envelope which was also provided in the mailed materials. If participant materials were not received within 2 weeks of mailing, participants were contacted and reminded via telephone. Participants were contacted by phone no more than twice. In exchange for their participation, participants were given credit for attendance at one of two required bariatric support group meetings.

Follow-up. Those participants who had surgery (PMT Group: $n = 17$; 39%; Control Group $n = 13$; 34%) were mailed the Follow-up questionnaire and the PMT-based questionnaire approximately 3 months after their surgery. A 3-month follow-up was thought to be sufficient for patients to transition from a liquid/soft food diet to a regular diet and adjust to many of the post-surgical changes. It was hoped that this relatively short follow up time would also ensure that effects of the intervention would not have significantly decreased.

The post-surgical questionnaire contained the eating behavior questionnaires (QEWP-R, BES), as well as items to assess frequency of post-surgical complications (plugging, dumping) and asked for current weight, which was confirmed with patient medical chart data. No significant discrepancies were found between self-reported weight and weight measured at follow-up medical appointments. This is likely because the weight reported by the patients had last been obtained at their doctors' office, as most patients do not likely own scales capable of measuring over 300 pounds.

Their weight at the time of surgery and weight at follow up were used to calculate percent excess weight loss. This number was calculated by first determining each patient's ideal body weight by height and gender using the Met Life tables. Ideal body weight was then subtracted from pre-operative weight to determine the excess body weight at time of surgery. At the 3-month

follow-ups, the amount of weight lost since surgery was divided by the patient's excess body weight at pre-operation to determine the percent excess weight loss. In addition to the information from the Follow-up questionnaire and the PMT-based questionnaire, post-surgical data was obtained from patients' medical charts (i.e., post-surgical weight loss, post-surgical complications).

Once follow-up materials were returned to the study's investigator, a debriefing letter (see Appendix L) and monetary compensation were mailed to participants. Debriefing letters were also sent to participants who either did not return follow up questionnaires or who did not have surgery during the time frame of the study to ensure that all participants were made aware of the study's purpose and could contact the investigator should they have any questions.

Control condition

Individuals attending the control session underwent procedures similar to the intervention group (attended Session 1 in a small group format and received follow-up questionnaires via mail). However, participants in the Control Group did not receive any information on the post-surgical eating behavior guidelines from the investigator. Rather, these individuals received standard information from the bariatric surgeon and his staff which is provided to all pre-surgical patients. The surgeon and his staff were blind to group status (and whether or not patients had participated in the study) and being in this study did not affect any information given to patients from the surgeon. This information was based on the surgeon's personal approach to presenting the guidelines and was unable to be manipulated or controlled for in this study. Several pre-surgical group meetings were observed by the investigator of this study in order to determine exactly what information was provided to patients by the bariatric surgeon. Generally, this presentation contained information on appropriate post-surgical eating guidelines, including eliminating sugar, eating slowly, and eating

adequate protein. Overall, while this information was relatively consistent, it often varied depending on individual patient questions.

After informed consent was obtained during Session 1, (See Appendix M), participants in the control condition were asked to fill out the PMT-based questionnaire, the Behavioral Intentions questionnaire, and a demographics questionnaire so that materials could be mailed to participants.

Control participants also received questionnaires in the mail at the 1-week Booster and 3 months post-surgery. These questionnaires were identical to the ones sent to participants in the Intervention Group. Pre- and post-surgical body weight was obtained in the same manner as that of those in the Intervention Group.

CHAPTER 3

Results

Of the 82 participants included in the analyses, 54 (66%) completed and returned the 1-week Booster questionnaires to the investigator (PMT Group: $n = 27$; 62%; Control Group: $n = 27$; 71%). A univariate analysis of variance indicated that there were no differences between participants who did and did not return the 1-week Booster questionnaires on any demographic variables or scores on the PMT variables from the questionnaires completed during Session 1.

Of the 29 participants who had surgery during the time frame of the study, 9 participants in the PMT group (56%) and 6 in the Control group (46%) returned the post-surgical questionnaires. Follow-up analyses indicated that on average, those participants who did return the post-surgical questionnaires scored significantly higher on the coping appraisal sum during Session 1 than those who did not return the questionnaires ($M_s = 25.57$ vs. 23.89 , $p = .04$). There were no other significant differences found between those who did and those who did not return the 3-month follow up questionnaires.

Psychometric Properties

Reliability analyses were calculated to determine the consistency of the scale items making up the primary PMT appraisal processes manipulated in the intervention: threat appraisal and coping appraisal. Before calculating the coefficient alphas, three items were deleted based on low item-total correlations. Threat appraisal ($\alpha = .62$) was calculated by summing the severity and vulnerability items. Coping appraisal ($\alpha = .65$) was comprised of a sum of the

items assessing response efficacy and self-efficacy. For behavioral intentions the alpha was .66. The alphas obtained are consistent with those of prior studies in which PMT variables were manipulated successfully (e.g., Floyd et al., 2000; Fry & Prentice-Dunn, 2005; 2006).

Manipulation Checks

For the threat appraisal sum, a 2 (Group: PMT vs. Control) X 2 (Time: Session 1 vs. 1-week booster) found no main effects for group ($F(1, 50) = 3.85, p = .06$) or time ($F(1, 50) = 2.38, p = .13$). No significant interaction effects occurred ($F(1, 50) = 0.41, p = .53$).

For the coping appraisal sum, there was no significant main effect of group ($F(1, 50) = .07, p = .79$), however, there was a main effect for time ($F(1, 50) = 14.59, p < .01$). In general, participants scored higher on the coping appraisal sum at the 1-week Booster than at Session 1. No significant group x time interaction was found ($F(1, 50) = .10, p = .75$). (See Table 3.)

Table 3. *Threat appraisal and coping appraisal sums (means and standard deviations) measured during Session 1 and at 1-week Booster.*

		PMT Group	Control Group	Total Sample
Threat	Session 1	23.52 (2.49)	22.15 (2.85)	22.81 (2.75)
	Booster ⁺	23.85 (1.84)	22.97 (2.52)	23.39 (2.24)
Coping	Session 1	24.61 (1.97)	24.42 (2.25)	24.52 (2.11)
	Booster	25.49 (1.30)*	25.46 (1.41)*	26.22 (5.70)

⁺ = 1-week Booster

* $p \leq .05$

The manipulation check analysis revealed that, although the means were in the appropriate direction, the intervention did not have a significant impact on perceived threat or coping appraisal.

Dependent Measures

Given the nonsignificant impact of the intervention, analyses comparing the groups on the dependent variables were not performed. Rather, the groups were collapsed to one sample ($n = 82$) for subsequent analyses.

Exploratory Analyses

Factor analysis

Additional analyses were conducted to examine the impact of PMT components on the outcome variables. First, the 36 items from the PMT-based questionnaire were subjected to principal components analysis. The assumptions for a factor analysis of the data were met and factor analysis was deemed an appropriate test for this data. Principal components analysis revealed the presence of several factors with eigenvalues exceeding 1. Using Catell's (1966) scree test, it was decided to retain five components for further investigation (see Figure 2). To add to the interpretation of these five components, Varimax rotation was performed and the rotated solution is presented in Appendix O. The five factor solution explained a total of 46% of the variance and all factors contained a number of strong item loadings, with most items loading substantially on one factor.

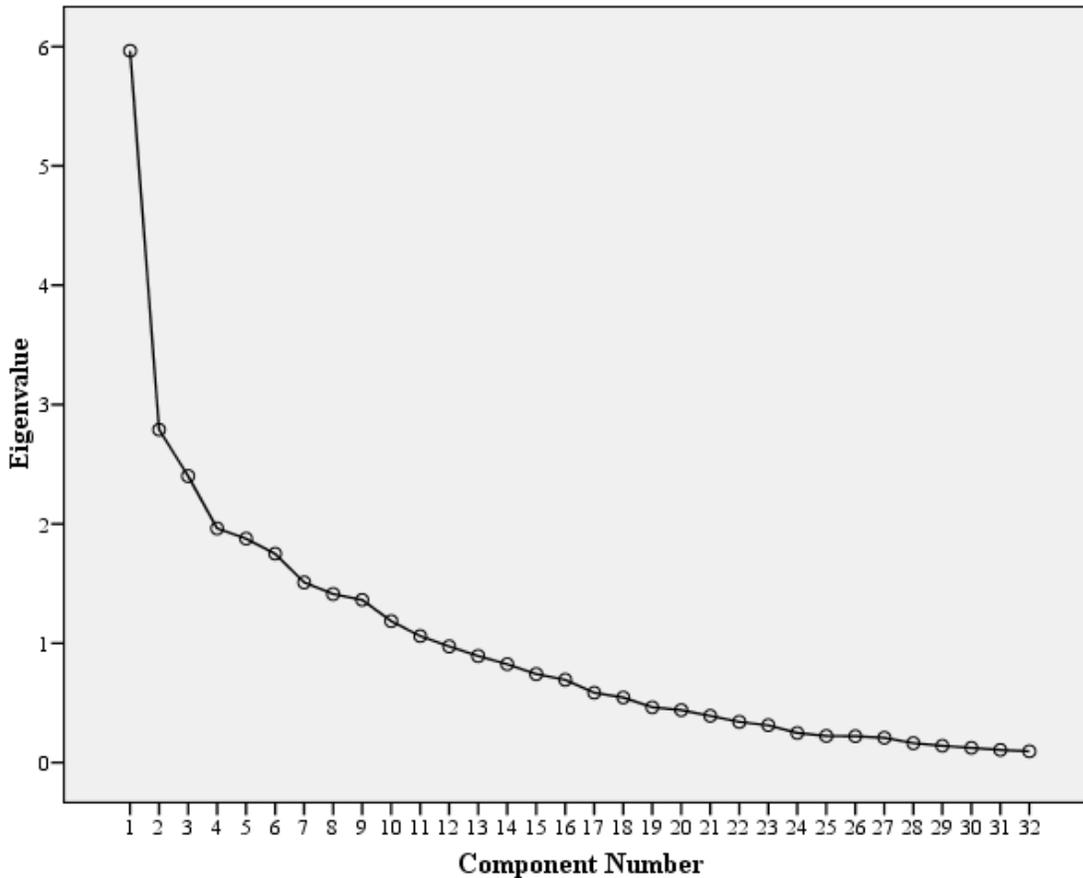


Figure 2. Catell’s scree test from the factor analysis of the individual PMT items.

Questionnaire items with strong loadings ($\geq .6$) are presented in Appendix P.

Interpretation of these factors was based both on considering what scale each item was initially designed to represent and on individual item analysis by the investigator. It was determined that questionnaire items on Factor 1 were associated with the notion that the guidelines will work, and the benefits of adhering to the guidelines outweigh the costs. Thus, this factor captured elements from response costs and response efficacy. The items that loaded on Factor 2 were related in that they measured a sense of self-efficacy. These items conveyed that the post-surgical guidelines are not overwhelming and can be accomplished. Items loading on Factors 3, 4, and 5 were associated with the consequences of not following post-surgical guidelines. These

factors were deemed to be virtually indistinguishable from one another and were regarded as capturing elements of the threats associated with not following the post-surgical guidelines.

Multiple regression analyses were conducted using these factors (response costs/response efficacy, self-efficacy, and threat) as predictor variables. Factors 3, 4, and 5 were combined to a single “threat” factor for ease of interpretation, as results were similar for both the five-factor and three-factor multiple regression models. When intentions to comply with the guidelines was used as the dependent variable, the regression equation was significant ($F(3, 81) = 13.42, p < .01; R^2 = .34$). Significant partial regression coefficients from the three-factor regression equation were found for self-efficacy ($\beta = .13, p < .01$) and for threat ($\beta = .17, p < .01$). Thus, higher levels of self-efficacy and higher levels of threat predicted greater intentions to comply with post-surgical recommendations.

For the dependent variable percent excess weight loss, the overall regression equation was also significant ($F(3, 15) = 7.69, p = .01; R^2 = .66$). The partial regression coefficient for the self-efficacy factor was significant ($\beta = .71, p < .01$), indicating that higher levels of reported self-efficacy accounted for a significant portion of the variance in the variable percent excess weight loss.

Multiple regression analyses were not conducted on the other original dependent measures because they failed to meet the required statistical assumptions of a normal distribution of error and homoscedasticity. Although multiple regression is relatively robust to violations of assumptions, these violations were considered to be substantial and rendered multiple regression an inappropriate analysis.

Binge Eating

Given that binge eating pathology was initially a variable of interest, exploratory analyses were conducted to determine the influence of binge eating on the dependent variables. Due to the small number of participants meeting DSM-IV diagnostic criteria for Binge Eating Disorder, (PMT group: $n = 8$; Control group: $n = 6$), the less-stringent Binge Eating Scale was used as a grouping variable to divide participants into those reporting no, moderate, and severe binge eating pathology. Scores on the BES indicated that in the PMT Group, 65% ($n = 24$) were classified as having no binge eating symptoms, 22% ($n = 8$) were moderate binge eaters, and 13% ($n = 5$) were severe binge eaters. In the Control Group, 51% ($n = 18$) had no binge eating symptoms, 23% ($n = 8$) had moderate symptoms, and 26% ($n = 9$) had severe symptoms. An ANOVA using the BES groups as the independent variable was performed on each of the following dependent variables: intentions to comply with recommendations, post-surgical percent excess weight lost, self-reported adherence to the guidelines, and post-surgical complications. There was a significant difference between participants with differing levels of binge eating pathology on their intentions to comply with the post-surgical recommendations ($F(2, 69) = 6.05, p < .01$). Post-hoc analyses, using Tukey's LSD test, indicated that those participants with a moderate level of binge eating pathology ($M = 13.09, SD = .54$) scored significantly lower than those with no binge eating symptoms ($M = 13.68, SD = 1.01$) and those with severe binge eating pathology ($M = 13.82, SD = .29$) on intentions to comply. This analysis was not significant for any of the other dependent variables (percent excess weight lost, self-reported adherence, post-surgical complications).

Using the three factors (response costs/response efficacy, self-efficacy, and threat) as dependent variables and binge eating severity (no, moderate, or severe binge eating symptoms)

categories as the grouping variable, there were no significant differences between those participants with no, moderate, and severe binge eating symptoms on any of the three factors.

Ethnicity

In this sample, rates of binge eating (as defined by the QEWP-R) were found to be similar among Caucasian males (28%) and females (28%) and African American males (35%) and females (29%). Magnitude of binge eating measures by the less-stringent BES was not significantly different between Caucasians ($M = 16.3, SD = 9.8$) and African Americans ($M = 20.9, SD = 11.1$) ($F(1, 69) = 2.35, p = .13$).

A one-way analysis of variance using ethnicity as the grouping variable and the three factors as dependent variables indicated significant differences between Caucasians and African Americans on both the self-efficacy and on the threat factors. Caucasians scored higher on self-efficacy (Caucasians: $M = 12.9, SD = 1.5$; AA: $M = 11.5, SD = 3.4$) than African Americans ($F(1, 80) = 6.80, p = .01$). Caucasians also scored higher on the threat factor (Caucasians: $M = 13.2, SD = 1.2$; AA: $M = 12.9, SD = 1.5$) than African Americans ($F(1, 80) = 5.18, p = .03$). Analyses comparing the groups on the other dependent variables (percent excess weight lost, self-reported adherence, post-surgical complications) were not significant (all $ps > .05$).

CHAPTER 4

Discussion

The primary objective of this study was to determine whether a systematically presented message based in Protection Motivation Theory would increase compliance with post-surgical eating behavior guidelines in bariatric surgery candidates, and if so, which aspects of the message are most important. Compared to those in the control group, participants who received a PMT-based intervention were expected to (a) show greater intentions to comply with eating behavior recommendations, (b) lose more weight at post-surgical follow-up, (c) report greater adherence to recommended eating behaviors, (d) report fewer eating-related complications (i.e., dumping, plugging), and (e) report fewer binge-eating symptoms at follow-up.

Possible Reasons for the Intervention's Lack of Impact

The PMT intervention was not found to have a significant impact on participants' threat and coping appraisal processes as measured by the PMT-based questionnaire. There were no differences found between the two groups on the threat (sum of severity and vulnerability) and coping (sum of response efficacy and self-efficacy) components. Although the intervention group showed slightly higher threat perceptions than the control group, both groups were found to agree at least moderately with the threat statements from the questionnaire. Thus, although the PMT intervention created the needed threat perceptions in the intervention group, the control participants had similar threat perceptions. Levels of agreement with the coping statements were virtually indistinguishable between the two groups, with all participants showing moderate levels of coping appraisal.

Time was found to have a significant impact on the coping appraisal process. Although participants tended to score higher on this component at the 1-week Booster than at Session 1, it is unlikely that this effect is of any clinical significance.

As this study was conducted in an applied setting, there were many factors beyond the investigator's control that could have influenced the effectiveness of the intervention. First, while it was important to have a strong threat presented to patients, the danger could not be so threatening as to deter patients from having surgery. Thus, the intervention may not have been strong enough to produce substantial differences in attitudes between the two groups. Additionally, all participants in this study were receiving standard of care information on the post-surgical guidelines from the bariatric surgery team as they were being evaluated for surgery. It is apparent that there was some overlap between what was presented in the intervention and what all patients (regardless of what group they were in) were told by the surgeon in terms of which particular guidelines to follow.

There were several logistical concerns that limited the time patients were available to participate in the study. Patients were asked to arrive an hour early to their appointment with the bariatric surgeon in order to be included in the study. This time was chosen to conduct the study session in an effort to maximize participant recruitment. Many patients lived out of town and might have elected not to participate in this study if it required traveling to the hospital when they did not already have a scheduled appointment. Although this time likely increased the number of participants recruited, having patients arrive early for their appointment to participate limited the amount of time patients had to complete the study. The investigator was under pressure by the staff to complete the session in under one hour so that patients could begin their

appointment on time. Subsequently, the intervention had to be brief so that patients could complete the study questionnaires before their medical appointment began.

Conveying a sense of vulnerability to the unpleasant effects of post-surgical non-adherence was also challenging. For some patients, it may be difficult to fathom the possibility of having post-surgical difficulties (i.e., physical complications, weight re-gain). Many patients who undergo bariatric surgery do not anticipate the recurrence of poor eating habits post-surgically and tend to overestimate the effectiveness of the surgery (Rabner & Greenstein, 1991). Thus, they may not see themselves as vulnerable to poor post-surgical outcome. In addition, the possibility of having bariatric surgery may be in the distant future for some patients due to a variety of reasons. For example, some patients may still be working to obtain insurance approval for surgery. These patients may not be worried about the possibility of poor surgical outcome; rather, their focus is on something more immediately salient.

Another variable that might explain why the intervention had no differential impact on participants' threat and coping appraisal processes was participants' level of knowledge of bariatric surgery. Individuals presenting for bariatric surgery likely have a wide range of knowledge levels of the post-surgical guidelines, and the level of information that patients had at the time of the study could have influenced their responses on the PMT-based questionnaire. Individuals who participated in this study were at various stages in the pre-surgical process. Some patients had been researching the surgery for quite some time, some had actually been worked up for surgery previously but did not undergo the procedure, some had attended support groups, information meetings, and had done extensive research, while others were simply considering having surgery and had not fully committed to the process.

It was impossible to control for the level of information that participants had prior to the study. However, participants were asked to indicate how informed they felt about the surgical process, including knowledge of the post-surgical guidelines, at the time of the study. As a post-hoc analysis, participants who rated themselves as “very informed”, “somewhat informed”, and “not informed” were compared on the PMT components. Those who considered themselves to be “very informed” about bariatric surgery scored significantly higher on the self-efficacy component than those who rated themselves as being “not informed” and “somewhat informed”. Thus, participants’ perceived level of knowledge of bariatric surgery affected their responses on the items measuring self-efficacy. It is difficult to determine how much impact knowledge of bariatric surgery had on participants’ responses; however, it does appear that this was a contributing factor for the self-efficacy items.

It is also possible that the PMT variables were not assessed accurately. Although there was a theoretical basis for the composition of the items (based on prior studies in which PMT variables were successfully manipulated), the items on the questionnaire were adapted for bariatric surgery and had not been validated in another study. Therefore, it is unknown whether or not they were truly capturing the PMT components. Although the post hoc factor analysis resulted in three factors that are central to PMT, they did not contain all of the items originally used to compare the PMT and control groups.

Exploratory Analyses with PMT Variables

The self-efficacy and threat factors were found to predict participants’ intentions to comply with post-surgical guidelines and percent excess weight loss after surgery. Intentions to engage in a behavior are typically assumed to be an accurate predictor of actual behavior in most motivational models (Godin & Kok, 1996) and research has demonstrated that intentions to

perform a behavior typically translate into actual behavior in PMT studies (Floyd et al., 2000). As the self-efficacy variable was also found to be a significant predictor of post-surgical percent excess weight loss in this study, intentions may have produced actual compliance (measured by percent excess weight loss). However, it is difficult to know whether those participants who lost more weight after surgery were more strictly following the post-surgical guidelines. Although compliance was not directly measured in this study, dietary adherence has been shown to be significantly related to post-surgical weight loss (e.g., Sarwer et al., 2008). Thus, it is likely that those participants in this study who lost more weight were more strictly adhering to the post-surgical guidelines.

The self-efficacy variable in this study was also found to be important in differentiating between participants' perceived level of knowledge of bariatric surgery. As the level of knowledge of bariatric surgery increased, so did the participants' confidence in their ability to adhere to the post-surgical guidelines. Further, this sense of confidence influenced participants' intention to follow the guidelines. This finding is notable because perceived knowledge of surgery by itself did not predict intentions to comply with the guidelines, and this could suggest that self-efficacy mediates the relationship between perceived level of knowledge and intentions to comply. Thus, as patients' knowledge of surgery increases, so does their sense of self-efficacy, which in turn affects their intentions to comply with the post-surgical guidelines. Although preliminary, this notion has great utility for clinical practice in that it may be fruitful for bariatric surgery teams to both ensure that patients have adequate knowledge of the surgical process and that patients are confident in their ability to adhere to the guidelines. Future studies should further explore this relationship.

Binge Eating

A secondary aim of this study was to add to the under-researched body of literature on the effects of binge eating in bariatric surgery candidates. Binge eating was regarded as a variable of interest in this study, given that binge eating has been found to affect post-surgical outcome (e.g., Dymek et al., 2001; Green, Dymek-Valentine, Pytluk, Le Grange, & Alverdy, 2004; Hsu et al., 1997; 1998; Scholtz et al., 2007). At baseline, 20% of participants in this sample met DSM-IV criteria for Binge Eating Disorder, and 0% of patients reported binge eating behavior post-surgically. However, after using the less stringent Binge Eating Scale post-surgically, 14% of the sample endorsed moderate symptoms of binge eating post-surgically (the remaining 86% endorsed no binge eating). Thus, despite the relatively short follow-up time in this study, a percentage of post-surgical patients continued to engage in binge eating behaviors.

It is likely that the discrepancy between the rates of binge eating determined by the QEWP-R and BES was due to the lack of an appropriate criterion for “large amount of food” on the BES. Previous research has demonstrated the presence of binge eating post-surgically after modifying the criteria (e.g., Mitchell et al., 2001, Kalarchian et al., 1999; de Zwaan et al., 2003), while virtually no patients meet criteria post-surgically when the condition “large amount of food” is included in binge eating diagnosis (Niego, Kofman, Weiss, & Geliebter, 2007). Although the literature is mixed in this area, results of this study add to the research suggesting that binge eating behaviors can manifest after bariatric surgery.

When participants were divided into groups based on level of pre-surgical binge eating severity as defined by the Binge Eating Scale, there were no significant differences between the groups on any of the three factors extracted by the factor analysis. Thus, binge eating severity did not appear to have a significant impact on participants’ threat or coping appraisal processes. Both

groups were found to agree at least moderately with both threat and coping perceptions. It is possible that neither group felt specifically targeted by the intervention and therefore the severity of their eating disturbances did not influence their perceptions of either threat or coping.

There were significant differences on intentions to comply with the post-surgical guidelines between the three levels of binge eaters. Those with moderate levels of binge eating endorsed a lower level of intentions to comply than those with either no binge eating symptoms or severe binge eating symptoms. One explanation for this could be that patients with no binge eating symptoms intended to comply because they felt that they have nothing to worry about post-surgically (“I don’t binge/overeat now, so this won’t be a problem for me after surgery”). On the other hand, patients who do engage in binge eating frequently may be hypersensitive to the detrimental effects of overeating after surgery, and thus report greater intentions to comply with the guidelines (“My binge eating will be a problem after surgery unless I control it”). While this is an interesting finding, the explanation is purely speculative and there is little literature to support it. In fact, most studies using the BES to classify patients into groups based on binge eating severity have not investigated participants with moderate binge-eating symptoms, and more research is needed in this area to clarify the effect of binge eating on post-bariatric surgical outcome.

Ethnicity

While the rates of binge eating among bariatric surgery candidates have not been widely studied, this is especially true of African American patients. Few studies have investigated characteristics of African Americans seeking bariatric surgery, but there is evidence that Caucasians and African Americans have similar rates of binge eating. Mazzeo, Saunders, and Mitchell (2006) found no differences between rates of binge eating or Binge Eating Disorder between African American and Caucasian women. Similar results were found in the present

study; rates of binge eating were found to be similar among African Americans and Caucasians. These results extend those of the limited number of studies exploring the rates of binge eating in African American and Caucasian bariatric surgery candidates.

Caucasians were found to endorse higher scores on both the self-efficacy factor and the threat factor than their African American counterparts. This was an unexpected finding, but could possibly indicate that the PMT components were more salient to Caucasians. However, it remains unknown whether the differences between Caucasians and African Americans on the PMT components will translate into differences in post-surgical outcome.

While Caucasians in this study did not report greater intentions to comply with the post-surgical guidelines than African Americans, recent research suggests that there may be differences in the level of post-surgical compliance between ethnic groups. In general, Caucasians have been more successful at weight loss after bariatric surgery than African Americans (Capella & Capella, 1993; Latner et al., 2004; Parikh et al., 2006). Reasons for this are unclear, but could be due to the fact that Caucasians (especially females) tend to have more body images issues than African Americans (Kumanyika, Wilson, & Guilford-Davenport, 1993) and thus may be more motivated to adhere to post-surgical guidelines to be successful with weight loss. Another explanation could be that African Americans are less likely to have access to healthy foods or to make healthy food choices, regardless of income (Baker, Schootman, Barnidge, & Kelly, 2006). Perhaps this tendency to make unhealthy choices leads to a return to pre-surgical eating habits. No such results were found in this study; however, the follow-up time was likely not long enough to detect group differences. This area remains under-researched and more studies are needed to understand the reasons for ethnic disparities in bariatric surgery outcome.

Limitations

The exploratory results of this study suggest several promising avenues for further research; however, there are also several limitations that should be taken into consideration. First, the sample size was relatively small. Although the size was adequate to detect at least moderate effect sizes, given the exploratory nature of the study, a much larger sample size would have increased confidence in the results. Similarly, the number of participants who were able to be followed after surgery was minimal. Some patients had surgery several months after participating in Session 1, while some patients had surgery soon after. Because patients varied greatly in the length of time between their initial pre-surgical evaluation and their surgery, some patients had participated in the study long before their surgery and thus any effect the intervention may have had would likely have faded by the 3-month post-surgical follow up. A short follow up period was chosen in part as an attempt to control for decreasing effects of the intervention, but this remains a limitation of the study because poor compliance and significant eating disturbances, if present, were unlikely to have surfaced at this point. It has been hypothesized that post-bariatric surgery patients initially experience an improvement in their eating habits, but that this improvement erodes approximately 2 years after surgery and patients experience a re-emergence of poor eating habits (Hsu et al., 1998). This assertion has been strengthened by recent research (e.g., Niego et al., 2007). A longer follow-up time in this study may have detected greater post-surgical effects of binge eating.

Conducting this study in an applied setting proved to be challenging, as several compromises had to be made regarding the methodology of the study. As was stated, the information presented to patients in the intervention condition had to be threatening, but not so threatening as to alter participants' decision to have bariatric surgery. The information presented

to all patients by the bariatric surgery team, regardless of group status, likely contained at least some information which was conveyed in the intervention. In addition, time to present the information in the session and to have patients complete questionnaires was limited by the patients' pre-surgical appointments. These constraints of conducting clinical research likely handicapped the opportunity to create significant differences among the intervention and control group.

Another limitation to the study was that some of the patients were concurrently being followed by a psychologist. The information patients were being given at their pre-surgical psychological evaluations was found to be quite similar to the information being presented at the PMT session. This was determined to be a major confound to the study and data collection ceased soon after all patients were required to receive the same psychological evaluation. Patients who did undergo this psychological evaluation were compared to patients who did not (these patients received their psychological evaluation from a psychologist not associated with this hospital) on the PMT variables and the outcome variables of interest. Although there were no significant differences found between these groups, this is a limitation of the study in that it is impossible to determine whether the information patients learned about the surgery was obtained during the intervention or the psychological evaluation.

Conclusion and Future Directions

There is no denying the effectiveness of bariatric surgery's ability to produce substantial weight loss in obese and extremely obese individuals. However, in some patients, post-surgical weight loss is less than optimal. The reasons behind this are not completely understood, but recent studies have shown that suboptimal weight loss is related to preoperative eating pathology as well as poor adherence to the recommended post-surgical eating guidelines (e.g., Sarwer et al.,

2008; Pontiroli et al., 2007). Although patients who only moderately adhere to the post-surgical guidelines will still experience positive outcomes and significant improvement in weight loss and health, strict adherence and elimination of post-surgical eating disturbances may be necessary to achieve the desired long-term effects.

This study represents the first attempt to apply PMT to increase compliance with post-surgical eating behavior guidelines in bariatric surgery candidates. Although the intervention implemented in this study did not have a significant effect, components of PMT, namely the self-efficacy and threat components, proved to be useful in predicting patients' intentions to adhere to the post-surgical eating behavior guidelines and in predicting post-surgical weight loss. This suggests that a strong message presented in a more controlled setting may indeed produce a causal effect on post-surgical outcome. Although it cannot be determined from this study whether participants' intended compliance and post-surgical weight loss was a direct result of their complete adoption of post-surgical guidelines, it is possible that these factors may indicate that participants' did in fact incorporate post-surgical eating behavior changes.

Given the increasing numbers of extremely obese individuals, it is unlikely that the number of bariatric surgeries will decline in the near future. Although surgical treatment of obesity is on the rise, much remains unknown about the specific factors that promote patient adherence to the post-surgical guidelines and subsequent adoption of healthier habits. For this reason, it is imperative that investigations continue to determine factors that affect post-surgical outcome. Such information will serve to increase the effectiveness of bariatric surgery at producing clinically significant, sustained weight loss, thereby potentially reducing the impact of the obesity epidemic.

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Need Another Support Group???

If you are having weight loss surgery at UAB, you may qualify to participate in a simple research study!

★ If you choose to participate, **this session will take the place of 1 of the support group meetings that you are required to attend!** ★

By participating, you can help us develop an educational program for patients who are thinking about having weight loss surgery

Participation is simple! You will be asked to fill out questionnaires about your eating attitudes and behaviors. You may also be asked to read information about the post-weight loss surgery diet.

Remember, your participation is completely up to you. Everything will be kept **strictly confidential**.

For more details, please call **205-996-9970**
Your interest is greatly appreciated!

Appendix B

Pre-surgical Questionnaire

PLEASE FILL OUT THIS PACKET OF QUESTIONNAIRES
COMPLETELY AND
BRING IT WITH YOU
TO YOUR
APPOINTMENT
(do not return by mail)

UAB WEIGHT LOSS SURGERY
PATIENT HEALTH QUESTIONNAIRES

CONFIDENTIAL

Failure to bring the completed questionnaires with you may result in having to reschedule your appointment for a later date, which could delay your surgery.

Directions: Please read BEFORE filling out packet

The following packet of questionnaires is designed to obtain information about your personal health history, weight and dieting histories, and eating and exercise habits. Some of the questions may be sensitive in nature. Please complete this questionnaire carefully and be as honest as possible in all of your answers. If you are unsure of some answers, make your best guess. Your answers will help us identify and address possible problem areas that could interfere with your weight loss success. Our goal is to help you achieve the best possible outcome from weight loss surgery. Please be assured that the information you provide will be kept *strictly confidential* and will only be available to treatment staff.

Please allow two hours to complete all of the questionnaires. Most people find it helpful to complete the questionnaires over several time periods, to prevent fatigue. Thank you for taking the time to complete these questionnaires. We look forward to working with you as you prepare for and adapt to lifestyle changes with weight loss surgery.

Today's date: _____
Month/Day/Year

Printed Name: _____
First Middle Last

Telephone: _____ (home) _____ (work)
_____ (cell) _____ (other)

Home Address: _____ Work/Other Address: _____

Email: _____

I prefer to be contacted via (Circle one) Home Phone Cell Phone Work Phone
Email Postal Mail Other (list): _____

Okay to leave message? (Circle). YES NO

Name of Relative/Friend (not living with you) who will always know how to contact you:
Name: _____ Relationship to you: _____
Telephone: _____ (home) _____ (other)
Address _____

SECTION I: Demographic Information

1. What is your gender? (1) Male
(2) Female

2. What is your current age? _____
3. What is your date of birth? ____/____/____
mm/dd/yy

4. What is your ethnicity?

(1) White/Caucasian	(5) Hispanic/Latino
(2) Black/African American	(6) Native American
(3) Asian American	(7) Other (Please specify):
(4) Native Hawaiian/Pacific Islander	_____

5. Please circle the number that best describes your family's annual gross income:

(1) Less than \$10,000	(5) \$40,000-\$49,999
(2) \$10,000-\$19,999	(6) \$50,000-\$74,999
(3) \$20,000-\$29,999	(7) \$75,000-\$99,999
(4) \$30,000-\$39,999	(8) \$100,000 or higher

6. How many people (in your household or otherwise) are supported by the income indicated above?

7. Is this income adequate to cover your monthly expenses? No Sometimes Usually Yes

8. What is the highest year of school you completed?

1 2 3 4 5 6 7 8 9 10 11 12 (HS diploma) GED 13 14 15 16

Associates Degree Bachelors Degree Masters Degree Ph.D. J.D. M.D. Other: __

9. What is your occupation? _____ Number of years at current job: _____

SECTION II: Personal Health and Medical Information

1. As far as you are aware, did your mother have a normal pregnancy with you? (Circle). YES NO
If NO, please explain: _____

2. Did you reach all developmental milestones (i.e. walking/talking) at appropriate ages? (Circle). YES NO
If NO, please explain: _____

3. Please list any current medical conditions (i.e. Diabetes, High Blood Pressure, Thyroid problems, Pain):

4. Please list all surgeries, medical procedures, or other hospitalizations and the dates:

<u>Procedure/Reason for Hospitalization</u>	<u>Date (mm/yy):</u>	<u>Complications/Length of Hospitalization</u>

5. **IMPORTANT.** Please list all medications you are currently taking. Include all vitamins, over the counter medications (e.g. allergy medications), and herbal supplements (e.g. Ginkgo Biloba, Echinacea, etc.).

<u>Medication Name</u>	<u>Dosage (mg)</u>	<u>Frequency (i.e.times per day)</u>	<u>Reason for taking?</u>

Questions 6 and 7 are for females only

6. Have you borne children? (Circle one). YES NO

Number of pregnancies _____

If YES, did you experience complications during any pregnancy and/or delivery? YES NO

Please explain: _____

For each pregnancy, please list your weight: Before Pregnancy At Delivery 1 yr. After Delivery

1 st Pregnancy	_____	_____	_____
2 nd Pregnancy	_____	_____	_____
3 rd Pregnancy	_____	_____	_____

If NO, do you plan on becoming pregnant? (Circle one). YES (When? _____) NO

7. Do you experience a regular menstrual cycle? (Circle one). YES NO

If NO, please explain: _____

Neurological History

8. Have you ever had a blow to the head and been knocked unconscious? (Circle). YES NO

If YES: How many times? _____

When? _____

How long were you unconscious? _____

Did you suffer loss of memory either prior to or after the accident? YES NO

If YES, please describe: _____

9. Have you ever had a stroke or similar event? (Circle). YES NO

If YES: When? Describe event. _____

10. Have you ever had a seizure, spell, or blackout? (Circle). YES NO

If YES: When? Describe event. _____

11. Do you get headaches or migraines? (Circle). YES NO

If YES, please describe: _____

12. Have you noticed changes in your thinking or speaking abilities? (Circle). YES NO

If YES, please describe: _____

13. Do you have difficulties with your memory? (Circle). YES NO

If YES, please describe: _____

14. Have you noticed any changes in your ability to speak (i.e. difficulties finding the words you want to say)?
 (Circle). YES NO If YES, please describe: _____

Family History (Medical and Psychiatric):

15. Please list family members (e.g. blood-related siblings, mother, father, grandparents, aunts, uncles, etc.) who have the following conditions. Please list relationship to you rather than names (i.e. maternal aunt).

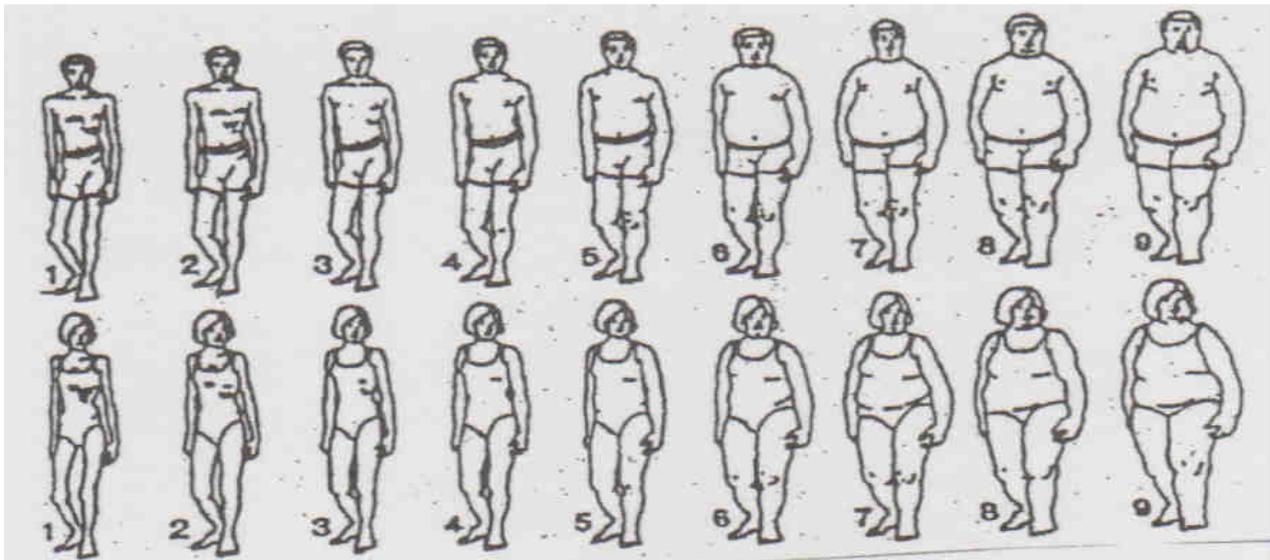
- Diabetes _____
- High Blood Pressure _____
- Heart Disease _____
- Cancer _____
- Liver Disease _____
- Neurological disorders (i.e. Alzheimer's Disease, Parkinson's Disease, Strokes) _____
- _____
- Problems with alcohol or drugs _____
- Depression _____
- Anxiety _____
- Other Psychological Problems or Nervousness _____
- Other conditions _____

SECTION III: Family Weight History

1. Please record in the spaces below the average weight and height of your biological mother and father from approximately age 35 -50. Then, please record the number of the figure from those shown below that is most similar to your biological parents' body shapes.

Please mark N/A (not applicable) in the spaces below if you do not know your parents' height and weight.

Parent	Height (ft/inches) (at middle age)	Weight (lbs) (at middle age)	Figure # (at middle age)	Current Age or Age of Death
Mother	_____	_____	_____	_____
Father	_____	_____	_____	_____



2. Please list other family members (e.g. spouse, children, siblings, grandparents, aunts, uncles, cousins, etc.) who are overweight. Please list relationship to you rather than names (i.e. spouse, daughter): _____

SECTION IV: Weight History

1. What is your current height? _____ feet _____ inches
2. What is your current weight? _____ lbs.
3. Were you overweight by 20 pounds or more as a child? YES NO No, but heavy as a child
4. At what age were you first overweight by 20 pounds or more? _____ yrs. old
5. What has been your highest weight (for women, not due to pregnancy) after age 18?

Highest adult weight: _____ lbs. at _____ yrs. old

6. What has been your lowest weight (not due to illness) after age 18, which you maintained for ~6 months?

Lowest adult weight: _____ lbs. at _____ yrs. old

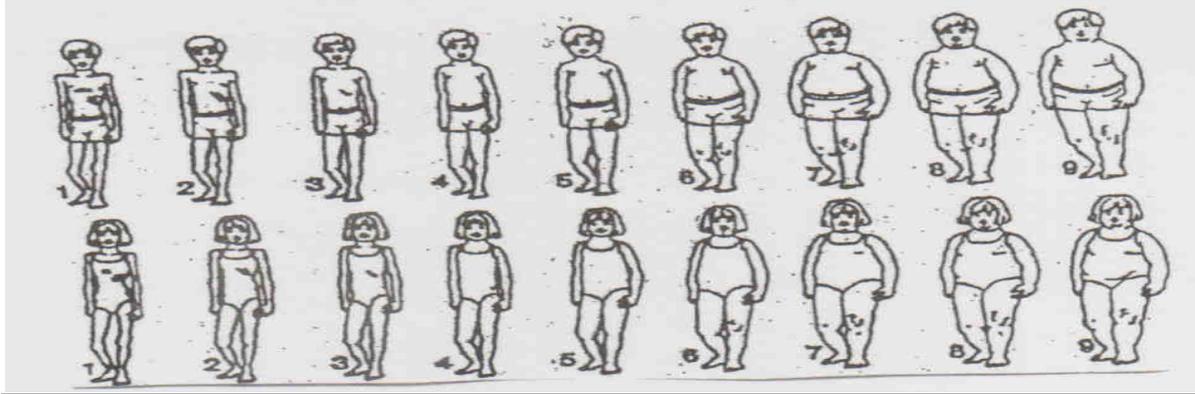
Maintained for: _____ month(s), _____ year(s)

Was this weight reached after a weight loss effort? (Circle). YES NO

7. During the past 6 months, has your weight:
 - a). decreased by more than 10 pounds
 - b). decreased by 5-10 pounds
 - c). stayed about the same
 - d). increased by 5-10 pounds
 - e). increased by more than 10 pounds

8. Please list your maximum weight during the different age periods below. If you are unsure of what your maximum weight was, make your best guess and mark "G" (for guess) next to your answer. For ages 5-15, please select from the figures below the one that most resembles your body type at that age. For ages 16 to present, please use the figures on the previous page to select the one that most resembles your figure. In addition, please record any events related to your gaining or losing weight during each period.

AGE	MAXIMUM WEIGHT	FIGURE #	EVENTS RELATED TO WEIGHT GAIN/LOSS
5-10	_____	_____	_____
11-15	_____	_____	_____
16-20	_____	_____	_____
21-25	_____	_____	_____
26-30	_____	_____	_____
31-35	_____	_____	_____
36-40	_____	_____	_____
41-50	_____	_____	_____
51-60	_____	_____	_____
61-70	_____	_____	_____



SECTION V: Weight Loss History

1. For each of the following three sections, please record your major weight loss efforts which resulted in a weight loss of *10 pounds or more*. You may have difficulty remembering this information at first, so take some time to recollect, starting with childhood through adulthood.

Part I. Diet Programs and Supplements. Please indicate which of the following diets or plans you have attempted. Try your best to remember the dates that you attempted the program and how long you were able to adhere to the program. Also indicate if a medical doctor supervised your weight loss effort and how much weight you lost. Please turn to the back page of this questionnaire if you need additional space.

Program:	Date(s)	Duration:	M.D. Supervised?:	Weight Lost:
Atkins				
Grapefruit				
Herbalife				
Jenny Craig				
L.A. Weight Loss				
Medifast				
Nutrisystem				
Optifast				
Pritikin Diet				
Slim Fast				
South Beach				
Sugar Busters				
T.O.P.S.				
Weight Watchers				
Other (Name:)				
Other (Name:)				

Part II. Weight Loss Medication History. Please indicate if you have taken any of the following medications to lose weight. Try your best to remember the dates that you used the medication and how long you took the medication. Also indicate if a doctor supervised your weight loss effort and how much weight you lost.

Medication:	Date(s):	Duration:	M.D. Supervised?:	Weight Lost:
Amphetamines				
Dexfenfluramine (Redux)				
Merida (Sibutramine)				
Metabolife				
Phentermine (also Adipex, Fastin, Pondimem)				
Phen-Fen				
Xenical (Orlistat)				

Other (Name: _____)
 Other (Name: _____)

Part III. Non Diet Therapies. Please indicate if you have tried any of the following weight loss therapies. Try your best to remember the dates that you attempted the program and how long you were able to adhere to the program. Also indicate if a medical doctor supervised your weight loss effort and how much weight you lost.

Program:	Dates:	Duration:	M.D. Supervised?:	Weight Lost:
<u>Acupuncture</u>				
<u>Behavior Modification</u>				
<u>Exercise</u>				
<u>Hypnosis</u>				
Other non diet therapy (Name: _____)				
Other non diet therapy (Name: _____)				

2. In the past year, how many times have you started a weight loss program that lasted for *more than 3 days*?

3. In the past year, how many times have you started a weight loss program that lasted for *3 days or less*?

4. Have you ever bought a weight-loss product primarily because of the advertising claims made (i.e., “no diet or exercise required” or “lose weight while you sleep”)? (Circle one).

Never A few times Several Times Many times

5. Have you ever started a diet program primarily based on the testimonials in the advertisement (“I lost 46 pounds in 30 days”) or the before and after photos? (Circle one).

Never A few times Several Times Many times

6. If you have any money left at the end of the pay period, do you feel you have to spend it? (Circle one).

Never A few times Several Times Many times

7. Do you buy things on impulse? (Circle one).

Never A few times Several Times Many times

8. Do you feel powerless to lose weight on your own? (Circle one).

Not at all Somewhat Moderately Extremely

9. Do you feel motivated to lose weight and keep it off? (Circle one).

Not at all Somewhat Moderately Extremely

SECTION VI: Weight Loss Surgery

1. Please **rank order** from 1 (most important) to 12 (least important) YOUR reasons for pursuing weight loss surgery:

- | | | |
|---|--|---|
| <input type="checkbox"/> Improve appearance | <input type="checkbox"/> Increase activity/energy | <input type="checkbox"/> Improve social life |
| <input type="checkbox"/> Increase self-esteem | <input type="checkbox"/> Improve employment status | <input type="checkbox"/> Improve health |
| <input type="checkbox"/> For my children | <input type="checkbox"/> Reduce # of medications | <input type="checkbox"/> Save money |
| <input type="checkbox"/> Seeing others' success | <input type="checkbox"/> Live longer | <input type="checkbox"/> Other Reason (list)
_____ |

2. How knowledgeable do you feel about weight loss surgery? For example, do you have a good understanding of what happens during surgery, the possible risks and complications, and the lifestyle changes that will need to be made after surgery? (Please circle ONE).

Not very informed I have some knowledge I have a good understanding I am very informed

3. Please **rank order** from 1 (the most information) to 6 (the least information) where you have obtained most of your information about weight loss surgery:

- | | | |
|--|--|---|
| <input type="checkbox"/> UAB Program Materials | <input type="checkbox"/> Mass Media (TV, etc.) | <input type="checkbox"/> Others who had the surgery |
| <input type="checkbox"/> Support Group(s)/Seminars | <input type="checkbox"/> Internet | <input type="checkbox"/> Other sources (list): |

SECTION VII: Current Eating Habits

1. How would you describe your current diet? (Circle the ONE that best describes your diet):

Unrestricted, normal U.S. Low Fat Low Carb Low Sodium Vegetarian Diabetic
Low Calorie (<1800) Low Sugar High Fat Other (list): _____

2. Has your pattern of eating recently changed? (Circle). YES NO

3. Please indicate the foods you consume on a typical WEEKDAY.

Meal	Time	Location	Foods and Beverages Consumed (indicate amounts)
Breakfast			
Morning Snack			
Lunch			
Afternoon Snack			
Dinner/Supper			
Evening Snack			

4. Please indicate the foods you consume on a typical WEEKEND DAY.

Meal	Time	Location	Foods and Beverages Consumed (indicate amounts)
Breakfast			
Morning Snack			
Lunch			
Afternoon Snack			
Dinner/Supper			
Evening Snack			

5. How many days a week do you eat the following meals?

Breakfast _____ days a week Mid-morning snack _____ days a week
 Lunch _____ days a week Mid-afternoon snack _____ days a week
 Dinner/Supper _____ days a week Evening snack _____ days a week

6. Please specify the amount (in 8 oz. servings) of the following fluids that you consume during a typical day:

_____ Protein Shake _____ Whole milk _____ Water _____ Seltzer water
 _____ Fruit juice _____ Coffee _____ Unsweet tea _____ Sweet tea
 _____ Diet soda _____ Sugared soda _____ Beer/Wine _____ Other (list): _____

7. Who prepares your meals at home? (i.e., self, spouse, caregiver, relative, other) _____

8. Who does the food shopping? (i.e., self, spouse, caregiver, relative, other) _____

9. During a typical week, how many meals do you (or others) prepare and eat at home?

Breakfast: _____ meals a week Lunch: _____ meals a week Dinner: _____ meals a week

10. During a typical week, how many fast-food meals do you eat (including fast-food restaurants, drive thru, convenience stores, and vending machine meals)?

Breakfast: _____ meals a week Lunch: _____ meals a week Dinner: _____ meals a week

11. During a typical week, how many meals do you eat at a traditional restaurant, coffee shop, cafeteria, or similar establishment?

Breakfast: _____ meals a week Lunch: _____ meals a week Dinner: _____ meals a week

12. Please list your current favorite foods: _____

SECTION VIII: Physical Activity

1. Are you currently exercising? (Circle). YES NO

If YES: How many days (on average) do you engage in exercise? _____ day(s) per week

When you exercise, typically what type of activit(ies) do you engage in? _____

Typically, how much time each day (in minutes) do you spend exercising? _____ minutes

On a scale of 1-10, with 1 = least intense, please rate the typical intensity of your exercise: ____

Approximately how long (in months) have you been exercising this amount? _____ month(s)

2. Have you started (or are you planning to start) exercising in preparation for weight loss surgery? (Circle). YES NO Please describe: _____

3. When was the last time you engaged in exercise that lasted over 20 minutes in a row? ____ mm/dd/yy

4. To what extent do you *enjoy* physical activity? (Circle one).

Not at all Slightly Moderately Greatly

5. List types of physical activity that you would engage in (e.g. walking, biking, water aerobics, etc.)

6. Do you have physical problems that limit your physical activity? (Circle). YES NO

If YES, please describe. _____

7. How many hours of TV do you watch on an average weekday ? _____ hours

8. How many hours of TV do you watch on an average weekend day ? _____ hours

9. Please describe your daily lifestyle activity (i.e. how active you are) by picking a number from 1 to 10 in which 1=not active at all and 10=very active. Your number is _____

SECTION IX: Eating Behaviors

1. Over the past six months, have you eaten large amounts of food within any two-hour period?

Yes No

2. During the times when you ate this way, did you feel you couldn't stop eating or control what or how much you were eating? (If you answered No to Question 1, please go to Question 4).

Yes No

3. Over the past six months, approximately how often, on average, have you felt out of control while eating large amounts of food? (If this does not apply to you, please go to Question 4).

- 1=Less than one day a week**
- 2=One day a week**
- 3=Two or three days a week**
- 4=Four or five days a week**
- 5=nearly every day**

4. Do you have any of the following experiences when you eat more than you think you should? (Please go to Question 6 if never eat more than you think you should).

- | | | |
|---|------------|-----------|
| a. Eating much more rapidly than usual? | Yes | No |
| b. Eating until you felt uncomfortably full? | Yes | No |
| c. Eating large amounts of food when you didn't feel physically hungry? | Yes | No |
| d. Eating alone because you were embarrassed by how much you were eating? | Yes | No |
| e. Feeling disgusted with yourself, depressed, or feeling very guilty after overeating? | Yes | No |

5. In general, how upset do you get when you eat more than you think you should?

- 1=Not at all**
- 2=Slightly**
- 3=Moderately**
- 4=Greatly**
- 5=Extremely**

6. Have you been consciously trying to change your eating habits over the past six months?

Yes **No**

7. Has there EVER been a period of time in your life (lasting six months or longer) where you engaged in *regular episodes* of eating large amounts of food within any two-hour period?

Yes **No**

8. If Yes to Question 7, when you ate this way did you feel you couldn't stop eating or control what or how much you were eating?

Yes **No**

9. Are you afraid of losing control over eating?

Yes **No**

PART II: EATING AND FOOD QUESTIONNAIRES

DIRECTIONS: The following questionnaires are designed to assess your eating behaviors and attitudes, quality of life, food preferences, and your ways of thinking. It is VERY important that you answer honestly and complete all questions, even those that ask for sensitive information. Take your time to answer the questions to the best of your ability and be as open as possible. There are no right or wrong answers.

QEWP-R

Please circle the appropriate number or response, or write in information where asked.

1. Have you ever been overweight by at least 10 lbs as a child or 15 lbs as an adult (when not pregnant)?

1=Yes 2=No or not sure

IF YES: How old were you when you were first overweight (at least 10 lbs as a child or 15 lbs as an adult?) If you are not sure, what is your best guess?

_____ years

2. How many times (approximately) have you lost 20 lbs or more—when you weren't sick—and then gained it back?

1=Never

2=Once or twice

3=Three or four times

4=Five times or more

3. During the past **six** months, did you often eat within any two-hour period what most people would regard as an unusually large amount of food?

1=Yes 2=No

IF NO: SKIP TO QUESTION 8

4. During the times when you ate this way, did you often feel you couldn't stop eating or control what or how much you were eating?

1=Yes 2=No

IF NO: SKIP TO QUESTION 8

5. During the past **six** months, how often, on average, did you have times when you ate this way—that is, large amounts of food plus the feeling that your eating was out of control? (There may have been some weeks when it was not present—just average those in).

1=Less than one day a week

2=One day a week

3=Two or three days a week

4=Four or five days a week

5=nearly every day

6. Did you usually have any of the following experiences during these occasions?

- | | | |
|---|------------|-----------|
| a. Eating much more rapidly than usual? | Yes | No |
| b. Eating until you felt uncomfortably full? | Yes | No |
| c. Eating large amounts of food when you didn't feel physically hungry? | Yes | No |
| d. Eating alone because you were embarrassed by how much you were eating? | Yes | No |
| e. Feeling disgusted with yourself, depressed, or feeling very guilty after overeating? | Yes | No |

7. Think about a typical time when you ate this way—that is, large amounts of food plus the feeling that your eating was out of control.

a. What time of day did the episode start?

- 1=Morning (8 AM to 12 Noon)
- 2=Early afternoon (12 Noon to 4 PM)
- 3=Late afternoon (4 PM to 7 PM)
- 4=Evening (7 PM-10 PM)
- 5=Night (After 10 PM)

b. Approximately how long did this episode of eating last, from the time you started to eat to when you stopped and didn't eat again for at least two hours

_____ hours _____ minutes

c. As best you can remember, please list everything you might have eaten or drunk during that episode. If you ate for more than two hours, describe the foods eaten and liquids drunk during the two hours that you ate the most. Be specific—include brand names where possible and amounts as best you can estimate. (For example: 7 ounces Ruffles potato chips; 1 cup Breyer's chocolate ice cream with 2 tablespoons hot fudge; 2 8-ounce glasses of Coca-cola, 1 ½ ham and cheese sandwiches with mustard).

Food and Beverage Consumed (indicate amount)

d. At the time this episode started, how long had it been since you had previously finished eating a meal or snack?

_____ hours _____ minutes

8. In general, during the past **six** months, how upset were you by overeating (eating more than you think is best for you)?

- 1=Not at all
- 2=Slightly
- 3=Moderately
- 4=Greatly
- 5=Extremely

9. In general, during the past **six** months, how upset were you by the feeling that you couldn't stop eating or control what or how much you were eating?

1=Not at all
2=Slightly
3=Moderately
4=Greatly
5=Extremely

10. During the past **six** months, how important has your weight or shape been in how you feel about or evaluate yourself as a person—as compared to other aspects of your life, such as how you do at work, as a parent, or how you get along with other people?

1=Weight and shape were not very important
2=Weight and shape played a part in how you felt about yourself
3=Weight and shape were among the main things that affected how you felt about yourself
4=Weight and shape were the most important things that affected how you felt about yourself

11. During the past **three** months, did you ever make yourself vomit in order to avoid gaining weight after binge eating?

1=Yes **2=No**

IF YES: How often, on average, was that?

1=Less than once a week
2=Once a week
3=Two or three times a week
4=Four or five times a week
5=More than five times a week

12. During the past **three** months, did you ever take more than twice the recommended dose of laxatives in order to avoid gaining weight after binge eating?

1=Yes **2=No**

IF YES: How often, on average, was that?

1=Less than once a week
2=Once a week
3=Two or three times a week
4=Four or five times a week
5=More than five times a week

13. During the past **three** months, did you ever take more than twice the recommended dose of diuretics (water pills) in order to avoid gaining weight after binge eating?

1=Yes **2=No**

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

14. During the past **three** months, did you ever fast—not eat anything at all for at least 24 hours—in order to avoid gaining weight after binge eating?

1=Yes 2=No

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

15. During the past **three** months, did you ever exercise for more than an hour specifically in order to avoid gaining weight after binge eating?

1=Yes 2=No

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

16. During the past three months, did you ever take more than twice the recommended dose of a diet pill in order to avoid gaining weight after binge eating?

1=Yes 2=No

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

17. During the past six months, did you go to any meetings of an organized weight control program? (e.g. Weight Watchers, Optifast, Nurtisystem) or a self-help group (e.g., TOP, Overeaters Anonymous)?

1=Yes 2=No

IF YES: Name of program _____

18. Since you have been an adult—18 years old—how much of the time have you been on a diet, been trying to follow a diet, or in some way been limiting how much you were eating in order to lose weight or keep from regaining weight you had lost? Would you say...?

- 1=None or hardly any of the time
- 2=About a quarter of the time
- 3=About a half of the time
- 4=About three-quarters of the time
- 5=Nearly all of the time

19. SKIP THIS QUESTION IF YOU NEVER LOST AT LEAST 10 LBS BY DIETING:

How old were you the first time you lost at least 10 lbs by dieting, or in some way limiting how much you ate? If you are not sure, what is your best guess?

_____ years

20. SKIP THIS QUESTION IF YOU'VE NEVER HAD EPISODES OF EATING UNUSUALLY LARGE AMOUNTS OF FOOD ALONG WITH THE SENSE OF LOSS OF CONTROL: How old were you when you first had times when you ate large amounts of food and felt that your eating was out of control? If you are not sure, what is your best guess?

_____ years

BES

EATING HABITS CHECKLIST

Below are groups of numbered statements. Read all of the statements in each group and circle the number of the one that best describes the way you feel about the problems you have controlling your eating behavior.

Group 1

1. I don't feel self-conscious about my weight or body size when I'm with others.
2. I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
3. I do get self-conscious about my appearance and weight, which makes me feel disappointed in myself.
4. I feel very self-conscious about my weight and frequently I feel intense shame and disgust for myself. I try to avoid social contacts because of my self-consciousness.

Group 2

1. I don't have any difficulty eating slowly in the proper manner.
2. Although I seem to "gobble down" foods, I don't end up feeling stuffed because of eating too much.
3. At times, I tend to eat quickly and then I feel uncomfortably full afterwards.
4. I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I've eaten too much.

Group 3

1. I feel able to control my eating urges when I want to.
2. I feel like I have failed to control my eating more than the average person.
3. I feel utterly helpless when it comes to feeling in control of my eating urges.
4. Because I feel so helpless about controlling my eating, I have become very desperate about trying to get in control.

Group 4

1. I don't have the habit of eating when I'm bored.
2. I sometimes eat when I'm bored, but often I'm able to "get busy" and get my mind off food.
3. I have a regular habit of eating when I'm bored, but occasionally, I can use some other activity to get my mind off eating.
4. I have a strong habit of eating when I'm bored. Nothing seems to help me break the habit.

Group 5

1. I'm usually physically hungry when I eat something.
2. Occasionally, I eat something on impulse even though I really am not hungry.
3. I have the regular habit of eating foods that I might not really enjoy to satisfy a hungry feeling even though, physically, I don't need the food.
4. Even though I'm not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat a food, like a sandwich that fills my mouth. Sometimes, when I eat the food to satisfy my mouth hunger, I then spit the food out so I won't gain weight.

Group 6

1. I don't feel any guilt or self-hate after I overeat.
2. After I overeat, occasionally I feel guilt or self-hate.
3. Almost all the time I experience strong guilt or self-hate after I overeat.

Group 7

1. I don't lose total control of my eating when dieting even after periods when I overeat.
2. Sometimes when I eat a "forbidden food" on a diet, I feel like I "blew it" and eat even more.
3. Frequently, I have the habit of saying to myself, "I've blown it now, why not go all the way" when I overeat on a diet. When that happens I eat even more.
4. I have a regular habit of starting strict diets for myself, but I break the diets by going on an eating binge. My life seems to be either a "feast" or "famine."

Group 8

1. I rarely eat so much food that I feel uncomfortably stuffed afterward.
2. Usually about once a month, I eat such a quantity of food; I end up feeling very stuffed.
3. I have regular periods during the month when I eat large amounts of food, either at mealtime or at snacks.
4. I eat so much food that I regularly feel quite uncomfortable after eating and sometimes a bit nauseous.

Group 9

1. My level of calorie intake does not go up very high or go down very low on a regular basis.
2. Sometimes after I overeat, I will try to reduce my caloric intake to almost nothing to compensate for the excess calories I've eaten.
3. I have a regular habit of overeating during the night. It seems that my routine is not to be hungry in the morning but overeat in the evening.
4. In my adult years, I have had week-long periods where I practically starve myself. This follows periods when I overeat. It seems I live a life of either "feast or famine."

Group 10

1. I usually am able to stop eating when I want to. I know when "enough is enough."
2. Every so often, I experience a compulsion to eat which I can't seem to control.
3. Frequently, I experience strong urges to eat which I seem unable to control but at other times I can control my eating urges.
4. I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily.

Group 11

1. I don't have any problem stopping eating when I feel full.
2. I usually can stop eating when I feel full but occasionally overeat, leaving me feeling uncomfortably stuffed.
3. I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal.
4. Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relieve my stuffed feeling.

Group 12

1. I seem to eat just as much when I'm with others (family, social gatherings) as when I'm by myself.
2. Sometimes, when I'm with other persons, I don't eat as much as I want to eat because I'm self-conscious about my eating.
3. Frequently, I eat only a small amount of food when others are present, because I'm very embarrassed about my eating.
4. I feel so ashamed about overeating that I pick times to overeat when I know no one will see me. I feel like a "closet eater."

Group 13

1. I eat three meals a day with only occasional between meal snacks.
2. I eat three meals a day, but I also normally snack between meals.
3. When I am snacking heavily, I get in the habit of skipping regular meals.
4. There are regular periods when I seem to be continually eating, with no planned meals.

Group 14

1. I don't think much about trying to control unwanted eating urges.
2. At least some of the time, I feel my thoughts are preoccupied with trying to control my eating urges.
3. I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
4. It seems to me that most of my waking hours are preoccupied by thoughts about eating or not eating. I feel like I'm constantly struggling not to eat.

Group 15

1. I don't think about food a great deal.
2. I have strong cravings for food but they last only for brief periods of time.
3. I have days when I can't seem to think about anything else but food.
4. Most of my days seem to be preoccupied with thoughts about food. I feel like I live to eat.

Group 16

1. I usually know whether or not I'm physically hungry. It takes the right portion of food to satisfy me.
2. Occasionally, I feel uncertain about knowing whether or not I'm physically hungry. At these times it's hard to know how much food it should take to satisfy me.
3. Even though I might know how many calories I should eat, I don't have any idea what is a "normal" amount of food for me.

NEQ

Please circle ONE answer for each question.

1. What How hungry are you usually in the morning?

0 1 2 3 4
Not at all A little Somewhat Moderately Very

2. When do you usually eat for the first time?

0 1 2 3 4
Before 9AM 9:01 to 12pm 12:01 to 3pm 3:01 to 6pm 6:01 or later

3. Do you have cravings or urges to eat snacks after supper, but before bedtime?

0 1 2 3 4
Not at all A little Somewhat Very Much So Extremely So

4. How much control do you have over your eating between supper and bedtime?

0 1 2 3 4
None at all A little Some Very Much Complete

5. How much of your daily food intake do you consume *after* supper?

0 1 2 3 4
0% 1 - 25% 26 - 50% 51 - 75% 76 - 100 %
(none) (up to a quarter) (about half) (more than half) (almost all)

6. Are you feeling blue or down in the dumps?

0 1 2 3 4
Not at all A little Somewhat Very much so Extremely

7. When you are feeling blue, when is your mood lower? _____ Check here if your mood does not change during the day

0 1 2 3 4
Early morning Late morning Afternoon Early evening Late evening/Night

8. How often do you have trouble getting to sleep?

0 1 2 3 4
Never Sometimes Half the time Usually Always

9. Other than only to use the bathroom, how often do you get up at least once in the middle of the night?

0 1 2 3 4
Never Less than once About once More than once Every night
a week a week a week

*******IF 0 ON #9, PLEASE STOP HERE*******

10. Do you have cravings or urges to eat snacks when you wake up at night?

0 1 2 3 4
None at all A little Somewhat Very much so Extremely so

11. Do you need to eat in order to get back to sleep when you awake at night?

0 1 2 3 4
Not at all A little Somewhat Very much so Extremely

12. When you get up in the middle of the night, how often to you snack?

0 1 2 3 4
Never Sometimes Half the time Usually Always

*******IF 0 ON #12, PLEASE STOP HERE*******

13. When you snack in the middle of the night, how aware are you of your eating?

0	1	2	3	4
Not at all	A little	Somewhat	Very much so	Completely

14. How much control do you have over your eating while you are up at night?

0	1	2	3	4
None at all	A little	Some	Very much	Complete

15. How long has your current episode of difficulties with night eating been going on?

_____ months _____ years

Appendix C

*Note to dissertation committee: This questionnaire is intended to serve as a manipulation check for the PMT variables. The following key will not appear in the questionnaire administered to participants in the study; rather, it is provided to assist the committee in identifying the content of each item in the questionnaire. "R" denotes an item that is reverse scored. * denotes that this item was removed after item analysis of the scales.*

- SEV = Severity (Items 1, 5R, 8, 21R, 25, 28, 32)
 VUL = Vulnerability (Items 5, 7, 12, 17, 18, 23, 27, 35)
 RE = Response Efficacy (Items 2, 10, 14, 20R, 22, 30, 34)
 SE = Self Efficacy (Items 3, 9, 13, 16R, 29, 31R, 36)
 RC = Response Costs (Items 4, 11, 15, 19, 24, 26R, 33)
 CRED = Credibility (Items 37, 38, 39R, 40)

Health and Eating Questionnaire

DIRECTIONS: Please indicate how much you agree or disagree with the following statements. Use the scale provided, where 1 = strongly disagree and 14 = strongly agree. Indicate your level of agreement by circling ONE number for each statement. Make sure you circle a NUMBER, not a word. Please complete all 6 pages of statements. Remember, all information you provide will be kept strictly confidential. Please be honest in your responses because your information is very important to us.

1. Eating more than a stomach pouch can hold after gastric bypass surgery may cause nausea, sweating, faintness, and vomiting. *

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	

2. When people don't overeat after surgery, the chances of permanent weight loss are high.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	

3. I have been provided with enough information that I can easily abstain from overeating for the rest of my life.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	

4. Trying to control my portion sizes will be very difficult to fit into my already busy schedule.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

5. I can suffer health problems if I overeat after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

6. It is not that big of a deal to overeat after gastric bypass surgery. People can still lose weight because their stomach is smaller.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

7. Because I overeat now, I am at risk for overeating after surgery. *

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

8. Eating restricted foods after surgery can lead to complications like constipation, headaches, and hair loss.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

9. I know I can eat only foods appropriate for my new stomach pouch after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

10. I can avoid hair loss by eating the correct foods in the correct amounts.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly disagree		moderately disagree		mildly disagree		neither agree nor		mildly agree		moderately agree		strongly agree	
			disagree										

11. It is too difficult for me to take problem foods (those I am tempted to eat too much of) out of my diet.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

12. After my surgery, I could vomit or even faint if I eat too much.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

13. I believe that I can successfully avoid overeating after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

14. Eating small amounts of food is the best way to avoid vomiting and fainting.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

15. I will miss eating foods that must be restricted after gastric bypass surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

16. It is overwhelming to me to think about the dietary changes I will have to make post surgery; I don't think I can do it.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

17. It would be easy to fall back into my old eating habits after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree		agree		agree		agree	
			disagree										

18. I am no more vulnerable to overeating after surgery than anyone else.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

19. If I have to eat healthy, small portions of food for the rest of my life, I will never be able to go out and eat with friends again.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

20. Following the recommended eating guidelines will not work—I am likely to regain my weight.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

21. People are not affected much if they eat more than they should after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

22. Following the recommended behaviors post-surgery will keep me from having serious health problems.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

23. If I cheat after surgery and start to reintroduce unhealthy foods back into my diet, I will regain weight.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

24. Foods like ice cream and cake taste so good, that I cannot give them up. *

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

25. Overeating after surgery can cause a person's stomach pouch to expand.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

26. It will be simple to always watch my portion sizes after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

27. If I eat too many restricted foods after my surgery, I could experience severe health consequences, such as dumping and hair loss.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

28. Eating more than a stomach pouch can hold after surgery can cause someone to gain weight.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

29. I will be able to keep my weight down.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

30. Eating minimal amounts of high-fat, sugary foods is the best way to avoid headaches and constipation.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

31. After surgery, it will be impossible for me to always watch my portion sizes.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

32. Overeating after surgery will reverse a person's weight loss.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

33. It will be difficult to find ways to cope with my feelings other than with food.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

34. Following suggested eating guidelines improves the chances of losing weight.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

35. If I begin to overeat after surgery, I will regain my weight.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

36. I have the self-control needed to keep my weight down after my surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

37. The material I just received was easy to understand.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

38. The information from the presentation seemed accurate and believable.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

39. I didn't really believe what I learned today.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

40. I did not learn anything from the presentation that I did not already know.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
			disagree										

Appendix D

Behavior Questionnaire

DIRECTIONS: Please indicate how much you agree or disagree with the following statements. Use the scale provided, where 1 = strongly disagree and 14 = strongly agree. Indicate your level of agreement by circling ONE number for each statement. Make sure you circle a NUMBER, not a word. Please complete both pages of statements. Remember, all information you provide will be kept strictly confidential. Please be honest in your responses because your information is very important to us.

1. I want to learn more about the dangers of overeating after gastric bypass surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

2. Following surgery, I plan to closely follow the recommended eating behavior guidelines.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

3. I will try my best to avoid overeating after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

4. After surgery, I plan on limiting my portion sizes so that I don't overeat.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

5. I plan on continuing to eat whatever I like after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

6. I plan on finding out more information about what I can and cannot eat after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

7. To prepare for surgery, I will start healthy eating habits such as limiting portion size and avoiding all sugar.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

8. I will strictly follow the eating behavior guidelines after surgery.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
strongly		moderately		mildly		neither		mildly		moderately		strongly	
disagree		disagree		disagree		agree nor		agree		agree		agree	
						disagree							

Appendix E

Post-Surgery Behavioral Questionnaire

DIRECTIONS: The following questions are designed to gather information on your post-surgical eating habits and behaviors. Remember, all information you provide will be kept strictly confidential. Please be honest in your responses. Your information is very important to us, and will help us understand how patients are able to follow the guidelines after surgery.

SECTION I: Personal Health and Medical Information

1. Please list any current medical conditions (i.e. Diabetes, High Blood Pressure, Thyroid problems, Pain):

2. Please describe any changes in your medical status since having weight loss surgery:

3. Please describe *in detail* any complications or medical problems that you may have experienced following weight loss surgery:

4. Have any of these complications required further surgeries or medical procedures, hospitalization(s), visits to physicians or other health care providers, or other medical care? (Circle) YES NO

If YES, please describe.

5. Please list all surgeries, medical procedures, or other hospitalizations and the dates:

<u>Procedure/Reason for Hospitalization</u>	<u>Date (mm/yy):</u>	<u>Complications/Length of Hospitalization</u>

6. **IMPORTANT.** Please list all medications you are currently taking. Include all vitamins, over the counter medications (e.g. allergy medications), and herbal supplements (e.g. Ginkgo Biloba, Echinacea, etc.).

<u>Medication Name</u>	<u>Dosage (mg)</u>	<u>Frequency (i.e.times per day)</u>	<u>Reason for taking?</u>

SECTION II: Weight History

1. What is your current height? _____ feet _____ inches
2. What is your current weight? _____ lbs.
3. What has been your lowest weight *after having* weight loss surgery? _____ lbs.
4. What was your weight *immediately prior to having* weight loss surgery? _____ lbs.
5. During the past 3 months, has your weight:
 - a). decreased by more than 10 pounds
 - b). decreased by 5-10 pounds
 - c). stayed about the same
 - d). increased by 5-10 pounds
 - e). increased by more than 10 pounds

SECTION III: Current Eating Habits and Behavior

1. Please indicate the foods you consume on a typical WEEKDAY.

Meal	Time	Location	Foods and Beverages Consumed (indicate amounts)
Breakfast			
Morning Snack			
Lunch			
Afternoon Snack			
Dinner/Supper			
Evening Snack			

2. Please indicate the foods you consume on a typical WEEKEND DAY.

Meal	Time	Location	Foods and Beverages Consumed (indicate amounts)
Breakfast			
Morning Snack			
Lunch			
Afternoon Snack			
Dinner/Supper			
Evening Snack			

3. How many days a week do you eat the following meals?

Breakfast _____ days a week Mid-morning snack _____ days a week
 Lunch _____ days a week Mid-afternoon snack _____ days a week
 Dinner/Supper _____ days a week Evening snack _____ days a week

4. Please specify the amount (in 8 oz. servings) of the following fluids that you consume during a typical day:

_____ Protein Shake _____ Whole milk _____ Water _____ Seltzer water
 _____ Fruit juice _____ Coffee _____ Unsweet tea _____ Sweet tea
 _____ Diet soda _____ Sugared soda _____ Beer/Wine _____ Other (list): _____

5. Please list your current favorite foods: _____

SECTION IV: Eating Behaviors

1. Over the past six months, have you eaten more than you should have within any two-hour period?

Yes No

2. During the times when you eat this way, do you feel you can't stop eating or control what or how much you were eating? (If you answered No to Question 1, please go to Question 4).

Yes No

3. Over the past six months, approximately how often, on average, have you felt out of control while eating more food than you should have? (If this does not apply to you, please go to Question 4).

- 1=Less than one day a week**
- 2=One day a week**
- 3=Two or three days a week**
- 4=Four or five days a week**
- 5=nearly every day**

4. Do you have any of the following experiences when you eat more than you think you should? (Please go to Question 6 if never eat more than you think you should).

- | | | |
|---|------------|-----------|
| a. Eating much more rapidly than usual? | Yes | No |
| b. Eating until you felt uncomfortably full? | Yes | No |
| c. Eating large amounts of food when you didn't feel physically hungry? | Yes | No |
| d. Eating alone because you were embarrassed by how much you were eating? | Yes | No |
| e. Feeling disgusted with yourself, depressed, or feeling very guilty after overeating? | Yes | No |

5. In general, how upset do you get when you eat more than you think you should?

- 1=Not at all**
- 2=Slightly**
- 3=Moderately**
- 4=Greatly**
- 5=Extremely**

6. Have you been consciously trying to change your eating habits over the past six months?

Yes No

7. Has there EVER been a period of time in your life (lasting six months or longer) where you engaged in *regular episodes* of eating large amounts of food within any two-hour period?

Yes No

8. If Yes to Question 7, when you ate this way did you feel you couldn't stop eating or control what or how much you were eating?

Yes No

9. Are you afraid of losing control over eating?

Yes No

10. Over the past few months have you spent much time between meals thinking about food, eating, or calories?

Yes No

11. Over the past few months have you had problems with food becoming stuck in the small opening of your stomach (i.e. plugging)?

Yes No

12. If Yes, what situations are associated with plugging (when food becomes stuck in the small opening of your stomach)? (Circle all that apply)

- 1. Eating too rapidly**
- 2. Not chewing thoroughly**
- 3. Being rushed**
- 4. Under Stress**
- 5. Other: please describe _____**

13. Approximately how many times (on average) have you experienced plugging? Please make your best estimate for each time period below.

a) Over the past week? (Circle)

0-2 3-4 5-6 Nearly every day Several times a day

b) Over the past month? (Circle)

0-2 3-8 2 times per week Nearly every day Several times a day

c) Over the past two months? (Circle)

0-2 3-15 2 times per week Nearly every day Several times a day

d) Over the past six months? (Circle)

<Once per month ~1-2 times per month ~4-7 times per month
~2 times per week Nearly Every day Several times a day

14. If you experience plugging, how do you typically react? (Circle ONE)

- 0. Not applicable, I do not experience plugging**
- 1. Waiting until gone**
- 2. Spontaneous vomiting**
- 3. Self induced vomiting**
- 4. Visit Emergency room**
- 5. Other : please describe _____**

15. Over the past few months have you had any episodes of nausea, spontaneous vomiting, feeling faint or dizzy, or other odd sensations during or up to 3 hours after food intake (i.e. dumping)?

Yes No

16. If yes, what foods cause dumping? (Circle all that apply)

- 1. Sweets/Candy**
- 2. Ice cream**
- 3. Other dairy products**
- 4. Syrup**
- 5. Cakes/Bars/Cookies**
- 6. Soft Drinks**
- 7. Sweet alcoholic beverages**
- 8. Other: please describe _____**

17. If you experience dumping, how do you typically react? (Circle ONE)

0. Not applicable, I do not experience dumping

1. Rest

2. Emergency room

3. Other : please describe _____

18. Approximately how many times (on average) have you experienced dumping? Please make your best estimate for each time period below.

a) Over the past week? (Circle)

0-2 3-4 5-6 Nearly every day Several times a day

b) Over the past month? (Circle)

0-2 3-8 ~2 times per week Nearly every day Several times a day

c) Over the past two months? (Circle)

0-2 3-8 ~2 times per week Nearly every day Several times a day

d) Over the past six months? (Circle)

<Once per month ~1-2 times per month ~4-7 times per month

~2 times per week Nearly Every day Several times a day

19. Over the past few months have you picked at (or nibbled) food between meals and snacks (i.e. “picking” meaning eating in an unplanned and repetitious way). **Yes No**

a. If yes, what have you typically eaten at these times?

Food and Beverage Consumed (Indicate Amount)

b. Why would you not call these episodes snacks? _____

c. During these times when you pick or nibble, have you known in advance how much you are going to eat?

Yes No

20. Do you experience cravings for food?

Yes No

a. If Yes, what foods? **Please list:** _____

31. Is there anything that you know now that you wish you would have known prior to getting weight loss surgery? Please describe: _____

32. If you had the choice to make over again, would you choose to have weight loss surgery? Please explain.

33. Please rate the following aspects of eating:

a. Speed of eating	0	1	2	3	4	5
	Extremely Slow			Extremely Fast		
b. Importance of eating	0	1	2	3	4	5
	None			Extreme		
c. Time spent on planning meals	0	1	2	3	4	5
	None			Extreme		
d. Time spent Chewing	0	1	2	3	4	5
	Minimal			Extreme		

SECTION V: Physical Activity

1. Are you currently exercising? (Circle). YES NO

If YES: How many days (on average) do you engage in exercise? _____ day(s) per week

When you exercise, typically what type of activit(ies) do you engage in? _____

Typically, how much time each day (in minutes) do you spend exercising? _____ minutes

On a scale of 1-10, with 1 = least intense, please rate the typical intensity of your exercise: ____

Approximately how long (in months) have you been exercising this amount? ____ month(s)

2. When was the last time you engaged in exercise that lasted over 20 minutes in a row? ____ mm/dd/yy

3. To what extent do you *enjoy* physical activity? (Circle one).

Not at all Slightly Moderately Greatly

4. List types of physical activity that you would engage in (e.g. walking, biking, water aerobics, etc.)

5. Do you have physical problems that limit your physical activity? (Circle). YES NO

If YES, please describe. _____

6. How many hours of TV do you watch on an average weekday ? _____ hours

7. How many hours of TV do you watch on an average weekend day ? _____ hours

8. Please describe your daily lifestyle activity (i.e. how active you are) by picking a number from 1 to 10 in which 1=not active at all and 10=very active. Your number is _____

PART II: EATING AND FOOD QUESTIONNAIRES

DIRECTIONS: The following questionnaires are designed to assess your eating behaviors and attitudes, quality of life, food preferences, and your ways of thinking. It is VERY important that you answer honestly and complete all questions, even those that ask for sensitive information. Take your time to answer the questions to the best of your ability and be as open as possible. There are no right or wrong answers.

QEWP-R

Please circle the appropriate number or response, or write in information where asked.

21. Have you ever been overweight by at least 10 lbs as a child or 15 lbs as an adult (when not pregnant)?

1=Yes 2=No or not sure

IF YES: How old were you when you were first overweight (at least 10 lbs as a child or 15 lbs as an adult?) If you are not sure, what is your best guess?

_____ years

22. How many times (approximately) have you lost 20 lbs or more—when you weren't sick—and then gained it back?

1=Never
2=Once or twice
3=Three or four times
4=Five times or more

23. During the past **six** months, did you often eat within any two-hour period what most people would regard as an unusually large amount of food?

1=Yes 2=No

IF NO: SKIP TO QUESTION 8

24. During the times when you ate this way, did you often feel you couldn't stop eating or control what or how much you were eating?

1=Yes 2=No

IF NO: SKIP TO QUESTION 8

25. During the past **six** months, how often, on average, did you have times when you ate this way—that is, large amounts of food plus the feeling that your eating was out of control? (There may have been some weeks when it was not present—just average those in).

1=Less than one day a week
2=One day a week
3=Two or three days a week
4=Four or five days a week
5=nearly every day

26. Did you usually have any of the following experiences during these occasions?

- | | | |
|---|------------|-----------|
| a. Eating much more rapidly than usual? | Yes | No |
| b. Eating until you felt uncomfortably full? | Yes | No |
| c. Eating large amounts of food when you didn't feel physically hungry? | Yes | No |
| d. Eating alone because you were embarrassed by how much you were eating? | Yes | No |
| e. Feeling disgusted with yourself, depressed, or feeling very guilty after overeating? | Yes | No |

27. Think about a typical time when you ate this way—that is, large amounts of food plus the feeling that your eating was out of control.

a. What time of day did the episode start?

1=Morning (8 AM to 12 Noon)

2=Early afternoon (12 Noon to 4 PM)

3=Late afternoon (4 PM to 7 PM)

4=Evening (7 PM-10 PM)

5=Night (After 10 PM)

b. Approximately how long did this episode of eating last, from the time you started to eat to when you stopped and didn't eat again for at least two hours

_____ hours _____ minutes

c. As best you can remember, please list everything you might have eaten or drunk during that episode. If you ate for more than two hours, describe the foods eaten and liquids drunk during the two hours that you ate the most. Be specific—include brand names where possible and amounts as best you can estimate. (For example: 7 ounces Ruffles potato chips; 1 cup Breyer's chocolate ice cream with 2 tablespoons hot fudge; 2 8-ounce glasses of Coca-cola, 1 ½ ham and cheese sandwiches with mustard).

Food and Beverage Consumed (indicate amount)

d. At the time this episode started, how long had it been since you had previously finished eating a meal or snack?

_____ hours _____ minutes

28. In general, during the past **six** months, how upset were you by overeating (eating more than you think is best for you)?

1=Not at all

2=Slightly

3=Moderately

4=Greatly

5=Extremely

29. In general, during the past **six** months, how upset were you by the feeling that you couldn't stop eating or control what or how much you were eating?

1=Not at all

2=Slightly

3=Moderately

4=Greatly

5=Extremely

30. During the past **six** months, how important has your weight or shape been in how you feel about or evaluate yourself as a person—as compared to other aspects of your life, such as how you do at work, as a parent, or how you get along with other people?

1=Weight and shape were not very important

2=Weight and shape played a part in how you felt about yourself

3=Weight and shape were among the main things that affected how you felt about yourself

4=Weight and shape were the most important things that affected how you felt about yourself

31. During the past **three** months, did you ever make yourself vomit in order to avoid gaining weight after binge eating?

1=Yes

2=No

IF YES: How often, on average, was that?

1=Less than once a week

2=Once a week

3=Two or three times a week

4=Four or five times a week

5=More than five times a week

32. During the past **three** months, did you ever take more than twice the recommended dose of laxatives in order to avoid gaining weight after binge eating?

1=Yes

2=No

IF YES: How often, on average, was that?

1=Less than once a week

2=Once a week

3=Two or three times a week

4=Four or five times a week

5=More than five times a week

33. During the past **three** months, did you ever take more than twice the recommended dose of diuretics (water pills) in order to avoid gaining weight after binge eating?

1=Yes

2=No

IF YES: How often, on average was that?

1=Less than once a week

2=Once a week

3=Two or three times a week

4=Four or five times a week

5=More than five times a week

34. During the past **three** months, did you ever fast—not eat anything at all for at least 24 hours—in order to avoid gaining weight after binge eating?

1=Yes

2=No

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

35. During the past **three** months, did you ever exercise for more than an hour specifically in order to avoid gaining weight after binge eating?

1=Yes 2=No

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

36. During the past three months, did you ever take more than twice the recommended dose of a diet pill in order to avoid gaining weight after binge eating?

1=Yes 2=No

IF YES: How often, on average was that?

- 1=Less than once a week
- 2=Once a week
- 3=Two or three times a week
- 4=Four or five times a week
- 5=More than five times a week

37. During the past six months, did you go to any meetings of an organized weight control program? (e.g. Weight Watchers, Optifast, Nurtisystem) or a self-help group (e.g., TOP, Overeaters Anonymous)?

1=Yes 2=No

IF YES: Name of program _____

38. Since you have been an adult—18 years old—how much of the time have you been on a diet, been trying to follow a diet, or in some way been limiting how much you were eating in order to lose weight or keep from regaining weight you had lost? Would you say...?

- 1=None or hardly any of the time
- 2=About a quarter of the time
- 3=About a half of the time
- 4=About three-quarters of the time
- 5=Nearly all of the time

39. SKIP THIS QUESTION IF YOU NEVER LOST AT LEAST 10 LBS BY DIETING:

How old were you the first time you lost at least 10 lbs by dieting, or in some way limiting how much you ate? If you are not sure, what is your best guess?

_____ years

40. SKIP THIS QUESTION IF YOU'VE NEVER HAD EPISODES OF EATING UNUSUALLY LARGE AMOUNTS OF FOOD ALONG WITH THE SENSE OF LOSS OF CONTROL: How old were you when you first had times when you ate large amounts of food and felt that your eating was out of control? If you are not sure, what is your best guess?

_____ years

BES

EATING HABITS CHECKLIST

Below are groups of numbered statements. Read all of the statements in each group and circle the number of the one that best describes the way you feel about the problems you have controlling you eating behavior.

Group 1

5. I don't feel self-conscious about my weight or body size when I'm with others.
6. I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
7. I do get self-conscious about my appearance and weight, which makes me feel disappointed in myself.
8. I feel very self-conscious about my weight and frequently I feel intense shame and disgust for myself. I try to avoid social contacts because of my self consciousness.

Group 2

5. I don't have any difficulty eating slowly in the proper manner.
6. Although I seem to "gobble down" foods, I don't end up feeling stuffed because of eating too much.
7. At times, I tend to eat quickly and then I feel uncomfortably full afterwards.
8. I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I've eaten too much.

Group 3

5. I feel able to control my eating urges when I want to.
6. I feel like I have failed to control my eating more than the average person.
7. I feel utterly helpless when it comes to feeling in control of my eating urges.
8. Because I feel so helpless about controlling my eating, I have become very desperate about trying to get in control.

Group 4

5. I don't have the habit of eating when I'm bored.
6. I sometimes eat when I'm bored, but often I'm able to "get busy" and get my mind off food.
7. I have a regular habit of eating when I'm bored, but occasionally, I can use some other activity to get my mind off eating.
8. I have a strong habit of eating when I'm bored. Nothing seems to help me break the habit.

Group 5

5. I'm usually physically hungry when I eat something.
6. Occasionally, I eat something on impulse even though I really am not hungry.
7. I have the regular habit of eating foods that I might not really enjoy to satisfy a hungry feeling even though, physically, I don't need the food.
8. Even though I'm not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat a food, like a sandwich that fills my mouth. Sometimes, when I eat the food to satisfy my mouth hunger, I then spit the food out so I won't gain weight.

Group 6

4. I don't feel any guilt or self-hate after I overeat.
5. After I overeat, occasionally I feel guilt or self-hate.
6. Almost all the time I experience strong guilt or self-hate after I overeat.

Group 7

5. I don't lose total control of my eating when dieting even after periods when I overeat.
6. Sometimes when I eat a "forbidden food" on a diet, I feel like I "blew it" and eat even more.
7. Frequently, I have the habit of saying to myself, "I've blown it now, why not go all the way" when I overeat on a diet. When that happens I eat even more.
8. I have a regular habit of starting strict diets for myself, but I break the diets by going on an eating binge. My life seems to be either a "feast" or "famine."

Group 8

5. I rarely eat so much food that I feel uncomfortably stuffed afterward.
6. Usually about once a month, I eat such a quantity of food; I end up feeling very stuffed.
7. I have regular periods during the month when I eat large amounts of food, either at mealtime or at snacks.
8. I eat so much food that I regularly feel quite uncomfortable after eating and sometimes a bit nauseous.

Group 9

5. My level of calorie intake does not go up very high or go down very low on a regular basis.
6. Sometimes after I overeat, I will try to reduce my caloric intake to almost nothing to compensate for the excess calories I've eaten.
7. I have a regular habit of overeating during the night. It seems that my routine is not to be hungry in the morning but overeat in the evening.
8. In my adult years, I have had week-long periods where I practically starve myself. This follows periods when I overeat. It seems I live a life of either "feast or famine."

Group 10

5. I usually am able to stop eating when I want to. I know when "enough is enough."
6. Every so often, I experience a compulsion to eat which I can't seem to control.
7. Frequently, I experience strong urges to eat which I seem unable to control but at other times I can control my eating urges.
8. I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily.

Group 11

5. I don't have any problem stopping eating when I feel full.
6. I usually can stop eating when I feel full but occasionally overeat, leaving me feeling uncomfortably stuffed.
7. I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal.
8. Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relieve my stuffed feeling.

Group 12

5. I seem to eat just as much when I'm with others (family, social gatherings) as when I'm by myself.
6. Sometimes, when I'm with other persons, I don't eat as much as I want to eat because I'm self-conscious about my eating.
7. Frequently, I eat only a small amount of food when others are present, because I'm very embarrassed about my eating.
8. I feel so ashamed about overeating that I pick times to overeat when I know no one will see me. I feel like a "closet eater."

Group 13

5. I eat three meals a day with only occasional between meal snacks.
6. I eat three meals a day, but I also normally snack between meals.
7. When I am snacking heavily, I get in the habit of skipping regular meals.
8. There are regular periods when I seem to be continually eating, with no planned meals.

Group 14

5. I don't think much about trying to control unwanted eating urges.
6. At least some of the time, I feel my thoughts are preoccupied with trying to control my eating urges.
7. I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
8. It seems to me that most of my waking hours are preoccupied by thoughts about eating or not eating. I feel like I'm constantly struggling not to eat.

Group 15

5. I don't think about food a great deal.
6. I have strong cravings for food but they last only for brief periods of time.
7. I have days when I can't seem to think about anything else but food.
8. Most of my days seem to be preoccupied with thoughts about food. I feel like I live to eat.

Group 16

4. I usually know whether or not I'm physically hungry. It takes the right portion of food to satisfy me.
5. Occasionally, I feel uncertain about knowing whether or not I'm physically hungry. At these times it's hard to know how much food it should take to satisfy me.
6. Even though I might know how many calories I should eat, I don't have any idea what is a "normal" amount of food for me.

NEQ

Please circle ONE answer for each question.

1. What How hungry are you usually in the morning?

0	1	2	3	4
Not at all	A little	Somewhat	Moderately	Very

2. When do you usually eat for the first time?

0	1	2	3	4
Before 9AM	9:01 to 12pm	12:01 to 3pm	3:01 to 6pm	6:01 or later

3. Do you have cravings or urges to eat snacks after supper, but before bedtime?

0	1	2	3	4
Not at all	A little	Somewhat	Very Much So	Extremely So

4. How much control do you have over your eating between supper and bedtime?

0	1	2	3	4
None at all	A little	Some	Very Much	Complete

5. How much of your daily food intake do you consume *after* supper?

0	1	2	3	4
0%	1 - 25%	26 - 50%	51 - 75%	76 - 100 %
(none)	(up to a quarter)	(about half)	(more than half)	(almost all)

6. Are you feeling blue or down in the dumps?

0	1	2	3	4
Not at all	A little	Somewhat	Very much so	Extremely

7. When you are feeling blue, when is your mood lower? _____ Check here if your mood does not change during the day

0	1	2	3	4
Early morning	Late morning	Afternoon	Early evening	Late evening/Night

8. How often do you have trouble getting to sleep?

0	1	2	3	4
Never	Sometimes	Half the time	Usually	Always

9. Other than only to use the bathroom, how often do you get up at least once in the middle of the night?

0	1	2	3	4
Never	Less than once a week	About once a week	More than once a week	Every night

*******IF 0 ON #9, PLEASE STOP HERE*******

10. Do you have cravings or urges to eat snacks when you wake up at night?

0	1	2	3	4
None at all	A little	Somewhat	Very much so	Extremely so

11. Do you need to eat in order to get back to sleep when you awake at night?

0	1	2	3	4
Not at all	A little	Somewhat	Very much so	Extremely

12. When you get up in the middle of the night, how often to you snack?

0	1	2	3	4
Never	Sometimes	Half the time	Usually	Always

*******IF 0 ON #12, PLEASE STOP HERE*******

13. When you snack in the middle of the night, how aware are you of your eating?

0	1	2	3	4
Not at all	A little	Somewhat	Very much so	Completely

14. How much control do you have over your eating while you are up at night?

0	1	2	3	4
None at all	A little	Some	Very much	Complete

15. How long has your current episode of difficulties with night eating been going on?
_____ months _____ years

Appendix F
UNIVERSITY OF ALABAMA
Informed Consent for a Research Study

You are being asked to take part in a research study. The principal investigator of the study is Abbe Boeka, M.A., who is a doctoral student at the University of Alabama. Ms. Boeka is being supervised by Dr. Steve Prentice-Dunn, who is a professor in the department of psychology at the University of Alabama.

What is this study about?

The purpose of this study is to help create an educational program for weight loss surgery patients at UAB. This program will provide patients with health and nutrition information.

Why is this study important--What good will the results do?

This knowledge is useful to the medical community so that more informative educational programs can be delivered to patients undergoing weight loss surgery. It is hoped that as better educational programs are developed, patient success will increase.

Why have I been asked to take part in this study?

You have been selected to participate because you are thinking about having weight loss surgery at UAB.

How many people besides me will be in this study?

About 200 other people will be in this study.

What will I be asked to do in this study?

If you participate in this research study, you will 1) be asked to fill out several questionnaires; 2) attend one group session that will last approximately one hour, and 3) you will later receive mailings and follow-up questionnaires to fill out.

The group session will consist of you and 5-7 other patients who are interested in weight loss surgery. During the group session, which will last approximately 1 hour, you will receive information about nutrition and health behavior. You will watch videos, read information about nutrition and health behavior, and participate in group discussions. You will also be asked to fill out questionnaires about your eating attitudes and behaviors.

One week after this session, you will receive more nutrition and health behavior information in the mail. You will be asked to read this information and fill out questionnaires. Some of the questionnaires will be similar to those that you completed during the one hour session. It should take you approximately 30-45 minutes to complete these questionnaires. You will be provided with a stamped envelope to send the questionnaires back to the researcher. Three months and 6 months after you have weight loss surgery, you will again receive the same questionnaires in the mail. You will be asked fill out these questionnaires again (at both 3 months and 6 months post-surgery) and to send these back to the researcher. You will be provided with a stamped envelope to do so each time.

How much time will I spend being in this study?

Being in this study will take about 3 ½ hours of your time. The group session will last approximately 1 hour, and it will take you about 45 minutes to complete the follow-up questionnaires (sent three times: at one week after the group session, and 3 and 6 months after you have weight loss surgery).

Will I be paid for being in this study?

You will not be paid for being in this study. However, participating in this study will count as 1 of your bariatric support group meetings.

Will being in this study cost me anything?

There will be no cost to you except for your time in completing the questionnaires.

Can the researcher take me out of this study?

The only reasons that you would not complete the study are if you decide to drop out or if you do not have weight loss surgery at UAB.

What are the benefits (good things) that may happen to me if I am in this study?

Although benefits cannot be promised in research, it is likely that you will learn ways to be successful after weight loss surgery. However, you may or may not regard learning information about weight loss success as a benefit.

What are the benefits to scientists or society?

You can benefit by knowing that you have contributed to the development of an educational program for weight loss surgery patients. As researchers learn more about this area, the medical community can provide better information to patients as they prepare for surgery.

What are the risks (dangers or harm) to me if I am in this study?

No risks or discomforts are expected to occur if you decide to participate in this study. Some of the questions you will answer will ask about your eating behaviors and attitudes. You may find that these questions ask sensitive information. Remember that you do not have to answer any question that makes you feel uncomfortable and you can discontinue participation at any time without consequence.

How will my confidentiality (privacy) be protected? What will happen to the information the study keeps on me?

All materials associated with this study will be kept confidential. That means that your name and other personal information will not be linked to any of your individual responses on the questionnaires. Your personal information will be removed and will be replaced with a participant number to ensure confidentiality. All study materials will be kept in a secure location and only the researcher, the faculty supervisor, and sub-investigators involved in this study will have access to your information. The results will be analyzed as a group, and thus, your individual identification will not be possible.

What are the alternatives to being in this study? Do I have other choices?

An alternative procedure would be to decline participation in this study.

What are my rights as a participant?

You are not obligated to participate in this study. Your participation is completely voluntary. Your decision whether or not to participate will have no effect on the quality of your medical care or your surgical status. Should you choose not to participate, nothing will be different with your pre-surgical or post-surgical routine.

The University of Alabama Institutional Review Board (IRB) is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

Who do I call if I have questions or problems?

If you have questions about the study right now, please ask them. If you have any future questions about the research, Abbe Boeka will be glad to answer them. Her number is 205-348-5000 and her email address is boeka001@bama.ua.edu. If you have questions about your rights as a person taking part in a research study, you may call the Research Compliance Officer at UA at (205)-348-5152.

I have read this consent form. The study has been explained to me. I understand what I will be asked to do. I freely agree to take part in it. I will receive a copy of this consent form to keep.

Signature of Research Participant _____ Date

Investigator _____ Date

Appendix G



Consent to Participate in Research



TITLE OF RESEARCH: Effects of a Psychosocial Intervention on Eating Behavior Compliance in Bariatric Surgery Patients

INVESTIGATOR: Abbe Boeka, M.A. (Principal Investigator)
Kristine Lokken, Ph.D. (Faculty Supervisor)

Explanation of Procedures

You are being invited to participate in a research study designed to help create an educational program for weight loss surgery patients at UAB. This program will provide patients with health and nutrition information. You have been selected to participate because you are thinking about having weight loss surgery at UAB.

If you participate in this research study, you will 1) be asked to fill out several questionnaires; 2) attend one group session that will last approximately one hour, and 3) you will later receive mailings and follow-up questionnaires to fill out.

The group session will consist of you and 5-7 other patients who are interested in weight loss surgery. During the group session, you will receive information about nutrition and health behavior. You will watch videos, read information about nutrition and health behavior, and participate in group discussions. You will also be asked to fill out questionnaires about your eating attitudes and behaviors.

One week after this session, you will receive more nutrition and health behavior information in the mail. You will be asked to read this information and fill out questionnaires. Some of the questionnaires will be similar to those that you completed during the one hour session. It should take you approximately 30-45 minutes to complete these questionnaires. You will be provided with a stamped envelope to send the questionnaires back to the researcher. Three months and 6 months after you have weight loss surgery, you will again receive the same questionnaires in the mail. You will be asked fill out these questionnaires again (at both 3 months and 6 months post-surgery) and to send these back to the researcher. You will be provided with a stamped envelope to do so each time.

In exchange for your participation, you will receive credit towards 1 of your mandatory support group meetings.

Risks and Discomforts

The only risk from participating in this study is a loss of confidentiality. Some of the questions you will answer will ask about your eating behaviors and attitudes. You may find that these questions ask sensitive information. Remember that you do not have to answer any question that makes you feel uncomfortable and you can discontinue participation at any time without consequence.

Benefits

You may not derive any direct benefit from participating in this research. However, you can benefit by knowing that you have contributed to the development of an educational program for weight loss surgery patients. As researchers learn more about this area, the medical community can provide better information to patients as they prepare for surgery.

Alternatives

An alternative procedure would be to decline participation in this study.

Confidentiality

All materials associated with this study will be kept confidential to the extent of the law. That means that your name and other personal information will not be linked to any of your individual responses on the questionnaires. Your personal information will be removed and will be replaced with a participant number to ensure confidentiality. All study materials will be kept in a secure location and only the researcher, the faculty supervisor, and sub-investigators involved in this study will have access to your information. The results will be analyzed as a group, and thus, your individual identification will not be possible. The UAB Institutional Review Board may review the research records for auditing purposes.

Withdrawal Without Prejudice

You are not obligated to participate in this study. Your participation is completely voluntary. Your decision whether or not to participate will have no effect on the quality of your medical care or your surgical status. Should you choose not to participate, nothing will be different with your pre-surgical or post-surgical routine.

Significant New Findings

Any significant new findings that develop during the course of the study that may affect your willingness to continue in the research will be provided to you by the researchers.

Cost of Participation

There will be no cost to you from participation in this research.

Payment for Participation in Research

For your participation (or discontinuation), you will receive credit of attendance at 1 bariatric support group meeting.

Questions

If you have any questions about the research, Abbe Boeka will be glad to answer them. Her number is 205-348-5000 and her email address is boeka001@bama.ua.edu. If you have questions about your rights as a research participant, you may contact Ms. Sheila Moore, Director of the Office of the Institutional Review Board for Human Use (IRB). Ms. Moore may be reached at (205) 934-3789 or 1-800-822-8816, press the option for an operator/attendant and ask for extension 4-3789 between the hours of 8:00 a.m. and 5:00 p.m. CT, Monday through Friday.

Legal Rights

You are not waiving any of your legal rights by signing this consent form.

Signatures

Your signature below indicates that you agree to participate in this study. You will receive a copy of this signed informed consent.

Signature of Participant

Date

Signature of Investigator

Date

Appendix H

PMT-based Essay

Directions: The essay we are about to read will provide you with information about the lifestyle changes that patients need to make after having gastric bypass surgery. If you do not understand some of the information, please ask the study's investigator for clarification.

Although you may have weight loss surgery to help you lose weight, it is still up to *you* to change your eating habits. Listening carefully to this essay can increase your chances for successful weight loss.

Weight Loss Surgery changes your body. It's up to you to change your lifestyle.

Weight loss surgery has helped thousands of people lose weight. In fact, almost 90% of patients who undergo weight loss surgery can expect to lose 30-50% of their body weight after surgery. That means that it is possible for a 400 pound man to lose up to 200 pounds after surgery!

Choosing to have weight loss surgery is a major decision. After surgery, your body will be changed. However, this does not mean that *you* will be changed. After surgery, you are still the same person. You think the same, behave the same, and have the same emotions that you did before the surgery. This means that you must drastically change your eating and activity habits to be successful with weight loss. Not changing these habits can cause you to re-gain your weight. In addition, you can suffer severe damage to your health.

Permanent weight loss and good health means changing your habits.

While the gastric bypass surgery will help reduce the number of calories patients can eat at one time, to lose weight successfully, they must follow the eating guidelines for the rest of their lives. Examples of some of the guidelines are:

- Never eat more than the new stomach pouch can hold
- Avoid sugar and sugary products
- Avoid high-calorie liquids
- Chew food thoroughly and eat slowly

Failure to follow guidelines can damage your health.

Most information that is given to weight loss surgery patients does not focus on what might happen if patients overeat or eat the wrong things after surgery. As a result, most people don't think that having poor eating habits after surgery will do much harm to them. This is false! Overeating and eating the wrong types of foods after gastric bypass surgery can have many damaging consequences, such as:

Nausea and vomiting. These can occur after eating too fast, drinking liquids while eating, not chewing enough, or eating more than the new stomach pouch can comfortably hold.

Dumping Syndrome. This serious condition happens when a patient puts the wrong foods (usually sweet or sugary foods) into their body or eats too much of them. This causes unpleasant symptoms like nausea, chills, confusion, and diarrhea. One person described dumping in the following way:

“Shortly after eating a food I don't tolerate (sugar, milk, sugary milk products or starchy carbohydrates) I begin to feel a bit disoriented, maybe dizzy and then an overall sense of confusion or panic takes over. Then I begin sweating. Profuse sweating that can completely soak my hair, my clothes; it drips and glistens on my skin. During this state of sweaty panic I feel like I'm out of my mind! A few times during extremely dramatic dumping episodes I literally thought I was dying.”

Failure to follow guidelines can cause you to regain your weight.

There are several ways to gain weight after surgery, such as not eating planned meals, grazing on small amounts of food throughout the day, or eating larger amounts of soft foods or drinking high calorie liquids. Overeating, even snacking or nibbling throughout the day, can add hundreds of calories a day. Eating in this way can actually reverse your entire weight loss after surgery.

You are at risk for negative health effects and weight regain after surgery.

At first, your appetite will be decreased and it is physically impossible to eat large portions of food after surgery because your new stomach is small. However, you will eventually be able to eat larger portions because your stomach pouch will stretch slightly. It is surprisingly easy to overeat and even to choose unhealthy foods after weight loss surgery.

There are many ways to sabotage your weight loss after having surgery. First, if you do not plan your meals, you are setting yourself up for overeating or eating foods that you should avoid.

Second, most weight loss surgery patients have used food to comfort themselves in the past. Foods like sweets and baked goods are often used to help people feel better. Such habits are hard to break.

Third, you may think that if you cheat and snack here and there, that you will still lose weight and keep it off. But did you know that snacking is the single biggest problem for people after having weight loss surgery? It is easy to tell yourself, “go ahead, one snack won’t hurt me, I deserve it”. But when you begin to snack, your weight is in danger.

Finally, after you have weight loss surgery, you will be surrounded by people who can eat “normally”. It may be very difficult for you to attend family gatherings, holidays, and go out to eat with friends when you are not able to eat the foods that others can enjoy.

By now you should be able to see that everyone is at risk for overeating after surgery. Poor eating habits and eating more than you should are what contributed to your being overweight in the first place. You may think that the surgery “won’t let you” eat as much, but

this is not true! You *can* eventually overeat after weight loss surgery. One patient described her struggles with weight regain after surgery:

"I had my weight loss surgery almost 3 years ago, lost about 100 pounds, and watched my eating until a year ago. I was feeling very "normal" and foolishly started eating like a "normal" person, which of course meant snacking. I have done the unthinkable and gained a lot of weight - almost back to what I was just after surgery. I am horrified and ashamed."

You can be successful with weight loss surgery.

Successful weight loss surgery is possible only with your full commitment to sticking to the post-surgery eating rules. Making a commitment to the lifestyle changes will be difficult. It may seem discouraging, but there are many things that you can do to prevent complications and weight regain after surgery.

Remember, **never eat more than your stomach pouch can hold.** It is very important that you do not overeat after you have weight loss surgery. People tend to overeat when they are extremely hungry, do not have healthy foods available, or eat in response to an emotion or event. You must always be prepared for these times when you are likely to overeat.

Planning your meals can prevent overeating.

A key element to success is **planning.** Planning your meals in advance will help you avoid overeating when you are hungry and will help you make healthier eating choices. Many doctors have found that if patients can commit at least 15 minutes per day to planning meals, they can successfully follow the eating rules. Some patients find that it is easier to set their alarm clock 15 minutes earlier, while some prefer to spend a few minutes planning their meals

the night beforehand. Whatever you prefer to do, it is important that you set aside time *each day* to plan what you are going to eat. Also, keeping healthy foods with you (for example, in your desk at work, in the car when you are running errands) will prevent eating whatever is available when you are hungry.

Learning coping skills will increase your weight loss success.

Sugary foods, like candy, cookies, ice cream, milkshakes or slushes, soda pop, sweetened juices or gelatin, and most desserts, should be avoided after surgery. However, these are typically foods that most of turn to when we are feeling blue or down in the dumps. It is important to learn ways to cope with your emotions without using food *before* you have surgery so that you will use these foods to cope with negative emotions after surgery. There are many things that you can substitute for food when you are feeling down, like calling a friend, relaxing, exercising, or distracting yourself with an activity.

It may be helpful to keep a list of things that you can do in place of eating. When you have a craving for a food that you should avoid, you can turn to this list to remind yourself of what you can do instead. You may find that once you start to do an activity from your list, you have forgotten about your craving!

It is also important to remember that if you do not have unhealthy foods on hand, then you are less likely to turn to them when you are feeling bad. If you don't buy sweets, then they will not be available in your house, and therefore you cannot eat them. Stock your kitchen with only healthy, appropriate foods, and you will have them available when you are hungry. If you ever have a craving that cannot be satisfied in other ways, most patients have learned they can

tolerate a bite of fruit at the end of the meal. This may not work for everyone, so be cautious and discover what works for you.

Be mindful of what you put into your body.

It is extremely important that you be very conscious of what you eat and drink after weight loss surgery. Mindless eating, grazing, and drinking high-calorie liquids should all be avoided after surgery. Remember that snacking is the biggest problem for weight loss surgery patients, so it is very important that you **do not snack after surgery**. You can avoid snacking by simply planning meals and sticking with an eating schedule.

You can also increase your success if you **eat slowly**. Sit down to your meals, chew every bite slowly, and enjoy your food. Never eat while you are watching television or reading. Pay attention to your body, and stop eating as soon as you feel full.

It is possible to select foods that meet your nutritional needs, while at the same time, satisfying your cravings. Well chosen, healthy foods will boost energy, control your appetite and fuel your body, and learning new eating habits and following the diet correctly will help to maintain your weight loss over time. In general, the gastric bypass diet includes foods that are high in protein, and low in fat, fiber, calories, and sugar. It is very important to eat protein first. Protein in your diet will help preserve muscle tissue, so that weight can be lost as fat instead of muscle. Foods like lean red meat or pork, chicken or turkey without the skin, fish of almost any type, eggs, and cottage cheese are high in protein and low in fat.

Following these recommendations can lead to successful, permanent weight loss. You will not only feel great about yourself, but you will improve your health!

You can follow the guidelines.

It may seem difficult to do, but it *is possible* for you to avoid complications and weight regain after surgery. Although you may have a very busy lifestyle, or may be surrounded by unhealthy eating choices, you can find ways to avoid overeating and eating foods that you should avoid after surgery. Many people *just like you* have proven that they can stick with the post-surgical guidelines and be successful with weight loss surgery. Those who have been successful with the surgery will say that it is worth the effort!

You can learn to change your lifestyle.

Having weight loss surgery will change your body, but it is your responsibility to change your lifestyle and eating habits. Most people find that this is a big challenge, but they have found ways to make these changes. There are ways to fit healthy behaviors into your lifestyle. Start now, before surgery, to implement some of the healthy changes. Starting to eat better and exercise now will make life after weight loss surgery even easier. You will be feel great about yourself once you make the changes!

Thousands of weight loss surgery patients have proven that they can learn to change their eating habits and be successful with the surgery. There is nothing special about these people. They are no more capable or health-conscious than you. Changing your eating habits does not require an advanced degree, special nutritional knowledge, or expensive equipment. All it takes is a commitment from you to change your habits.

Conclusion

You should know by now that the consequences of overeating or eating things that you should not after weight loss surgery are severe. You can suffer complications like dumping, nausea, vomiting, hair loss, and dehydration. Also, you can fail to lose weight or even gain back

weight that you have lost. Every single patient that has weight loss surgery is at risk for these complications and weight gain. However, there are many things that you can do to prevent these things from happening, such as learning new coping skills, planning your meals, and setting up your environment for success. This is not as difficult as you may think. In fact, every single person is capable of doing these activities. Changing your lifestyle is something that everyone can learn to do, and it is worth the effort. Remember, it is up to **you** to implement these lifestyle changes. If you do so, you **will succeed** with the surgery.

Appendix I

Celebrity Testimonial

Directions: The information we are about to read details one person's personal struggle with following the eating guidelines after surgery and how she was able to succeed. Even though this person is a celebrity, she is like thousands of other weight loss surgery patients in that she struggled with the lifestyle changes after surgery. Although she had some difficult times (and even went through periods of weight gain), this person was able to successfully lose weight after surgery. What is most important is that she has learned skills to stick with these lifestyle changes. As we are reading her story, think about ways in which you could deal with some of the problems that she struggled with.

Many of you may be familiar with Carnie Wilson. If you are not, you might know that:

- She is the daughter of Brian Wilson of the Beach Boys
- She was a part of the successful singing group, Wilson Phillips
- She had gastric bypass surgery in 1999. This surgery was viewed over the internet on spotlighthealth.com.
- Since having gastric bypass surgery, Carnie has gone from a size 28 to a size 6.
- But...a few years after surgery, Carnie started to **regain weight** she had lost from the surgery.

Carnie Wilson has been an inspiration to thousands of people. By being so open about her lifelong struggles with weight, she has opened herself up to criticism, both positive and negative. Many people think that losing weight after gastric bypass surgery was easy for Carnie, since she had the time and financial resources to concentrate to her weight loss efforts. But she is the first to say that weight loss was a struggle! She has recently appeared in Season 4 of *Celebrity Fit Club* on VH1, and has written two books on her experience with weight loss surgery. In these books, she discusses her personal struggles with following the post-surgical eating rules and how she was able to stick to them.

Carnie admits that she believed that after surgery, her life would be a breeze.

She says, “I thought I would lose all the weight, buy a bikini, feel so good, and everything will be okay. I thought if I just lost the weight, then my life would be perfect. It turns out that it doesn’t matter that 150 pounds are now off my body—I still have the same problems in that one are where it’s really difficult to tone things up: my brain.”

After surgery, she noticed that other weight loss surgery patients had gained weight.

“While on the cruise, I saw people I remembered from a year ago, and some of them had put on weight. When I was taking my walks, I’d see them snacking, walking around eating ice cream. I don’t want to be one of those people, I thought to myself. I don’t want to revert back to my old habits.”

After surgery, she still had the urge to overeat.

“There are still moments when I want to binge. I just want to keep eating. I want to have a bite of this and a bit of that and a bite of that over there. And before I know it, I’ve had a piece of string cheese, a teaspoon of peanut butter, some beef jerky, a handful of nuts, and all of a sudden, I’m full. I realize that I’ve just had a meal without thinking.”

“After a while, I began to notice that I was hungry for more food. At first I started to crave a little something tasty in between meals—like peanut butter. I know that it was a good source of protein, but it didn’t completely satisfy my hunger. I was definitely feeling the need to eat a larger amount of food, and I was concerned.”

“Everyone has weaknesses, and I’m going to admit that I snack. I probably snack every single day, and I haven’t been able to control that in the last six months. That’s why I’ve been maintaining my weight rather than losing. But if I snack, I’m only going to maintain—if I snack on bad foods, I’m going to gain weight.”

At first, Carnie found that it was easy to stick with the eating rules.

“The day after surgery, I took maybe three little bites of jell-o and about five little sips of broth, and I felt full. Then I put my spoon down. I stopped. I felt satisfied. I was done. It was the most incredible sensation. And I took that feeling with me. As soon as I started to feel satisfied, I stopped.”

As time passed, she found that this initial discipline was constantly being tested.

“When I went to visit my sister one weekend, we went to a restaurant that was simply fabulous. Everybody’s meal was incredibly delicious, and for dessert they brought out this banana cheesecake with a graham cracker crust, covered with a caramel sauce.

I thought I was going to fall over.

I took a bite, and I just closed my eyes, and I chewed as slowly as I could. I told myself, *Okay, this is probably the best thing you’ve ever tasted, and you’re very lucky to be eating just one bite. Enjoy it, because this is it. You’re not going to push it. You’re not going to have another bite. This is all you’re going to get.*

Part of me felt sorry for myself. Everybody else could have a whole piece, but I had to stop. But there was another part of me that was really proud because I had the willpower to say no.”

Even though Carnie is a celebrity, she is a lot like you. She struggled with her weight for many years, and finally decided to take control of her health and have gastric bypass surgery. Since then, her life has totally changed. She has lost 150 pounds, and no longer has sleep apnea, high cholesterol, or joint pain. But she is the first to admit that it was not an easy road. She went through periods of rapid weight loss, times when she maintained her weight, and even times when she gained weight. She faced the same struggles with food as you will likely face if you have weight loss surgery.

The good news is that there are many things you can do to be successful. In fact, thousands of people like yourself have found ways to stick with the eating rules. By carefully following the guidelines from their surgeons, these people have experienced dramatic weight loss and an overall increase in their health.

Appendix J

My name is Glenda, I had gastric bypass surgery in January 2004.

It was a life-changing event, to say the least. It has helped me gain confidence, to be able to do things that I didn't feel comfortable doing before, and to shop in regular stores. There is another side to this story, however.

It's easy to get excited about the prospect of being a "new person" after the surgery, and that will happen *physically*, however, the person you are on the inside is still the same. If you were a stress eater before, you'll still be one. If you were an emotional eater before, you'll still be one. **I have had to struggle with overeating and eating things that I shouldn't eat after surgery, like sugar.**

You may not be aware that eating a diet that is high in protein will help prevent hair loss, which is a common problem among people who have gastric bypass surgery. I was losing hair at an alarming rate until I got my protein levels up. **I really had to learn how to eat healthy after surgery.**

Eating foods that you shouldn't can cause you to gain weight, which is opposite of what you are trying to achieve. Your stomach pouch can also stretch which can allow you to eat more. I am struggling with 10 pounds I have gained – it can happen.

With all that in mind, it's especially important to pay attention to your doctor's recommendations for post-surgery procedures, especially in the long run. In the beginning, you will be learning many new things...the types of food that work best for you personally, portion control, and dealing with your new body. All of the post-surgery recommendations should be adhered to specifically to help maximize weight loss as well as keeping you healthy.

I lost 115 pounds over 18 months and now wear a size 14. However, it was a struggle. I have had to deal with all of the hardships and learn how to handle my emotions in other ways besides using food.

I have learned to choose sugar-free and low fat foods. Make healthy choices, it's tempting to think that since you're only going to be eating half of a sandwich you might as well get the cheeseburger instead of the chicken sandwich. Remember, this new stomach is going to be a new way of life.

Eat slowly, chew your food, and listen to your body. Take your time and enjoy your

food. When you are full, stop eating. It will take you some time to know how to listen to your body. **But you can do it.** I went through times when I struggled with the post-surgery recommendations. But, I have learned ways of fitting them into my everyday routine. With a little work, they are easy to accomplish. Listen to the doctors, nurses, and nutritionists. They all want what is best for you, not only now but for the rest of your life. The surgery is a life-changing event...make it just that for yourself! You'll be glad you did!

Appendix K

1-week Booster Mailing to PMT group

Dear Patient:

You are receiving the following information because you attended a research study at UAB approximately 1 week ago. During this session, you were provided with information that is important for you to know if you have weight loss surgery.

Please read the following information carefully. After you have read the material, please complete the two questionnaires included in this packet and return them in the stamped envelope provided.

Your participation in this study is extremely important. The results of this study will be used to help design better educational programs for people having weight loss surgery. Your participation is necessary for us to design the best program possible, so please send the questionnaires back to the study's investigator as soon as possible.

If you have weight loss surgery at UAB, you will be asked to complete these questionnaires 3 and 6 months after your surgery. You will receive compensation for doing so.

Thank you for your participation! Please call 996-9970 if you have any questions.

Abbe Boeka, M.A.
Clinical Psychology Doctoral Student

Remember, you can be successful with weight loss surgery.

You have most likely heard that “weight loss surgery is only a tool”. If this tool is used correctly, you can experience great results. But, if you do not follow the guidelines from your doctor, you could have very severe consequences. Remember that these consequences can be related to your health, such as the dumping syndrome, feeling sick and vomiting, and even losing hair. If you don’t follow the guidelines, you could even **gain weight**.

These consequences happen more often than you may think. In fact, many patients report feeling sick when they eat a food that they should not after surgery, like ice cream or candy. Also, people find that if they do not stick with the eating rules for the rest of their lives, they can eventually gain weight.

You may think that these consequences won’t happen to you or that you will have an easy time following the diet. But remember that you are just as vulnerable to these consequences as everyone else. In other words, every person has the same chances of success after surgery. Each patient will need to make the lifestyle and dietary changes in order to lose weight and keep it off.

Changing your current lifestyle will be difficult to do. But, once you make the commitment to changing your diet, you will find that it is worth the effort. You will feel better and look better. Almost all patients who have made the lifestyle changes and have been successful after surgery have said that they would do it over again.

Although it will be a challenge, there are many things that you can do to succeed with the surgery. Remember, **never eat more than your stomach pouch can hold**. It is very important

that you do not overeat after you have weight loss surgery. You must always be prepared for these times when you are likely to overeat. Planning your meals in advance will help you avoid overeating when you are hungry and will help you make healthier eating choices. It is important that you set aside time *each day* to plan what you are going to eat. Also, keeping healthy foods with you (for example, in your desk at work, in the car when you are running errands) will prevent eating whatever is available when you are hungry.

Learn new coping strategies so that you do not use food to deal with your emotions. There are many things that you can substitute for food when you are feeling down, like calling a friend, relaxing, exercising, or distracting yourself with an activity.

It is extremely important that you be very conscious of what you eat and drink after weight loss surgery. Mindless eating, grazing, and drinking high-calorie liquids should all be avoided after surgery. Remember that snacking is the biggest problem for weight loss surgery patients, so it is very important that you **do not snack after surgery**. You can avoid snacking by simply planning meals and sticking with an eating schedule.

You can also increase your success if you **eat slowly**. Take your time when you eat and savor every bite. Never eat while you are watching television or reading. Pay attention to your body, and stop eating as soon as you feel full.

Following these recommendations can lead to successful, permanent weight loss. You will not only feel great about yourself, but you will improve your health!

While the guidelines are not always easy to follow, everyone can learn to fit them into their daily routine. Thousands of other weight loss surgery patients have found that they are able to fit the changes into their lifestyle. There is nothing special about these people. They are no more capable than you are. You can be just as successful as they have been. Start now, before surgery, to implement some of the healthy changes. Starting to eat better and exercise now will make life after weight loss surgery even easier. You can do it!

Appendix L

Debriefing Statement

Thank you for your participation. Now that the study is over, I would like to provide you with additional information. It is sometimes necessary to wait until the end of a study to explain the full details because the results may be affected if participants know exactly what the study is about before it is over. If participants know all the details of a study, they sometimes change their behavior or their answers to be in line with what they think the experimenter is looking for.

This study that you participated in was designed to learn more about the ways in which information should be presented to patients undergoing weight loss surgery. You were randomly (by chance) assigned to one of two groups. Each group was asked to complete questionnaires about their eating attitudes and behaviors. However, one group also received information about the detrimental consequences that can occur if patients do not strictly follow the eating behavior guidelines after weight loss surgery.

The reason that the groups received different types of information was to help us determine if information focusing on eating behavior compliance after weight loss surgery would affect your motivation and compliance with the post-surgical guidelines.

The eating questionnaires that you completed were designed to determine what types of eating behaviors you engage in, both before surgery and after surgery. Research has shown that a percentage of patients who have weight loss surgery have problems with overeating, and that this may lead to more difficulties after weight loss surgery. It is very important that researchers understand the role of eating behaviors in weight loss surgery patients so that patients can achieve maximal results. If you feel that you have problems with overeating that you cannot control, I encourage you to seek help. Any psychologist or counselor will be able to help you with this issue, or can refer you to someone that can help. Most insurances will cover several visits with psychologists or other mental health professionals. Also, support groups are available to help you. The Fresh Beginnings support group at UAB meets the last Monday of each month and everyone is welcome.

Your participation in the experiment is greatly appreciated and will help us to learn more about this area of research. If you have questions regarding this study, please feel free to email me at boeka001@bama.ua.edu. Good luck to you in the future!

Abbe Boeka, M.A.
Doctoral Student
University of Alabama, Department of Psychology

Appendix M

Consent Form: Control Group

UNIVERSITY OF ALABAMA Informed Consent for a Research Study

You are being asked to take part in a research study. The principal investigator of the study is Abbe Boeka, M.A., who is a doctoral student at the University of Alabama. Ms. Boeka is being supervised by Dr. Steve Prentice-Dunn, who is a professor in the department of psychology at the University of Alabama.

What is this study about?

The purpose of this study is to help create an educational program for weight loss surgery patients at UAB.

Why is this study important--What good will the results do?

This knowledge is useful to the medical community so that more informative educational programs can be delivered to patients undergoing weight loss surgery. It is hoped that as better educational programs are developed, patient success will increase.

Why have I been asked to take part in this study?

You have been selected to participate because you are thinking about having weight loss surgery at UAB.

How many people besides me will be in this study?

About 200 other people will be in this study.

What will I be asked to do in this study?

If you participate in this research study, you will 1) be asked to fill out several questionnaires; 2) attend one group session that will last approximately one hour, and 3) you will later receive mailings and follow-up questionnaires to fill out.

The group session will consist of you and 5-7 other patients who are interested in weight loss surgery. During the group session, you will be asked to fill out questionnaires about your eating attitudes and behaviors.

One week after this session, you will receive more questionnaires in the mail. Some of the questionnaires will be similar to those that you completed during the one hour

session. It should take you approximately 30-45 minutes to complete these questionnaires. You will be provided with a stamped envelope to send the questionnaires back to the researcher. Three months and 6 months after you have weight loss surgery, you will again receive the same questionnaires in the mail. You will be asked fill out these questionnaires again (at both 3 months and 6 months post-surgery) and to send these back to the researcher. You will be provided with a stamped envelope to do so each time.

How much time will I spend being in this study?

Being in this study will take about 3 ½ hours of your time. The group session will last approximately 1 hour, and it will take you about 45 minutes to complete the follow-up questionnaires (sent three times: at one week after the group session, and 3 and 6 months after you have weight loss surgery).

Will I be paid for being in this study?

You will not be paid for being in this study. However, participating in this study will count as 1 of your bariatric support group meetings.

Will being in this study cost me anything?

There will be no cost to you except for your time in completing the questionnaires.

Can the researcher take me out of this study?

The only reasons that you would not complete the study are if you decide to drop out or if you do not have weight loss surgery at UAB.

What are the benefits (good things) that may happen to me if I am in this study?

Although benefits cannot be promised in research, it is likely that you will learn ways to be successful after weight loss surgery. However, you may or may not regard learning information about weight loss success as a benefit.

What are the benefits to scientists or society?

You can benefit by knowing that you have contributed to the development of an educational program for weight loss surgery patients. As researchers learn more about this area, the medical community can provide better information to patients as they prepare for surgery.

What are the risks (dangers or harm) to me if I am in this study?

No risks or discomforts are expected to occur if you decide to participate in this study. Some of the questions you will answer will ask about your eating behaviors and attitudes. You may find that these questions ask sensitive information. Remember that you do not have to answer any question that makes you feel uncomfortable and you can discontinue participation at any time without consequence.

How will my confidentiality (privacy) be protected? What will happen to the information the study keeps on me?

All materials associated with this study will be kept confidential. That means that your name and other personal information will not be linked to any of your individual responses on the questionnaires. Your personal information will be removed and will be replaced with a

participant number to ensure confidentiality. All study materials will be kept in a secure location and only the researcher, the faculty supervisor, and sub-investigators involved in this study will have access to your information. The results will be analyzed as a group, and thus, your individual identification will not be possible.

What are the alternatives to being in this study? Do I have other choices?

An alternative procedure would be to decline participation in this study.

What are my rights as a participant?

You are not obligated to participate in this study. Your participation is completely voluntary. Your decision whether or not to participate will have no effect on the quality of your medical care or your surgical status. Should you choose not to participate, nothing will be different with your pre-surgical or post-surgical routine.

The University of Alabama Institutional Review Board (IRB) is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

Who do I call if I have questions or problems?

If you have questions about the study right now, please ask them. If you have any future questions about the research, Abbe Boeka will be glad to answer them. Her number is 205-348-5000 and her email address is boeka001@bama.ua.edu. If you have questions about your rights as a person taking part in a research study, you may call the Research Compliance Officer at UA at (205)-348-5152.

I have read this consent form. The study has been explained to me. I understand what I will be asked to do. I freely agree to take part in it. I will receive a copy of this consent form to keep.

Signature of Research Participant

Date

Investigator

Date



Consent to Participate in Research



TITLE OF RESEARCH: Effects of a Psychosocial Intervention on Eating Behavior Compliance in Bariatric Surgery Patients

INVESTIGATOR: Abbe Boeka, M.A. (Principal Investigator)
Kristine Lokken, Ph.D. (Faculty Supervisor)

Explanation of Procedures

You are being invited to participate in a research study designed to help create an educational program for weight loss surgery patients at UAB. You have been selected to participate because you are thinking about having weight loss surgery at UAB.

If you participate in this research study, you will 1) be asked to fill out several questionnaires; 2) attend one group session that will last approximately one hour, and 3) you will later receive mailings and follow-up questionnaires to fill out.

The group session will consist of you and 5-7 other patients who are interested in weight loss surgery. During the group session, you will be asked to fill out questionnaires about your eating attitudes and behaviors.

One week after this session, you will receive questionnaires in the mail. Some of the questionnaires will be similar to those that you completed during the one hour session. It should take you approximately 30-45 minutes to complete these questionnaires. You will be provided with a stamped envelope to send the questionnaires back to the researcher. Three months and 6 months after you have weight loss surgery, you will again receive the same questionnaires in the mail. You will be asked fill out these questionnaires again (at both 3 months and 6 months post-surgery) and to send these back to the researcher. You will be provided with a stamped envelope to do so each time.

In exchange for your participation, you will receive credit towards 1 of your mandatory support group meetings.

Risks and Discomforts

The only risk from participating in this study is a loss of confidentiality. Some of the questions you will answer will ask about your eating behaviors and attitudes. You may find that these questions ask sensitive information. Remember that you do not have to answer any question that makes you feel uncomfortable and you can discontinue participation at any time without consequence.

Benefits

You may not derive any direct benefit from participating in this research. However, you can benefit by knowing that you have contributed to the development of an educational program for weight loss surgery patients. As researchers learn more about this area, the medical community can provide better information to patients as they prepare for surgery.

Alternatives

An alternative procedure would be to decline participation in this study.

Confidentiality

All materials associated with this study will be kept confidential to the extent of the law. That means that your name and other personal information will not be linked to any of your individual responses on the questionnaires. Your personal information will be removed and will be replaced with a participant number to ensure confidentiality. All study materials will be kept in a secure location and only the researcher, the faculty supervisor, and sub-investigators involved in this study will have access to your information. The results will be analyzed as a group, and thus, your individual identification will not be possible. The UAB Institutional Review Board may review the research records for auditing purposes.

Withdrawal Without Prejudice

You are not obligated to participate in this study. Your participation is completely voluntary. Your decision whether or not to participate will have no effect on the quality of your medical care or your surgical status. Should you choose not to participate, nothing will be different with your pre-surgical or post-surgical routine.

Significant New Findings

Any significant new findings that develop during the course of the study that may affect your willingness to continue in the research will be provided to you by the researchers.

Cost of Participation

There will be no cost to you from participation in this research.

Payment for Participation in Research

For your participation (or discontinuation), you will receive credit of attendance at 1 bariatric support group meeting.

Questions

If you have any questions about the research, Abbe Boeka will be glad to answer them. Her number is 205-669-9970 and her email address is boeka001@bama.ua.edu. If you have questions about your rights as a research participant, you may contact Ms. Sheila Moore, Director of the Office of the Institutional Review Board for Human Use (IRB). Ms. Moore may be reached at (205) 934-3789 or 1-800-822-8816, press the option for an operator/attendant and ask for extension 4-3789 between the hours of 8:00 a.m. and 5:00 p.m. CT, Monday through Friday.

Legal Rights

You are not waiving any of your legal rights by signing this consent form.

Signatures

Your signature below indicates that you agree to participate in this study. You will receive a copy of this signed informed consent.

Signature of Participant

Date

Signature of Investigator

Date

Appendix O

Rotated Component Matrix with 5 Factors.

	1	2	3	4	5
Item #:					
20 ⁺	.79				
6 ⁺	.68		.36		
19	-.65	-.32			
11	-.63				
21 ⁺	.62				
24	-.61				
3	.49				.42
10	.47				
16 ⁺		.83			
9		.61			
31 ⁺		.60		.42	
34		.57	.46		
4		-.50			
13		.48			
15		-.45	.31		
33	-.33	-.39			
23			.75		
12			.74		
25			.72		
28			.32	.74	
32				.73	
27			.56	.67	
30				.54	
18				.36	
35				.33	
5					.60
2					.60
1					.57
29				.45	-.47
36					.37

⁺ Denotes an item that is reverse scored.

Appendix P

5 Factor loadings of PMT-based questionnaire items ($\geq .60$).

Factor 1: “Response Costs/Response Efficacy”

⁺Following the recommended eating guidelines will not work; I am likely to regain weight. (.79)

⁺It’s not that big of a deal to overeat after surgery; people can still lose weight because their stomach is smaller. (.68)

If I have to eat small portions of food for the rest of my life, I will never be able to go out and eat with friends again. (-.65)

It is too difficult for me to take problem foods (those I am tempted to eat too much of) out of my diet. (-.63)

⁺People are not affected much if they eat more than they should after surgery. (-.62)

Foods like ice cream and cake taste so good that I cannot give them up. (-.61)

Factor 2: “Self-Efficacy”

⁺It is overwhelming to think about the dietary changes I will need to make after surgery; I don’t think I can do it. (.83)

I know I can eat only foods appropriate for my new stomach pouch after surgery. (.61)

⁺After surgery, it will be impossible for me to always watch my portion sizes. (.60)

Factor 3: “Threat”

If I cheat after surgery and start to reintroduce unhealthy foods back into my diet, I will regain weight. (.75)

After my surgery, I could vomit if I eat too much. (.73)

Overeating after surgery can cause a person’s stomach pouch to expand. (.72)

Factor 4: “Threat”

Eating more than a stomach pouch can hold after surgery can cause someone to gain weight. (.74)

Overeating after surgery will reverse a person’s weight loss. (.73)

If I eat too many restricted foods after my surgery, I could experience severe health consequences, such as dumping syndrome and hair loss. (.67)

Factor 5: “Threat”

I can suffer health problems if I overeat after surgery (.60)

⁺People are not affected much if they eat more than they should after surgery (.60)

⁺ Denotes an item that is reverse scored.
