

MARITAL SATISFACTION THROUGHOUT THE JOURNEY OF WEIGHT-LOSS
SURGERY

A Thesis Submitted to the Committee on Graduate Studies in Partial Fulfillment of the
Requirements for the Degree of Master of Science in the Faculty of Arts and Science

TRENT UNIVERSITY

Peterborough, Ontario, Canada

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Psychology M.Sc. Graduate Program

September 2015

Abstract

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A mixed-methods' approach was designed to explore the marital impacts following weight-loss surgery (WLS). In Phase 1, ten individual interviews with spouses of five couples were conducted; two of the couples had the wives preparing for WLS, two of the couples consisted of wives who had WLS, and one couple had both received the surgery. Interviews were transcribed and analyzed using a combination of interpretive phenomenological and grounded theory techniques. Findings demonstrated that WLS does have impacts on marriage regardless of where couples are in their journey. All couples discussed food as a possible source of conflict in their relationship. Interviews also revealed that self-esteem is a major factor contributing to their relationship and support is necessary throughout. In Phase 2 an online survey was developed to quantitatively explore the important constructs deemed important from the participants in Phase 1. Relationships between relationship satisfaction, sexual conflict, self-esteem, depression and body image were examined in 54 participants. Results demonstrate that higher levels of support and self-esteem and lower sexual conflict relate to a more satisfactory relationship in individuals post- WLS.

Keywords: Weight-loss surgery, weight-loss, marital satisfaction, relationship satisfaction, Bronfenbrenner, qualitative, mixed-methods

Preface

Weight-loss surgery (WLS) has become a commonly used strategy in combating extreme cases of morbid obesity. With this rise in popularity, research in this realm is growing; however the focus to date has been on the biomedical outcomes following the surgery. It is understood that obesity has many comorbidities associated with it such as type 2 diabetes, impairments in mobility, and cardiovascular disease, just to name a few (Cawley, Rizzo, & Haas, 2007; Haslam, & James, 2005; Prentice, & Jebb, 1995; Sims et al., 1973). What is less well understood is the psychological and social impacts these strategies have on the individual, and furthermore, how this surgery affects not only the patient, but also impacts their families and relationships. The aim of this study is to explore the ways that weight-loss surgery impacts the marriage relationship. With this knowledge, health-care providers can offer better care to individuals and their spouses when going through this procedure.

A mixed-methods design was chosen for this study. Since very little data is available on the psychological, social and especially relational outcomes following WLS, this research was intended to be explorative. It was the hope that qualitative interviews could provide rationale for any scales used in the quantitative portion of the study, and numeric data from the quantitative portion could provide additional support for the qualitative findings. For Phase 1 of this study the researcher adopted a qualitative approach. Ten interviews were conducted with individuals and their spouses adopting an interpretative phenomenological/grounded theory methodological approach. Interviews were analyzed and split into groups based on where they were in their weight-loss surgery journey (pre-surgery vs. post-surgery), and the couple that had both undergone

surgery was discussed separately. Interviews were transcribed verbatim and coded for repetitive and salient themes. Many themes emerged such as the notion of changes in self-esteem, differences in sexual satisfaction, fear and worry, and support, to name a few. Themes that were salient, relevant to one another, and that the researcher thought could be made into a large overall story for the participants were chosen to be further investigated in Phase 2.

Phase 2 adopted a quantitative approach, scales that measured constructs identified by participants in Phase 1 were chosen. An online survey was developed using Qualtrics and measures of relationship satisfaction, support, self-esteem, body appearance appraisal, depression and body image were used. Participants were recruited from online forums and through personal contacts. Of the 138 individuals who started the survey, only 54 completed the survey in its' entirety. Analyses of the data demonstrated that differences were present between pre- and post-surgery individuals in sexual conflict, depression, and perception of body image. Further analyses indicated that relationship satisfaction of post-surgery individuals was positively associated with support and self-esteem and negatively correlated with sexual conflict. A standard multiple regression demonstrated that self-esteem and perception of attractiveness of one's partner significantly predicted relationship satisfaction for individuals post-surgery.

Findings from the qualitative and quantitative portions of the study work together to inform one another in interpreting their unique results. Individuals in Phase 1 that expressed the desire for more mobility so they can take part in sexual activity with more ease and energy, were paralleled by Phase 2 findings suggesting that there is lower sexual conflict in individuals post-surgery. Phase 1 findings were also paralleled by Phase 2

findings in the importance of support as support was significantly related to relationship satisfaction for individuals post-surgery. Although there are limitations in this study with regards to recruitment and time restrictions, implications can be made to promote better care for individuals and their spouses going through weight-loss surgery. Specifically special attention to self-esteem, support and sexual satisfaction should be paid to these spouses and social workers in this field may choose to implement workshops in the centres of excellence focussing on these aspects.

Acknowledgements

First and foremost, this research could not have been conducted without the cooperation and dedication of the participants involved. Their stories make it possible to get a first-hand account of how weight-loss surgery can impact a relationship. I also need to thank Dr. Geoffrey Navara for his patience and guidance in this journey; without his mentorship, this paper would not have been feasible. Dr. Navara has taught me many lessons in the past few years about critical thinking and qualitative research, and I thank him for moulding me into a better researcher and writer. Dr. Fergal O'Hagan has also offered endless learning opportunities with regards to qualitative studies and I thank him for his engagement in this research.

I also need to thank my colleagues for helping me through this journey and providing me continual support and laughter. I could not have achieved this degree without the friendship of Dougal Nolan, Korri Bickle and Nicolle Miller. Thank you for always being a listening ear, a helpful source of information, and a source of laughter and clarity. Another thank you needs to be given to my boyfriend Iain Burns who has been there through the hardest part of this journey and remained a source of stability and strength.

Lastly, as I do every achievement in my life, I dedicate this degree to my family. Without your unconditional love and support I would not have made it through these years of hard-work and late nights. Thank you to my mom and dad for giving me the support I need and then some throughout these years. Thank you to my brother and sister-in-law for the support and guidance along the way. To my all-inspiring niece, the

happiness you have given me in these years has been worth every extra day it has taken me to complete this paper. Finally to my Pa; this degree is dedicated to you and I know you would be proud!

Table of Contents

Abstract.....	ii
Preface.....	iii
Acknowledgements.....	vi
Chapter 1: Introduction.....	1
Bronfenbrenner’s Ecological Model.....	2
Obesity, WLS and Bronfenbrenner’s Ecological Model.....	6
(1977) Ecological Model	
The Chronosystem.....	8
Changes in Perception of Obesity Over Time.....	8
Theories of How Obesity Came to Be.....	8
Ever-Changing Weight-Loss Strategies.....	10
Introduction of WLS.....	11
The Macrosystem.....	12
Government Implementations.....	12
Obesity in the Media.....	13
Obesity Online.....	13
The Exosystem.....	15
Obesity in the Workplace.....	15
The Mesosystem.....	16
Obesity and Social Interactions.....	16
The Importance of Social Support.....	17
Weight-Loss Surgery’s Impact on Friendship.....	18
The Impact of WLS on the Family Unit.....	19
The Impact of Surgery on Romantic Relationships.....	19

Marital Satisfaction.....	20
The Microsystem.....	23
Physiological Effects of Obesity and WLS.....	23
Psychological Effects of Obesity and WLS.....	24
Present Study.....	26
Overall Design.....	27
Chapter 2: Methodology (Phase I).....	29
Recruitment and Participants.....	30
Procedure.....	30
Interview Protocol.....	31
Analysis.....	32
Reflexivity.....	34
Chapter 3: Qualitative Findings and Discussion.....	37
Participants.....	37
Dyads 1 and 2: Pre-Surgery.....	39
Dyad 1.....	39
Dyad 2.....	39
Pre-Surgery Shared Themes.....	40
Hopes of Improved Physical Activity and Health.....	41
Negative Emotions Towards Surgery and Relationship Security.....	44
Dyads 3 and 4: Post-Surgery.....	48
Dyad 3.....	48
Dyad 4.....	50
Post-Surgery Shared Themes.....	51
Drinking Alcohol.....	51

Pre and Post- Surgery Shared Themes.....	53
Food.....	54
Pre-Surgery Couples’ Discussion of Food.....	55
Post-Surgery Couples’ Discussion of Food.....	57
Overall Discussion of Food.....	59
Gender Differences and Sexual Relations.....	59
Differences in Self-Esteem.....	61
Pre-Surgery Couples’ Discussion of Self-Esteem.....	61
Post-Surgery Couples’ Discussion of Self-Esteem.....	64
Overall Discussion of Self-Esteem.....	67
Differences in Types Of Support.....	67
Both Having Surgery.....	69
Resentment/Animosity.....	69
Self-Esteem and Feelings of Insecurity	71
A New Life/Where Do I Fit In?.....	74
Discussion.....	75
Limitations.....	80
Chapter 4: Methodology (Phase II).....	82
Recruitment.....	83
Questionnaire.....	85
Demographic Questionnaire.....	85
Relationship Assessment Scale (RAS).....	85
Perception of Attractiveness.....	86
Appearance Evaluation.....	86
Appearance Orientation.....	86

Fitness Evaluation.....	87
Fitness Orientation.....	87
Health Evaluation.....	87
Health Orientation.....	87
Illness Orientation.....	88
Body Areas Satisfaction Scale.....	88
Overweight Preoccupation.....	88
Self-Classified Weight.....	88
Index of Sexual Satisfaction.....	88
Depression Scale.....	89
Body Image Silhouettes.....	89
Self-Esteem Scale.....	90
Support Scale.....	91
Data Management and Analysis Plan.....	91
Chapter 5: Phase II Results and Discussion.....	95
Demographics.....	95
Cronbach's Alphas.....	97
Research Question 1.....	98
Research Question 2	99
Research Question 3.....	101
Discussion.....	104
Chapter 6: Overall Discussion.....	108
Limitations.....	112
Chapter 7: References.....	115
Chapter 8: Appendix.....	123

Appendix A: Ethics Approval.....	123
Appendix B: Consent Form.....	124
Appendix C: Interview Protocol.....	126
Appendix D: Feedback Sheet.....	128
Appendix E: Demographic Questionnaire.....	131
Appendix F: Online Questionnaire.....	134

List of Figures

Figure	Description	
1	Depiction of Bronfenbrenner's (1977) Ecological Model.....	3
2	Integration of Obesity and WLS in Bronfenbrenner's (1977) Ecological Model...7	
3	Depiction of Themes and Connections as Discussed by Pre-Surgery Couples.....47	
4	Depiction of the Construction of Themes from Case Studies.....54	
5	Depiction of Themes Discussed by 'Both' Couple.....73	
6	Body Image Silhouettes as Devised by Leonhard and Barry (1998).....90	

List of Tables

Table	Description	
1	Summary of Bronfenbrenner’s (1977) Ecological Subsystems.....	5
2	Description of Participants as Indicated in the Demographic Questionnaire.....	37
3	Frequency Distribution of Participants that Completed the Survey With a.....	96
	Focus on Participants that Received Weight-Loss Surgery	
4	Means, Standard Deviations (SD), Possible Ranges, and Cronbach’s Alphas.....	97
	For Subscales	
5	Means (M), Standard Deviations (SD), Univariate F, p and Effect Sizes of.....	99
	Pre-Surgery (N = 15) and Post-Surgery (N = 32) Groups for ISS, CES-D, DIFFERENCE, RAS, MOS and SE	
6	Correlation Matric of SE, MOS, DIFFERENCE, RAS, ISS, CES-D and	100
	ATTPART For Post- Surgery Participants (N = 33)	
7	Sumary of Correlation Matrix, Means and Standard Deviations,	102
	and Unique Contributions of Dependent Variables: RAS and Independent Variables: MOS, SE, ISS and ATTPART, for Post-Surgery Participants (N = 32)	

Chapter 1: Introduction

Worldwide rates of obesity have been on the rise in the past 30 years, with a reported 857 million people overweight or obese in 1980, rising to 2.1 billion in 2013 (Ng, Fleming, Robinson, Thomson, Graetz, Margono, et al., 2014). Canada is currently battling its own obesity epidemic, where 37% of individuals were reported as being overweight and 25% obese in 2009 (Employment and Social Development Canada, 2014). Obesity has many negative impacts on the individual in regard to cardiovascular health, physical mobility and adverse psychological and social effects. With the rates of obesity being so high, many forms of weight-loss strategies have emerged in order to combat this issue.

For individuals who have unsuccessfully attempted more conventional weight-loss interventions such as diets and increased exercise, bariatric surgery (or weight-loss surgery [WLS]) has become a viable option for some. Individuals with a body mass index (BMI) over 40 (or over 35 with comorbidities, such as hypertension, diabetes, sleep apnea, etc.) are eligible for WLS (Fobi, 2004). Depending on the type of procedure, WLS can result in a reduction of approximately 80% of excess weight, and can be effective for up to 90% of individuals who undergo this surgery (Fobi, 2004). Because of the ever-growing demand of WLS (both to the individual and health care policy makers); the Ontario Ministry of Health and Long Term Care (2009) invested 75 million dollars directly into the development of Bariatric Centres of Excellence.

In 2012-2013 there were a reported 6,000 bariatric surgeries performed in Canadian hospitals (Canadian Institute for Health Information, 2014). This represents a four-fold

increase in the number of surgeries performed since 2006 and 2007. Furthermore, 46 hospitals were performing the surgery in Canada between 2012-2013 compared to only 34 between 2006 and 2007. The data mentioned in this section demonstrates the dramatic growth in this procedure and the improvements in accessibility throughout Canada.

The biomedical outcomes following the surgery have been relatively well researched. The interpersonal/relational outcomes from the surgery, however, have remained largely unexplored. The current study is a mixed methods approach in which the first half is explorative in nature and second half is hypothesis driven. The aim of this paper is to shed light on the personal experiences of those who have undergone WLS and how the surgery, and subsequent rapid weight-loss, has affected their marital relationships. The limited literature in this area is first reviewed to provide theoretical and empirical groundwork for the rationale of the present research. There are many ways that marital outcomes following WLS could be theoretically approached; however, Bronfenbrenner's (1977) ecological model provides a viable organizational and theoretical framework for entering into the exploration of the issue as it demonstrates how WLS is a procedure that does not only affect the individual, but also has more encompassing effects in the media, workplace, friendships and (for the purpose of this study) marriage.

Bronfenbrenner's Ecological Model

Bronfenbrenner (1977) conceptualized human development within the context of an ever-changing environment. He emphasized that changes in surrounding environments not only affect an individual but changes in an individual also have affect their

environments. The following figure demonstrates the different subsystems as outlined by Bronfenbrenner:

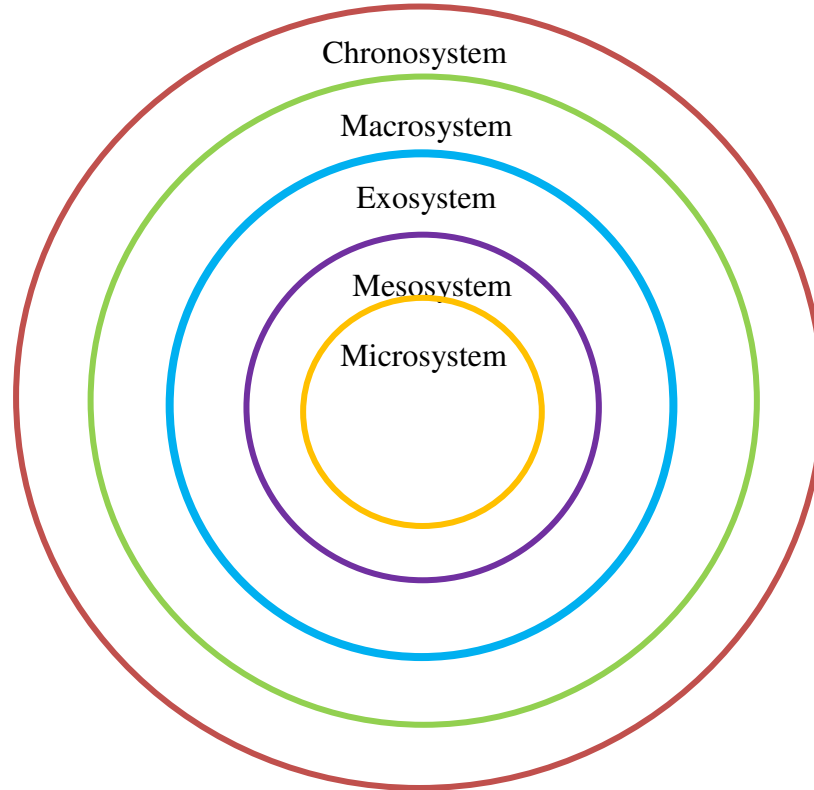


Figure 1. Depiction of Bronfenbrenner's (1977) Ecological Model.

While discussing Bronfenbrenner's (1977) model, it is the intention to explain the outer subsystem and work our way into the most inner subsystem. Bronfenbrenner argues that these systems are embedded within one another. Since the purpose of this paper is focussed on the individual and interpersonal relationships, the larger subsystems in which these are embedded will be elaborated to provide context for understanding marital relationships and WLS. It can be argued that we cannot understand the individual/relational dynamics without understanding the embeddedness of the mental system within other systems.

The outermost system is the Chronosystem, a later addition to his 1977 model, and it emphasizes changes over time and how these affect human development (Bronfenbrenner, 1986). These changes over time do not just reflect an individual in regards to aging and maturation, but also pertain³⁴ to changes within other systems over time. An example of aspects that could be explained within the perspective of the Chronosystem may be changes in government policy over time, changes in belief systems and customs over time and changes in environment over time (for example, changes in the way obesity has been perceived throughout time).

The Macrosystem stresses the cultural environment that surrounds an individual. The Macrosystem may include elements such as government policies, belief systems, culture, customs, educational and legal systems (Bronfenbrenner, 1977). It becomes evident how the Chronosystem and the Macrosystem interact with one another where, for example, changes over time in cultural beliefs or practices may lead to change in policy/attitudes toward issues of obesity. Although these interactions are present between all systems in terms of human development (and as will later be discussed, obesity and WLS), subsystems will only be discussed as separate entities for clarity throughout this introduction.

The Exosystem contains the more immediate surroundings that would directly affect an individual. These elements may include the local government, transportation, social networks such as family friends and extended family, health and social services, and mass media (Bronfenbrenner, 1977).

The Mesosystem is difficult to define without first discussing the Microsystem so these two systems will be briefly outlined together. The Microsystem which is the innermost system in this theory represents the individual, including biological/genetic make-up, temperament, and individual agency and the environment *immediately* surrounding that individual. This environment may include family (including spouses), friends, school and work. The Mesosystem refers to how these various Microsystems/environments interact with one another. Some examples of this would be how an individual interacts with their family members or the dynamics of a friendship or marital relationship. The Mesosystem and Microsystem are intertwined because the individual is embedded within their immediate surroundings and each individual shapes these interactions creating an individual niche. Individuals and their environments therefore recursively shape one another.

Table 1. *Summary of Bronfenbrenner's (1977) Ecological Subsystems*

Sub System	Brief Summary	Example
Chronosystem	Emphasizes changes over time and how these affect individual development.	Changes in government policy over time.
Macrosystem	Cultural environment surrounding the individual.	Cultural practices/beliefs.
Exosystem	Immediate surroundings that impact an individual.	School systems.
Mesosystem	Interactions within the micro-system.	Family/marital relationships.
Microsystem	Represents the individual (physiological and psychological make-up).	An individuals' temperament.

Contained within Bronfenbrenner's (1977) model is the concept of bidirectional influence. This bidirectionality means that changes or shifts in the outer systems will trickle down to affect the inner systems as well as changes in the inner systems will have effects on the systems surrounding it. The bidirectional influence of the various subsystems proposed by Bronfenbrenner is represented by the double-headed arrow in the above figure. It could be argued that Bronfenbrenner's (1977) model reductionistically constructs these subsystems. Although there appear to be distinct subsystems, I argue that these subsystems so intimately interact with each other making it almost impossible to discuss them in isolation; for an individual's mood per se (Microsystem) will influence their interactions with friends or family (at the Mesosystem). Multicausality and non-linearity also exist within this model in that cause and effect are not always straight forward do not always follow a linear pattern. Each subsystem mutually shapes each other subsystem. For the purpose of this review and for simplicity, subsystems will to be discussed as separate entities; however, realistically it should be noted there are many interactions between and within subsystems.

Obesity, WLS and Bronfenbrenner's Ecological Model. Bronfenbrenner's Ecological Theory is used as a structural framework for the literature review, rather than a guide for the study in terms of research development. The issues of obesity and WLS are complex and rooted not only in a biomedical framework (perhaps limited to the Micro and Mesosystems), but are also constructed and defined by systems surrounding the individual. As the current paper focuses on interactions between individuals and their spouses (within the Microsystem), we will discuss obesity and WLS in terms of the subsystems from the outermost system and work our way in, to provide the reader with

important contexts to aid in understanding interpersonal relations post-surgery. The following figure provides a guide for the information presented in this review:

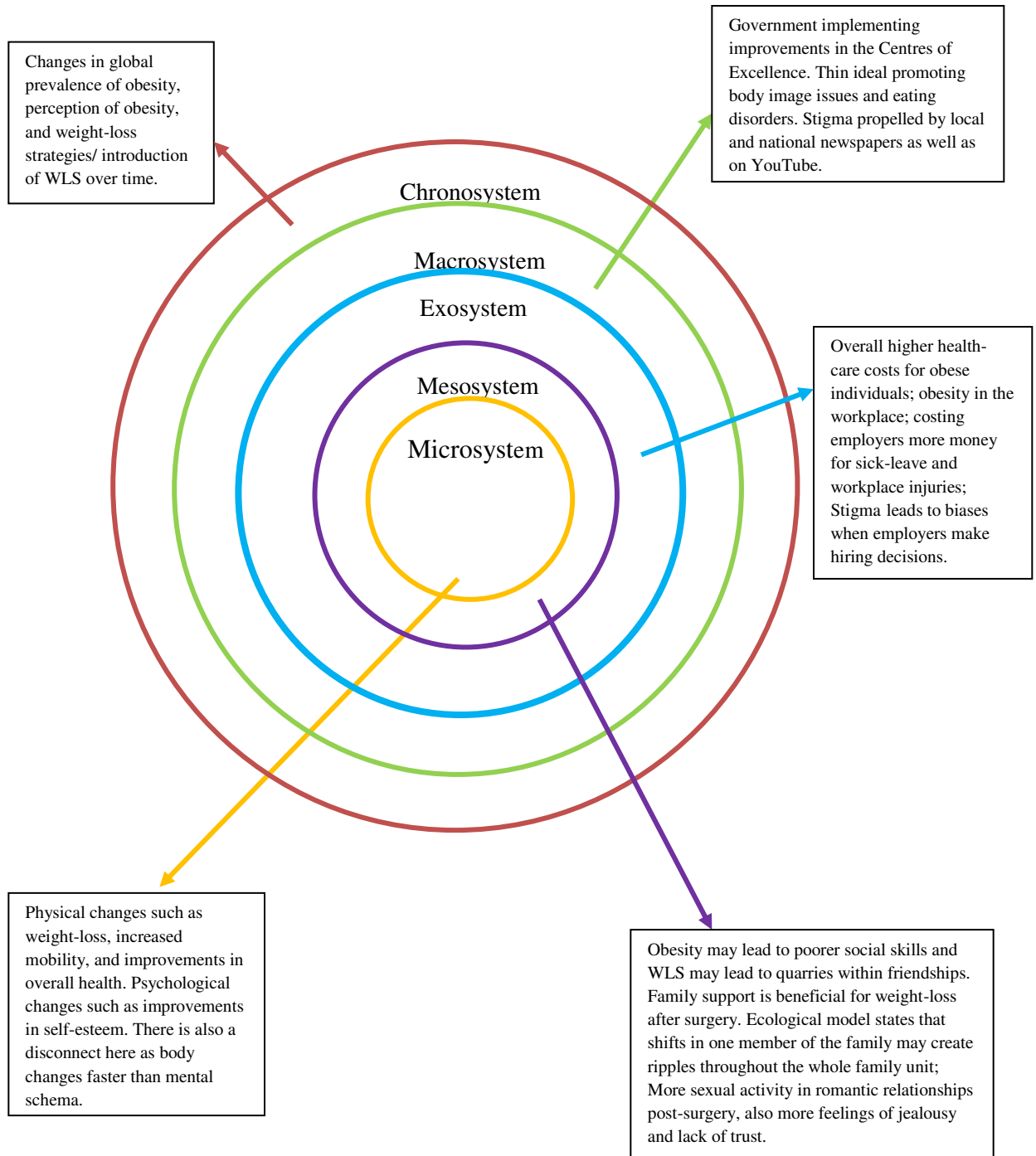


Figure 2. Integration of Obesity and WLS in Bronfenbrenner's (1977) Ecological Model

The Chronosystem. As the Chronosystem represents changes over time, for this thesis, I will discuss the ways that perception of obesity has changed over time, theories of how obesity has become a global issue, and ever changing weight-loss strategies that have ultimately led to the introduction of WLS.

Changes in perception of obesity over time. Obesity has not always been seen with negative connotations. Up until the 17th century, obese individuals were perceived as being of high status thus able to afford more food (Caballero, 2007). In the present time, stigmas associated with gluttony and lack of self-control are linked to obesity (Caballero, 2007). The negative stigma of obesity is more prevalent than ever as these individuals are perceived and portrayed in mass media as lazy and lacking willpower and self-control (Pingitore, Dugoni, Tindale, & Spring, 1994). Perceptions of obesity have become more negative throughout the centuries, and the next section will discuss the salient theories of how obesity has come to be labelled as an epidemic.

Theories of how obesity came to be. Before the nineteenth century, food scarcity and lack of resources led to individuals being underweight globally (Fogel & Costa, 1997). It could be argued that around the time of the Industrial Revolution, higher body weight would create better productivity amongst men as they were more capable of manual labour. This increase in body weight could have been economically motivated, requiring the mass production of high-fat saturated foods that were more affordable and easier to produce than their healthy counterparts. In the 20th century, it is believed that the introduction to fat-laden, high-caloric foods has led to problems with obesity as it became easily accessible and affordable (Wright & Aronne, 2012).

Fast foods and the increase in portion sizes have also contributed to the overweight/obesity epidemic. Young and Nestle (2001) compared portion sizes of popular fast food restaurants (and popular foods in those restaurants) throughout the years and found that the increase in portion sizes within marketplace foods have grown exponentially and parallel an increase in obesity. Quality and quantity of food is only one piece of the problem. There also has been growing trends towards a more indolent lifestyle.

After the industrial revolution, life became physically less demanding for the individual and people are now able to live more sedentary lifestyles. In the United States of America, the number of labourers declined by 64% between 1910 and 2000 and the number of farmers declined 96% in those years demonstrating a shift away from the physically demanding occupations towards professional, clerical and sales positions (Wyatt & Hecker, 2006). With advances in technology, youth began to spend their leisure time watching television, playing video games, and on the internet (Anderson, Crespo, Bartlett, Cheskin, & Pratt, 1998). Four out of five of today's adolescents from European and North American countries are not meeting the suggested requirements of physical activity to maintain a healthy lifestyle (Kalman, Ichley, Sigmundova, Ianotti, Tyjala, et al., 2015). Children are spending up to 9 hours per day being sedentary, and TV watching is not only leading to obesity, but also is correlated with lower self-esteem and decreased academic achievement (Tremblay, LeBlanc, Kho, Saundres, Larouche, Colley, et al., 2011).

This sedentary lifestyle is consistent with adults at the workplace where machines have replaced humans for many laborious jobs. As the more active (e.g., goods producing

and agriculture) occupations decrease in proportion, and more sedentary (e.g., administrative and technical) occupations are on the rise, occupational activity requirements have decreased by more than 100 calories per day between 1960 and 2010 (Church, Thomas, Tudor-Locke, Katzmarzyk, & Earnest, 2011). With less physical strain in the workplace and at home, energy expenditure is not exceeding food intake, thus may be contributing to the obesity epidemic. With the overwhelming increase in obesity there have been many ways to combat this issue and these have become more tailored overtime.

Ever-changing weight-loss strategies. Western diets before the industrial revolution would have consisted of wild plant and animal foods, however the industrial revolution changed the way food was processed forever (Cordain et al., 2005). Popular diet fads have ranged throughout history from the Lucky Strike (cigarette) diet in 1925 which used nicotine to suppress the appetite to the Hollywood Diet in the 1930s (designed to reduce caloric intake) (Rotchford, 2013). Weight-watchers was developed in 1963 and is still one of the most popular dieting strategies today, and the 1980s demonstrated a shift towards work-out videos and exercise trends. In the 1990s low-fat diets became popular and the Atkins Diet was created emphasizing a high-protein, low-carb diet (Rotchford, 2013). The low-carb craze carries on into the early 2000s and today the Paleo diet is a popular trend which is based on the eating habits of the hunter-gatherers that existed 10,000 years ago. With diet fads changing so much over the years there is one method that is agreed upon today to be beneficial to weight-loss and that is the combination of diet and exercise (Curioni & Lourenco, 2005). Recommended guidelines for healthy living have also changed with time. The current guidelines suggest 30 minutes of

physical activity a day for five days of the week in order to reduce weight and the risk of obesity (Volek et al., 2005). For individuals that cannot attain weight loss through these more conventional methods such as diet and exercise, WLS has recently become an option.

Introduction of WLS. Weight-loss surgery was introduced about 50 years ago (Fobi, 2004). There have been many changes with regards to the way this surgery is performed and the accessibility of this surgery over the years (Fobi, 2004). According to Fobi (2004), the first WLS consisted of strictly a malabsorption technique called jejuno-ileal bypass and by the 1960s gastric bypass (GBP) was introduced and this focussed on a decrease in the size and therefore the capacity of the stomach. In the 1980's, gastric banding and other restrictive techniques were the front runners in this field and there have been many developments since then, however each technique has had limitations ranging from malnutrition to weight-regain. Today, Roux-en-Y gastric bypass is the most widely used procedure (accounting for more than half of the weight-loss surgeries performed in North America; Maggard, Shugarman, Suttorp, Maglione, Sugarman, Livingston et al., 2005).

The Obesity Action Coalition in 2011 estimates that the gastric by-pass accounts for about 85% of WLS in North America. This surgery is both restrictive (the stomach is sectioned off into a smaller pouch) and impacts the absorption of foods (absorption of calories and malabsorption of minerals and vitamins as the duodenum is bypassed reducing caloric intake) and is effective for greater than 90% of patients resulting in 80% of excess weight loss (Fobi, 2004). Individuals are considered candidates for this surgery

if they have a body mass index (BMI) ≥ 40 kg/m², or BMI ≥ 35 kg/m² with comorbidities and who have attempted weight-loss unsuccessfully in the past (Fobi, 2004).

The Macrosystem. Because the Macrosystem encompasses broad elements that surround the individual such as culture and government, some obvious connections are apparent with regards to obesity/WLS in this system. The literature presented here investigates the concept of obesity and WLS at the Macrolevel will give a general understanding of how this issue fits within Bronfenbrenner's (1977) model.

Government implementation. In response to calls for improved access to WLS, the Ontario Government invested \$75 million dollars directly into facilitating these surgeries between 2010 and 2012 (Ontario Ministry of Health and Long-Term Care, 2011). This funding decision demonstrates how a government implements changes over time to benefit the individuals which it represents (a connection between Chronosystem, Macrosystem and Microsystem). This funding was intended to benefit obese individuals by creating less wait times in hospitals and more efficient Centres of Excellence (multidisciplinary centres specializing in applying bariatric surgery techniques to with loss). It could also be argued that accessibility and public funding lead to greater use of the procedure thus benefiting the hospitals and the surgeons financially. The two sides of this argument demonstrate the bidirectionality of the system and how the subsystems mutually shape one another.

Wait times for WLS were reported as approximately five years in 2009 and Christou and Efthimiou (2009) reported 12 individuals who died waiting for this surgery at the McGill University Health Centre (Christou & Efthimiou, 2009). Money invested to

make Centres of Excellence more efficient and to reduce these wait times may be viewed as the Government's response to individual needs of the bariatric patients in this area.

Although information on wait-times is not available, the number of surgeries in Ontario has increased by 300% between 2006-2013 which may demonstrate the increase effectiveness of these centres (Canadian Institute for Health Information, 2014).

Approximately 1,600 procedures were performed between 2006-2007 and between 2012-2013 6,000 procedures were performed in Canada (Canadian Institute for Health Information, 2014).

Obesity in the media. Hilbert and Ried (2009) suggest that obesity-related coverage in local and national newspapers may lead to further stigmatization, as little information on prevalence and etiology of obesity especially in the local and tabloid news is portrayed. Hilbert and Reid (2009) used content analysis with a coding system deemed reliable to review 222 articles pertaining to obesity. Although national and local newspapers were more accurate with articles that were related to obesity than tabloid magazines, these sources still portrayed obesity as being attributed to the individual which would propel the stigma of the individual being to blame because he or she may be lazy or unmotivated. It is possible that the messages depicted in our local and national news may have impacts on the individual and how they are perceived and treated by those around them. These examples of obesity in the media demonstrate that weight issues are not explicitly located at an individual level.

Obesity online. Obesity and WLS can be seen at a more cultural level through government strategies, mass media's biases towards a thinner ideal, and propelled stigmas in the local and national newspapers. Another way obesity may propel a stigma at

a cultural level is through the internet. A study conducted by Yoo and Kim (2012) analyzed 417 obesity videos on YouTube. Videos were searched for using the words 'obese' and 'obesity' and content analysis based on the type of video and type of messages portrayed in the video was conducted. Authors suggest that responsibility for obesity appears to be put on the individual, thus promoting teasing and propelling stigmatization. Furthermore, Yoo and Kim (2012) determined that there are many stereotypical videos on YouTube that showed obese people engaging in eating behaviours, again promoting the notion that obesity is solely due to personal choices and behaviours. Within their analysis a theme emerged that the solution to obesity is the individual's sole responsibility in terms of exercise and eating healthy. This blame on the individual was consistently found to appear in these YouTube videos. A further finding indicated that 20% of videos that were analyzed portrayed an obese individual as the object of humour or teasing. Considering some of these teasing videos had 9,000,000 views, they reach a large audience and may propel stigmatization towards obese individuals. Because people of all backgrounds can post videos on YouTube, negative portrayals of obesity can be depicted and this can be very hurtful for obese viewers and very misleading to others. This emphasis on personal blame portrayed in some videos contributes to the notion that obesity is due to individual attributes such as laziness, instead of suggesting there are social and cultural elements which contribute to obesity.

Some clear examples of how obesity and WLS can be reflected at a more cultural level can be seen in Newspapers and YouTube videos. Individuals and couples cannot disconnect themselves from the images in the media as it is these images which shape individual body perception, sense of self, and guide discourse within relationships. These

sources of information also guide the ways in which the general public understands and treats individuals with obesity, further propelling the way individuals who suffer from obesity feel and behave. Ways in which obesity and WLS are reflected at the Exosystem level will be discussed in the next section.

The Exosystem. Obesity and WLS fit into the Exosystem in such areas that directly surround the individual such as the workplace, health care systems and extended family and friends.

Obesity in the workplace. Obesity has a negative impact on employment prospects and pay where obese individuals have lower annual household incomes than average-weight counterparts (Finkelstein, Ruhm & Kosa, 2005). Obesity is associated with lower-paying occupations related to workplace stigmas (Smith & Holm, 2010). Pingitore and colleagues (1994) demonstrate workplace prejudice against obesity in their study in which actors, using an obesity-prosthesis, attended job interviews with employers naïve to the contrived obesity situation. Thirty-five percent of variance in the hiring decision was based solely on body weight. This bias may be due to the social stigma attached with obesity (employees may be concerned that these applicants are lazy and unreliable in the workplace), but may also relate to the financial costs associated with obesity in the workplace (higher incidence of workplace injuries, more sick leave, and overall higher health-care costs owing to poor physical health; Schmier, Jones, & Halpern, 2006). These issues may also motivate individuals to lose the weight to increase employment prospects. The issues related to obesity in the workplace may well impact the patient at a micro-level, as this type of discourse will have affects on their perception of self.

Mesosystem. As the Mesosystem pertains to interrelationships between the individuals and the most immediate surroundings, in this section obesity and WLS will be discussed in relation to friendships (and how WLS impacts these relationships), family support and how this enables weight-loss following surgery, and finally the spousal relationship and/or support which is ultimately the main focus of this study.

Obesity and social interactions. Obesity can impair interpersonal relationships. A study by Miller, Rothblum, Barbour, Brand and Felicio (1990) demonstrated the ways that obesity may affect social interactions. Researchers conducted a study in which they had obese and non-obese women, whose identity was blinded, converse over telephone to college students who were not told the weight of the women (Miller et al., 1990). College students then rated the women's conversation skills on several dimensions, regarding whether conversations got off to a good start; the women had good social skills; they were easy to talk with; they were good conversationalists; they were poised; competent and put their partner at ease; and, ended the conversation well. The researchers found that women who were obese were rated as less likable and made poorer impressions on the college students rating them than did women who were non-obese. These findings demonstrate differences in social skills between obese and non-obese women. Furthermore, findings in this study demonstrate that the more obese the women were, the less likable their ratings. Social self-esteem was measured in the participants, and although non-obese women showed higher social self-esteem scores than obese women, these differences were not significant (Miller et al., 1990).

The researchers suggest that because of the stigma associated with obesity, obese women may be used to being ignored or treated poorly by others and therefore social

interactions in the past may have been limited, creating poorer social skills (Miller et al., 1990). Another theory was that obese women expect negative reactions from others during interactions. The researchers further argued that because obese women thought that they would be disliked they actually behaved in ways that would make people dislike them producing a self-fulfilling ‘prophecy’. Here, expectations may affect behaviours negatively. A last theory from the authors was that obese individuals have different speech cues associated with obesity that were detected, and judgement was made based on these speech patterns. One thing the authors did not suggest was that maybe these individuals are obese because of their negative social interactions. Negative reactions from others could have led individuals to seek out food as a coping strategy and obesity may have stemmed from these interactions. Regardless of the direction of causation, it can be argued that obesity is linked with negative interpersonal interactions, thus making it harder for these individuals to make personal connections. Although interpersonal relationships may be harder to form, individuals going through the process of WLS benefit from support, thus these social relationships are very important throughout this journey.

The importance of social support. Social support is suggested to be beneficial to the healing process in achieving and maintaining weight-loss after surgery (Sockalingham, Hawa, Wnuk, Strimas, & Kennedy, 2011). Support may come from family and friends ‘being there’ to talk to when dealing with this major transition, but also, Livhits and colleagues (2011) suggest that support in the form of support groups may result in more successful weight-loss for those involved. Mankhouse, Choudry, Sergeant and Woodcock (2013) conducted telephone interviews with individuals who had undergone gastric

bands, gastric bypass, and sleeve gastrectomies. Information on attendance in support groups and frequency of attendance was collected along with demographic details regarding BMI, and amount of excess weight-loss. Results suggested that patients who are more agentic in their weight-loss pathway are also more likely to be attending the support group more regularly. Because the support groups are generally patient led, individuals attend these out of their free will and they can attend as often or as little as possible regardless of where they are in their WLS journey. Because attendance is not monitored, personal motivation is the main driving force in attending, thus individuals who are more motivated to attend the support group may also be more motivated with regard to their weight-loss and the process as a whole.

Weight-loss surgery's impact on friendships. Extreme changes that an individual experiences going through WLS (both psychologically and physically) may change that individual so much that their closest relationships are impacted. When friendships are established with obese individuals, Throsby (2008) suggests that surgery may provoke quarrels within these friendships (particularly friends that have not been in contact with the individuals who underwent surgery since before surgery). Throsby (2008) discusses how one individual in her study saw a friend for the first time since surgery and was instantly asked about how they achieved their weight-loss. This may seem like a normal question to ask somebody after such an extreme transformation, however there are stigmas associated not only with obesity but also with WLS itself. Weight-loss surgery is viewed by some as being 'the easy way out' in combating obesity, and because of this, revealing to someone that one had the surgery can be very embarrassing and uncomfortable.

The impact of WLS on the family unit. It may be assumed that since weight-loss happens so quickly after surgery and is such a radical transformation in such a short period of time for these individuals, this change in the family unit may be quite radical as well. It takes years for individuals to get to the point of an obesity intervention as severe as WLS, but after WLS everything changes in a matter of months and therefore mental schemas have to change profoundly and just as quickly. Physical changes may happen faster than mental and psychological change (Lepage, 2010). Therefore a disconnect lies in the physical and mental transformations. This situation may be the same for the family unit in that the individual that has undergone surgery changes faster than the families schemas and therefore activities and lifestyles are changing rapidly without time for adjustment. Weight-regain is always a concern for those going through WLS and it may be assumed that this weight-regain would impact a relationship in a different sense than the weight-loss does. Although it is acknowledged that this may be a source of stress on an individual that may have impacts on the marital relationship, this is beyond the scope of this study and is not something that will be further explored in the current research. As there is currently no research identifying how weight-regain affects marital satisfaction, there is an need for this research to identify these gaps.

The impact of surgery on romantic relationships. After extreme weight-loss following WLS, individuals may become more mobile, pain-free and able to engage in more sexual activity with their partners. Applegate and Friedman's (2008) meta-analysis indicated that spouses may engage in more sexual activity following WLS as they are becoming more confident with their bodies. This new confidence in one spouse, however, may cause the other spouse to feel inadequate compared to their new-bodied spouse and

feel jealousy or fear that their spouse will leave them ‘for a better model’ (Applegate & Friedman, 2008). Furthermore, if there is increased activity post-surgery, the spouse may have been comfortable in their previous sedentary lifestyle, and may be reluctant or resentful of these changes. While Applegate and Friedman (2008) did find some research on marital outcomes following WLS, there are no articles in this analysis that have been conducted or published within the last ten years. Applegate and Friedman’s (2008) meta-analysis is dated, however the paper does supply the reader with a framework or idea of what may be expected throughout the journey of WLS.

A study by Clark, Saules, Schuh, Stote and Creel (2014) surveyed 361 post-operative patients focussing on relationship status and relationship satisfaction and found that relationships overall remained stable or improved post-surgery. This study demonstrates conflicting evidence about the impacts of WLS on romantic relationships. After reviewing research available on WLS and relationship satisfaction, it is clear that there are no definitive findings and research has been lacking in the past decade especially in terms of the mechanisms of dynamics within couples following surgery. It is very important to have up to date research with clear implications so that these individuals and their spouses can get the proper care.

Marital Satisfaction. Porter and Wampler (2000) examined personal changes and marital changes following Vertical Banded Gastroplasty (VBG). Researchers used the Beck Depression Inventory, Coopersmith Self-Esteem Inventory, Body Mass Index and the Lock-Wallace Marital Adjustment Test before surgery, 6 months after surgery, and 12 months after surgery. Twenty-eight participants were involved in pre-and post-surgery analysis. In regard to marital satisfaction, there were no significant changes. Porter and

Wampler (2000) suggested that marriages adapted to the loss of obesity. In relationships where obesity was a negative issue and source of conflict, this negativity would influence other areas of their marriage such as children and finances. In the marriages where obesity was seen as a positive source of maintaining the relationship, the focus shifts to the patients' other physical ailments such as knee or back problems or side effects from the surgery. Porter and Wampler (2000) suggest that some relationships stay strong because one spouse needs the other to help them physically/emotionally and when there are changes in that regard to the relationship (ie. rapid weight loss following surgery takes away the care-giver role), life for these individuals will shift to accommodate their roles in a new way. Couples may adjust to rapid weight-loss by shifting their focus to new areas of pain or conflict to accommodate their roles.

Although there is very little research on marital satisfaction with regards to WLS, some parallels may be drawn between marital satisfaction and other health issues. Bermas, Tucker, Winkelman and Katz (2000) conducted a study examining marital satisfaction in individuals with rheumatoid arthritis (RA) and their partners. Individuals with RA (N=79) and their spouses were surveyed using the Kansas Marital Satisfaction Scale, the revised Ways of Coping Questionnaire scales, and the Health Assessment Questionnaire. Findings indicated that individuals with lower reported marital satisfaction demonstrated more passive coping styles when dealing with their health. Furthermore, they found women (but not men) reported lower marital satisfaction when they had sick partners. This may lend itself to the current research as there are health related issues commonly associated with obesity. Health problems such as sleep apnea and cardiovascular disease may have negative impacts on relationships and this may be true

more so for wives than for husbands according to Bermas and colleagues (2000). Also, those in more satisfying relationships may be more active in their coping strategies when going through the journey of WLS.

Using a national longitudinal survey involving participants followed over a 15-year time period, Umberson, Liu and Powers (2009) studied the recursive effects of marital status and marital transitions and weight change. BMI, and marital status were gathered at baseline and changes in marital status were tracked over time. It was found that marital dissolution had the strongest impact on weight. The effects of divorce on weight-change appear temporary where individuals tend to lose weight temporarily, however widowhood weight-loss seems to endure. Furthermore, long-term weight-loss maintenance was strongly associated with relationship satisfaction indicating happiness in a relationship may lead to healthier behaviours related to weight-loss and weight-loss maintenance. Although this study does not take into account marital satisfaction and weight-loss surgery specifically, it can be noted that the transition out of marriage, or possibly just a drastic change in any form, may influence weight-loss rather than marital status in general.

As suggested by the literature reviewed, While there are a few studies published within the past decade that discuss WLS and marital impacts directly there are some parallels that can be drawn through other health issues. The point is that there are still large gaps in our understanding of what WLS is like for the individuals and their spouses and what impacts WLS have on the couple. There is no current literature exploring marital outcomes or marital impacts throughout the journey of WLS. Furthermore, there is no research that examines the social determinants of successful weight-loss in the

context of WLS. Research in the past has primarily focussed on the biomedical model. The current study attempts to address these gaps in portraying a clear and accurate picture of what aspects of a marriage are impacted following surgery and what the individuals and their spouses deem important throughout this journey from their own point of view.

The Microsystem. The way that WLS affects the individual is most commonly researched (especially with regards to the physiological outcomes following the surgery). This section will give a brief overview of the ways in which the individual is impacted following surgery with regards to physiological outcomes as well as psychological impacts.

Physiological effects of obesity and WLS. Obesity has been linked with many negative health effects such as type 2 diabetes, respiratory problems, sleep apnea, cardiovascular disease, cancers, and hypertension (Cawle et al., 2007; Haslam & James, 2005; Prentice & Jebb, 1995; Sims et al., 1973). In order for an individual to even be considered for WLS they must have a BMI score of 40 kg/m² or a BMI of greater than 35 kg/m² with other comorbidities and who have unsuccessfully attempted weight-loss in the past (Fobi, 2004). Roux-en-Y gastric bypass is the most common WLS performed in North America accounting for 85% of all WLS (Obesity Action Coalition, 2011). For this surgery, a smaller stomach is created and the duodenum is bypassed which allows for both reduction in size and malabsorption (less caloric intake) (Fobi, 2004).

From Fobi's (2004) review of existing medical literature, this procedure is reported to be effective for 90% of patients and may result in greater than 80% of excess weight loss (Fobi, 2004). Fobi (2004) states that extreme weight-loss following surgery may

reduce an individual's risk of dying by 89% compared to their overweight counterparts that do not undergo surgery. Weight-loss following surgery also may lead to increased mobility, improvements in sleep apnea, amelioration of diabetes, improved hyperlipidemia, and improved blood pressure and lipid, glucose and insulin levels (Adams et al., 2010; Gimaldi & Van Etten, 2010; Grunstein et al., 2007).

Although weight-loss happens almost immediately following surgery, this momentum dissipates as the body adapts to the procedure. Weight-regain becomes an issue at approximate two years after the surgery and may remain a fear or issue throughout the lifetime for individuals post-surgery (Livhits et al., 2011). Odom and colleagues (2009) found that the major predictors of weight-regain after WLS include increases in food urges and addictive eating behaviours. The strongest predictor of weight re-gain however appears to be self-monitoring behaviours, in that if patients stick to structured diets and are cognizant of their eating and exercise behaviours weight re-gain is less likely (Livhits et al., 2011; Odom et al., 2009)

Psychological effects of obesity and WLS. Psychologically, emotional eating is said to be a major contributing factor leading to obesity (Andrews, Lowe, & Claire, 2011; LePage, 2010). Emotional-eating may be a result of depression where individuals use food as a source of comfort for stress (LePage, 2010). Low self-esteem, lack of coping strategies and lack of satisfaction of basic needs may also contribute to emotional eating, thus resulting in obesity (Isnard et al., 2003; Laitinen, Ek, & Sovio, 2002; Timmerman & Acton, 2001). Obesity is also linked with anxiety and mood disorders, however causality and directionally has yet to be established (Simon et al., 2006). When obese individuals unsuccessfully attempt weight-loss, this may lead to further feelings of failure and self-

doubt which could lead to more emotional-eating, thus creating a vicious cycle leading to further obesity (Laederach-Hofmann et al., 2002). Data suggests psychological impacts related to obesity, however the psychological impacts resulting from extreme weight-loss following WLS is less well-understood.

Using a phenomenological approach, LePage (2010) interviewed 12 individuals who had undergone WLS. She observed that following WLS there seems to be a clear disconnect between body and mind as weight-loss appears to happen faster than changes within their schemas. Munoz and colleagues (2010) conducted a study investigating changes in ideal body images from pre-surgery to one year after surgery. Obese individuals (N=57) indicated their current and ideal body shape both pre and post-surgery. Results suggested that one year after surgery individuals shifted their ideal body image to become thinner as demonstrated by the changes in ideal body image chosen by the participants. The shift in ideal body image suggests that individuals are still striving for a thinner self even after weight-loss is achieved. Adami and colleagues (1999) discuss that this persistent dissatisfaction with body image may lead to cognitive distortions. As individuals are not able to rely on food for comfort after surgery (as their stomachs can no longer accommodate that much in volume), there appear to be transfer addictions whereby individuals seek out new sources of comfort such as excessive shopping, gambling and drug use to 'fill the void' (LePage, 2010). LePage (2010) also notes that since some patients are obsessed with avoiding weight-regain, there have been reports of anorexia-like behaviours.

Present Study

The ecological model suggests that not only does the environment around an individual play a role in shaping that individual, but the individual also plays a role in shaping the environment (Bronfenbrenner, 1999). This reciprocal relationship between individual and the environment therefore indicates that extreme shifts in one system (such as extreme weight-loss following WLS) may cause shifts in the environment surrounding them. Within the family unit specifically, there appears to be a concept of 'wholeness' in which a family is comprised of different individuals that collectively function as one complex unit (Anderson & Sabatelli, 2011). This concept may suggest that a crises or shift in one member would affect the unit as a whole. This view may be particularly salient in the marital relationship. It is this logic that provides rationale for this study as we may assume that when one individual in the family (or two) undergo WLS, individual shifts and conflict stemming from weight-loss may affect the family, and specifically the marriage, as a whole. It is thus understandable that within a marriage there will be reciprocal trade off of support, increased sexuality, and maybe even stress between a couple. The ways in which WLS impacts a family unit is less understood as little research has explored this phenomena.

The current study aims to fill in gaps within the realm of the Mesosystem with a clear focus on a couple's adjustment following weight-loss surgery. No known studies have directly examined the spouses' perspective and what the experience of their partners' WLS has meant to them or considered both individual and the spouses perspective at the same time. It is the goal of the current study to fill in these gaps by

interviewing spouses about their experience throughout the WLS journey of their loved one and to identify what (if any) paradigm shifts take place in this regard.

It may be assumed that since weight-loss happens so quickly after surgery and is such a radical transformation in such a short period of time for these individuals, this change in the family unit may be quite profound. It takes years for individuals to get to the point of an obesity intervention such as WLS, but after WLS everything changes in a matter of months and therefore stigmas and schemas attempt to change profoundly and just as quickly. As we have seen in previous literature such as LePage's (2010) study, individuals physical changes may happen faster than their mental/psychological changes and therefore a disconnect lies in the physical and mental transformation. This situation may be the same for the family unit in that the individual changes faster than the family schemas and activities and lifestyles are changing too rapidly for schematic adjustment.

There are two overarching research questions asked in this study and they are: "how does WLS affect marital satisfaction?" And, "what factors are affected by this process?" As noted earlier, it is suggested that support from the spouse can affect weight-loss success and maintenance, but little is known how this process and extensive life transition affects the marriage. If this whole process is unexplored in research and health care professionals do not fully understand what is going on at the Meso-level, this lack of understanding can be problematic for health care providers when serving individuals and their spouses.

Overall Design. As introduced in the preface, in order to answer these research questions, a mixed-methods approach was adopted. In phase 1, a qualitative study was

used to inform how WLS and couple relationship interact from the perspective of couples where one or both individuals have undergone the surgery. Semi-structured interviews with couples allowed me to gain a richer and more descriptive understanding of this phenomenon. Qualitative analyses using both Grounded Theory and Interpretative Phenomenological techniques allowed me to develop categories and themes deemed important by the participants as they were salient and repetitive through interviews.

The issues deemed important by the participants were the focus of Phase 2 where scales were either adopted or developed to attempt to quantify this experience among a sample of wives and husbands undergoing surgery. These participants will be further discussed in the next section where procedure and interview protocol will be described. Phase 2 was designed to quantitatively explore the relationship between husband and wife for those before and after surgery, whether it be husband, wife, or both preparing for and/or having already had the surgery. After discussing the findings of Phase 1, Phase 2 will be identified and results will be examined, followed by an overall analysis section whereby findings from both Phases will be discussed as a whole.

Chapter 2: Methodology (Phase I)

The current study incorporates two phases: a qualitative phase (Phase 1) and a quantitative phase (Phase 2). For Phase 1, ten participants (five married couples) were interviewed in order to investigate the narratives of the experiences of weight-loss surgery throughout the journey (from pre- to post-surgery) in order to explore what aspects are affected (or not affected) throughout this journey. A case-study approach was adopted where elements from both interpretive phenomenological and grounded theory approaches were incorporated. Because very little research is done in the field of interpersonal relationships (specifically intimate relationships) and WLS, there are few theoretical models that can be accessed to inform the current research project. One of the goals of Grounded Theory is to allow the data collected to inform and develop theoretical models in an inductive manner. The Interpretative Phenomenological approach is less concerned with the development of theory and instead focuses on the constructed meanings that individual's impose on a phenomena, in this case WLS and intimate relationships. These methodological approaches were used in order to better understand these experiences from the individuals' perspectives, and to generate theory based on emergent categories (Willig, 2008). These approaches together allowed the researcher to attain a rich description of this experience to provide a better understanding of this journey. Aspects of analysis will be further discussed in the next section. All elements of this study were cleared by the Research Ethics Board at Trent University and can be viewed in Appendix A.

Recruitment and Participants

In order to be eligible to participate in this study, individuals must have been in a heterosexual relationship in which at least one spouse must have been either preparing for surgery in the following six months, or have had the surgery in the past five years.

Participants in this study were recruited from a bariatric support group through connections made from the supervisor as well as personal connections that the researcher made with individuals outside of the support group. In the support group the researchers were able to introduce the study and recruit two couples (four participants) for the qualitative portion of this study, and through personal connections, three additional couples (six participants) were also recruited.

Procedure

Individuals were asked to meet in a comfortable and quiet environment (individuals from Dyads 1 to Dyads 4 had met at their homes, and individuals from Dyad 5 met with me individually at two different restaurant locations). Participants were introduced to the study and consent was gained at this point (See Consent form in Appendix B). A questionnaire designed by the researchers was used to collect demographic information prior to the interviews. Couples then were interviewed individually in a quiet space away from their spouse and these interviews lasted between 20-60 minutes. Since the goal of the overall study was to explore the lived experiences of individuals and their spouses as they go through the journey of WLS, semi-structured interviews were conducted (See Interview Protocol in Appendix C). Interview questions were open-ended and non-directive in order to provide the participants an opportunity to share their own experiences without many prompts from the researcher (Willig, 2008).

My approach here was to comment only when the participant had finished their thoughts and to probe the participant to elaborate or stay on path throughout the interview. Field notes were taken after each interview whereby I would track any feelings, salient concepts that came up in the interviews, hunches and theoretical connections. Interviews were audio recorded and an interview protocol was used to guide the flow of the discussion, and to ensure that the research question guiding the study was adequately covered in the interview. Participants were provided the opportunity after the interview to ask questions or express any concerns and were asked if they would like a copy of their transcript. Participants were then thanked for their participation and received a feedback sheet (See Appendix D).

Interview Protocol

Because the primary researcher and supervisors of this study had engaged with individuals undergoing WLS in past research (investigating the overall psychological outcomes following WLS), there was some existing knowledge on the issues under examination of the current study. Drawing from past interviews and analyses, supervisors and the primary researcher discussed elements of relationships with regard to overall satisfaction, change in roles, and sexual satisfaction. Using this knowledge an interview protocol was developed (See Appendix D) exploring overall marital satisfaction throughout the process of WLS. Individuals involved in designing this protocol agreed that priming for satisfactory or problematic areas within the relationship was a good place to start. First, it was important to know what marital satisfaction meant to the individual being interviewed, thus “What does marital satisfaction mean to you?” was the first question asked by the researcher. Following this the researcher asked “Can you describe

what your satisfaction is with your marriage now?” and depending on the participant the follow-up question to that was “Can you describe your satisfaction with your marriage before the surgery?” or “Can you describe your expectations for your satisfaction after the surgery?” Asking for individuals to elaborate on these concepts allow for individuals to discuss their relationships in terms of constructs that we could further measure in the quantitative phase of our study. The researcher later asked “What areas of your marriage are problematic now (if any)?” followed by (again, depending on where the participant was in their WLS journey) “Can you describe what areas of your marriage (if any) you expect to be problematic after the surgery” or “Can you describe what areas in your marriage (if any) were problematic before the surgery?” After the first few interviews, concepts such as spousal support (which came up in all prior interviews) was added to the protocol so that these constructs could be further investigated.

Analysis

My supervisor and myself met after each interview to engage in discussions and interpretive analysis before conducting the next interview. As mentioned before, methodology strategies of Interpretive Phenomenology and Grounded Theory were co-opted such as open-coding, note-making, constant comparative analysis, axial coding and theme development. According to Liamputtong (2009) open-coding is used to break down the data into units that may be used to construct meaningful categories later on in analysis. By coding the data using line-by-line coding, the researcher was able to go back and make meaningful relationships within and between interviews during constant comparison. Axial coding combines data units into meaningful categories. From Grounded Theory, we adopted the concept of identifying categories, themes and

metathemes that emerged from the analysis of the data. The development of 'themes' is a recursive process, thus the researcher is always going back to transcriptions to discover repetition in concepts within and between interviews. After the interviews were transcribed, they were printed without names or other identifying information. I first began with coding at a Microlevel, which entails numbering each line of text in order to give the text unique meaning so that text lines may be identified later in the analysis. Next, I read through one transcript at a time, taking notes for concepts that were repetitive or salient throughout that particular transcript and used line numbers to track the concepts for future reference and reporting. I then read through the second transcript of that particular dyad and again took notes on significant ideas within that interview. Different coloured highlights were used to separate different ideas and find quotes to support these concepts. Comparisons were made between the individuals belonging to the same dyad and categories within that specific dyad were developed. I then moved on to the next dyad and repeated the process of category development. I used constant comparison between the dyads and formed higher level categories. Field notes were also considered at the time of comparisons and theme development to ensure that I was not missing any feelings or concepts deemed important at the time of these interviews. Through identifying relationships between themes I was able to cluster them together with regard to their shared and/or conflicting meaning or function in explaining the phenomenon at question (Liamputtong, 2009). Printed transcripts were kept in a locked drawer inside a locked laboratory that only myself and my supervisor could access. Transcripts were also stored on a secure hard-drive which was guarded by a password within a locked office.

Reflexivity

As a qualitative researcher it is my belief that I am not a passive recipient of information. It is my position that the researcher engages with the data throughout the process of collecting and analyzing research in terms of carrying their own belief system and this will affect the way data is collected, chosen, analyzed, and interpreted. This social constructionist stance acknowledges that there are many different ways of knowing and the researcher's interpretation or perception of some phenomena is only one possible version (Charmaz, 2006). This position does not mean that knowledge cannot be 'found' but it means that naïve approaches to 'one true body of knowledge' must be abandoned. A qualitative approach is appropriate to use for the purpose of this study as it has great emancipatory potential. Qualitative research encourages participants to be agentic and confident and can even be a cathartic experience. The participants become the experts and this helps to balance power between researchers and participants; it is the researchers' job to hear the meaning through these interviews.

It is important as a qualitative researcher to acknowledge any biases in order to be transparent and allow readers to see the full picture of what was involved with interviews, theme development and data analysis. As I had experience with individuals who had undergone WLS in my past undergraduate degree, there were some existing biases and past experiences that shaped this process. During an initial focus group in 2012 with individuals (and some spouses) who had undergone WLS, I felt as though I didn't belong in the room or the research because of my interpretations of the labels and reactions I elicited. I felt I was labelled by the participants and their spouses based on my body as I was smaller than the participants. Although everyone was warm and kind, I did not feel

that I had any business being there. Being an inexperienced, average-weight, undergraduate, it was as though I had no credibility and that it was offensive for me to be a part of this. With earlier research guiding the current study, developing rapport with these participants was very important as I had knowledge that these participants needed to feel comfortable and trusting in my presence. I chose to dress in a way that hid my body, and also made me look like a professional woman rather than a student. Minimal make up was worn to not come across as any type of threat to the women (as that's how I felt in previous research). I also wanted to have small talk with individuals before the survey so they could understand that I was there with no negative motivation. Four of the ten interviews were with individuals with whom I had an existing relationship with, thus first impressions were less important. What was more important for those four interviews was that they knew I was not there as a friend, I was there as a researcher and thus information would remain confidential.

It is also important to be clear as to how I developed findings and this is done by journaling thoughts, ideas and feelings throughout the process of collecting and analyzing research in field notes. Furthermore, field notes will allow for clarity when discussing how theories were developed and findings were determined as they will show thought processes by the researcher throughout the data collection and analysis. Field notes also provide a sense of authenticity and accountability as it allows one to demonstrate clearly how they came to these interpretations. Another way to remain authentic is by using direct quotes throughout the analyses to demonstrate that analyses are based purely on data units and not on the researcher's prior knowledge or intuitions (Charmaz, 2014).

Data demonstrates the personal accounts from the participants themselves allowing for less contribution from the researcher.

Chapter 3: Qualitative Findings and Discussion

Participants

Participants were asked to fill out a short demographics questionnaire (See Appendix D) in which findings are highlighted in the Table below.

Table 2. *Description of Participants as Indicated in the Demographic Questionnaire*

Participants	Surgery Date	Weight Lost	Current Medications	Applied to Childhood (as indicated by checklist)	Behaviours that Apply (as indicated by checklist)
Dyad 1 Together 11 years D1P1- Husband D1P2-Wife (preparing for surgery)	4 months after interview	N/A	-Gabapentin -Tylenol arthritis -Amitriptyline -Coversyl -Ventolin -Advair -Prevacid	-Happy childhood -Emotional behavioural problems -School problems -Used alcohol -Sexually abused	-Overeat -Procrastination -Poor concentration -Lazy
Dyad 2 Together 1.5 years D2P1- Husband D2P2-Wife (preparing for surgery)	2 weeks after interview	N/A	-Paxil -Iron pills	-Ignored -School problems -Financial problems -Drug use -Severely bullied or teased -Eating disorder	-Overeat -Outbursts of temper -Work too hard -Sleep disturbance -Overspending -Lazy Eating problems -Crying
Dyad 3 Together 8 years D3P1- Husband D3P2-Wife (had surgery)	22/08/13	77lbs	Vitamins	-Happy childhood -Death in family -Used alcohol	-Drink too much -Overspending -Other: Assertive
Dyad 4 Together 23 years D4P1-Husband D4P2-Wife (had surgery)	08/01/13	73 lbs	Vitamins	-Unhappy childhood -Legal trouble -Death in family -Medical problems -Financial problems -Drug use -Sexually abused -Physically abused -Severely bullied or teased -Eating disorder	-Overeat -Take drugs -Unassertive -Outbursts of temper -Work too hard -Impulsive reactions -Sleep disturbance -Withdrawal -Smoke -Phobic avoidance -Overspending -Eating problems -Crying
Dyad 5 Together 14 years D5P1- Husband (had surgery)	15/12/10	112 lbs	None	-Happy childhood	-Outbursts of temper -Work too hard -Poor concentration
D5P2-Wife (had surgery)	04/10/10	75 lbs	Nexium	-Happy childhood -Drug /alcohol use -School/financial problems -Sexually abused	-Overeat -Drink too much -Impulsive reactions -Poor concentration

The five couples participating in Phase 1 of our study are described in Table 1. Each pair of interviews (husband and wife of each dyad) were treated as a unit of analysis.

For the purpose of this discussion, unique aspects of Dyads 1 and 2's relationships will be discussed first. Since much of the categories are shared between these dyads they will be combined into a 'pre-surgery' group and shared themes will be discussed accordingly. Next the nuances of Dyads 3 and 4 will be examined, and again, these two dyads will be combined as a 'post-surgery' group as many themes are shared between the two. After this, a summary of certain themes that were similar between, or flow between pre and post-surgery ('shared themes') will be discussed. Lastly, Dyad 5 will be discussed separately because they are unique as both individuals had the surgery in the past three years were analyzed for emergent themes. This couple was separated from the rest as their experiences appeared to have distinctive features that were not parallel to couples where only one spouse was having, or had the surgery. This is not to say that there were no similarities between the 'both' couple and the 'pre'- and post'-surgery couples, yet it is the researchers belief that the couple who both had a surgery had a story with some overlap, but was ultimately unique from the previous couples.

All of our dyads were ones in which the women had the surgery (except for Dyad 5 whom both had received WLS). Therefore when using terms such as 'wives' results are not meant to portray a gender analysis. One could say 'patient' or 'those who have undergone the surgery' rather than 'wife' for all cases. It is essential that readers do not consider any gender analyses when the researcher uses the terms 'wives' and 'husbands' unless gender analyses are explicitly stated.

Dyads 1 and 2: ‘Pre-Surgery’

Dyad 1. Dyad 1 consisted of a married couple in their early 50s that had been together for 11 years. They live in a small town with one child who was from the wife’s previous marriage. The wife was preparing for the surgery three weeks post-interview and, as the husband was battling his own weight issues, he was supportive of her WLS decision. The husband of Dyad 1 was even excited to join his wife on her weight-loss journey. The wife expected that her husband would follow in her footsteps and go on to get the surgery himself: *“I know there’s going to be changes and I’m going to feel better about myself, but if he has [the surgery] too than we can do this together”* (TU: D1P2: 61-62). Although she was hopeful that he will also have the surgery, she indicated that they have great communication and their relationship was already strong pre-surgery. Participant D2P2 (the wife) indicated that although they were together 11 years, she never wanted to get married, however a year ago she finally said ‘yes’ which gave them both more stability within their relationship.

One distinguishing aspect of their relationship through the journey of WLS was that the husband in Dyad 2 is a professional cook. The wife expressed concern for this post-surgery. She discussed how her husband easily satisfied her food cravings. This was foreseen to be problematic when anticipating the future after surgery. This theory of food as a source of conflict will be further discussed in the ‘pre-surgery shared themes’ section to come.

Dyad 2. Dyad 2 consists of a couple married for a year and a half, with children from previous relationships, and residing in a close-knit neighbourhood. The children that lived with Dyad 2 were all the wife’s children and were all under the age of 10 adding

‘chaos’ to their lives. The wife discussed how their lives essentially consist of children and work but they do make time for each other late at night during ‘pillow talk’ where they discuss their respective days together.

The husband of Dyad 2 is a nurse and the wife is a receptionist at a walk-in clinic. Having medical backgrounds has allowed them to take a very practical and realistic approach to the WLS and they appeared to be well-informed about the procedure. Furthermore, because of acquired student loans, the husbands’ career choices also brought financial concerns to the family.

Similarly to Dyad 1, the husband in Dyad 2 is facing his own struggles with weight and looks forward to losing weight with his wife. The couple states that they are happy and secure in their relationship, however the wife said that the husband is concerned she is going to lose weight and find ‘somebody better’. Dyad 2 appears to be very happy in their relationship, however the wife stated that they had both been cheated on by their previous partners. This previous infidelity brought insecurity to the relationship and was discussed extensively by the wife, suggesting the wife may feel more insecure than the husband in this sense. She does however state that their communication skills are great and she is relying on that to get them through any rough times.

Pre-Surgery Shared Themes. Within these dyads, issues surrounding WLS were discussed however the most salient or repetitive themes of improved physical activity and worry for the future will be discussed here. Other themes such as support, sex, and issues around food (just to name a few) will be discussed in the ‘shared themes’ section as they were similar between pre- and post-surgery couples. There were many commonalities

among these dyads and the individuals within them, however there were some gender differences that were apparent and will be further analyzed. Themes such as sex, body image and support were also salient constructs discussed within these interviews, but these themes will be further discussed in the "overall" discussion where pre- and post-surgery couples will be examined in terms of similarities and differences (as this was a common theme between *all* dyads).

Hopes of Improved Physical Activity and Health. The hopes of an increase in physical activity post-surgery was discussed among all informants as being an important foreseeable aspect in the weight-loss journey pertaining to marital outcomes. The reasons for these expectations were discussed in terms of the physical weight-loss, increased mobility, and decreased pain, as well as in a more intimate level whereby individuals expect their improvements in physical activity will benefit a couples' closeness in terms of sex. A quote from D2P1 brings this expectation for physical activity improvement and 'closeness' to life: "*I just think our activity levels will increase... like we'll be able to do more so then we will do more and that will bring us even closer together...*" (TU: D2P1: 189-190). The expectation to 'do more' physically together makes the couples hopeful that this will bring them closer on an emotional level maybe because they will have more things to relate about. Doing physical things together such as trips to Canada's Wonderland with the children or going to baseball games is not a possibility pre-surgery as the wives are either limited by mobility or pain, or have problems sitting in the small seats of a stadium because of their size. While both husbands and wives discussed physical activity as being an important aspect that will likely influence their marriage post-surgery, there appeared to be a difference in expectations between the husbands and

wives in these dyads. Husbands generally discussed their expectations that physical outcomes following WLS will be the most important aspect in regard to their relationship/marriage. Life before the surgery is suggested to be emotionally daunting and filled with worry from the husbands' perspective as they express great concern for their wives' well-being. Participant D1P1 states that "*She's in pain... she's in pain because of her knees... and she will be more happier when the weight's gone and the surgery is gone... and it's all done*" (TU:D1P1:144-145). This quote demonstrates his knowledge of his wife's pain and how he expects the future to be 'happier' for her. Weight-loss surgery will provide her with the weight-loss needed to alleviate joint pain and this suggests that her current weight is keeping her from being her happiest. D1P1 discusses his expectations for improved health in his wife after surgery: "*and no more pills... taking pills ... that would be good...*" (TU:D1P1:139).

The fact that this husband is concerned with his wife's health and excited for a healthier future indicates that the WLS process involves and affects both spouses. The prospect of improved health for a wife makes a husband optimistic with regard to his marriage. Even though the husbands are not having the surgery, they are still looking forward to a more gratifying future with their wives. This notion of health concerns pre-surgery, and looking forward to not stressing about health post-surgery seems to be at the forefront for husbands whose wives are going through WLS and with improved health also comes prospects of increased activity. This may also be reflective of a 'fix-it' mentality that husbands bring to their marriages. Husbands expect physical activity to increase and therefore suggest that as a couple, they will be able to take part in more activities together.

For example, in regard to his wife's upcoming surgery, one husband states that if his wife loses more weight they will be able to take part in more things together such as attending baseball games:

“Doing more things would include going to baseball games and stuff you know? Just because we can go now, [but] those seats are a little too small too, like they're not comfortable. And if we're a little smaller they'll be more comfortable... Just the physical stuff. Like being able to do it comfortably you know” (TU: D2P1, L 101-106).

This quote further indicates the 'we' aspect of the WLS. It may be that because husbands have seen their wives in pain for years, and have been concerned about their health issues pre-surgery, they are excited to partake in a new, pain-free life together whereby they can *do* more together. This new life is expected to incorporate more activities and become less sedentary which is also expected to lead to an increase in marital closeness and satisfaction.

While husbands are so preoccupied with these changes in health/activity, wives have similar notions yet this is not brought up as frequently during interviews. The wives talk about activity in terms of looking forward to doing 'everyday things' that are a struggle now because of their weight. One wife states:

“I think we'll be out by ourselves more, probably walking the dog a lot more, he has foot issues and I believe it's from his weight. My knees, you know I have arthritis in my hip and stupid little things like that you shouldn't have it... I mean I'm only 37 you know you shouldn't have that at 37 and I know it's from the weight, so I'm hoping that we can umm... go out more, I'll have more energy to cut the grass, to do more everyday things” (TU: D2P2, L102 – 107).

This quote indicates that like the husbands, the wives are looking forward to improved health as they can take part in more activities as a couple. Furthermore, this quote demonstrates a sense of excitement for independence. Doing 'everyday things' such as cutting the grass is something that non-obese people would take for granted (and

normally would not be too excited to take part in), but this participant is looking forward to engaging in this routine activity. Furthermore, doing things with their spouses seems to be common between husbands and wives and not being able to partake in activities appears to be a concern.

Women are also able to identify that their husbands have concerns about them in terms of their health. Participant D2P2 states “*I think he’s concerned for my health... and you start getting up in age and you have these problems and you start thinking diabetes and heart attack and stroke...*” (TU: D2P2: 455 – 458). This quote indicates that not only are the women frustrated with the fact that their health prevents them from being mobile and taking part in activities with their husbands, but they are also feeling the unease from their husbands. This demonstrates a multi-dimensional effect in terms of health; one person’s health in a relationship can influence their spouse and these health concerns truly appear to be shared between husband and wife. Furthermore, data suggests that the wives in these dyads are looking forward to being able to take part in more day-to-day activities, whereas husbands discuss more special events. Along with health comes healthy eating and an expected battle surrounding food is also predicted by these individuals.

Negative Emotions Towards Surgery and Relationship Security. Although there are a lot of positive expectations in terms of increase in physical mobility and overall health, there are also negative emotions discussed within the interviews such as worry and fear. Worry and fear can often be mistaken as the same emotion, however for this discussion the researcher uses these terms as distinct from one another. Worry for this discussion refers to negative ruminations towards events that are yet to come. Fear on the

other hand is a more prominent response to events that are in the present. It is understandable that the women who are preparing for surgery are worried about the procedure and their outcomes, but the fact that the men express similar concerns demonstrates the all-encompassing nature of WLS and how change in one spouse does impact the other. One husband expresses his worry for his wife undergoing the surgery by stating “... *and there’s the unknown too, because we don’t know if everything will go perfectly and there’s always problems that could happen, so that’s always a concern*” (TU: D2P1: 284-286). WLS is not without risk and the husband is very conscious of these as suggested in this quote. Furthermore, the men also express their awareness that the women are concerned (or going to be concerned) for them and their weight. D2P1 stated “*But she’ll be even more worried about me not losing*” (TU: D2P1: 227-228). This quote suggests that the husbands are not only worried about their wives, but also acknowledge that the wives are worried about them as well.

While the husbands are apprehensive about their wives going through the surgery, the wives demonstrate worry not just for themselves, but for their whole family. One wife stated “*I’m worried that I’m going to be a burden on my family for a little bit*” (TU: D2P2: 129). This statement once again indicates that WLS is a procedure that affects the entire family unit, and this wife is conscious of that and worried that her recovery will be a ‘burden’ for her family.

Worry does not only exist for individuals in terms of themselves and their loved ones following WLS, but it exists for both husbands and wives in terms of their marriages. One wife expresses this in a few ways. First D2P2 stated “*I’m really worried that I’m going through this process and he’s going to leave me at the end*” (TU: D2P2:

250-251). By D2P2 saying that she is afraid of her husband leaving her, she is possibly expressing her insecurity within the relationship and the outcomes following WLS. D2P2 further indicates that not only is she afraid that her husband is going to leave her after the surgery, but she also feels that her husband is worried about the state of their relationship after the surgery “*He’s worried that I’m going to lose weight and I’m going to find somebody better*” (TU: D2P2: 273 – 274).

Besides worry, another negative emotion that was prevalent amongst the pre-surgery couples was that of fear. “*There’s a lot of things I want to do with him that I’m scared to do now*” (TU:D2P2: 69-70) stated one wife as she discussed being intimate with her husband. D2P2 further went on to indicate that because of the weight, there were bladder problems that caused her to have some worry during sex and prevented her from trying new things in the bedroom. This fear of taking part in certain sexual acts with their partner may translate into other aspects of their lives. Obese individuals’ weight may prevent them from doing things such as travelling or going to sports games (as there is fear associated with venturing out of their comfort zones) that normal-weight individuals would not have the same difficulty with. When discussing their lives after the surgery, the fear still remains as the individuals confront a whole different realm of reservations. “*My biggest fear with losing weight is (other than my husband leaving me) is what I’ll look like without clothes on*” (TU: D2P2: 461-462). Women pre-surgery faced many uncertainties and this results in feeling scared and uneasy about many things; from their relationships dissolution, to the way their bodies will look like post-weight-loss.

Altogether, although fear and worry would appear to be commonplace for individuals, and especially those going through surgery, the majority of this fear and

worry are centered on the weight-loss involved in this procedure. Weight-loss is a unique outcome for this procedure unlike other surgical procedures, and comes with a lot of insecurity for the individuals as they think of their lives after the surgery. Participants discuss not wanting to be a burden on their family and also the worry of how their lives will change after weight-loss is achieved. This worry about the procedure and the outcomes following weight-loss can bring stress and negative interactions within the relationship.

In terms of negative emotions and apprehension that individuals express regarding the surgery, it appears that there is a cost-benefit analysis that is taking place. Individuals acknowledge all the risks and fears associated with the surgery but realize that without it, obesity will continue to affect themselves and their families in a negative way. Furthermore, for some, this surgery is a way to ultimately save their lives. Without surgery, health issues such as diabetes, sleep apnea, and joint problems will continue to cause burdens on their everyday routines and interactions. Although there is fear and worry present, it is not debilitating enough for individuals to forgo the surgery, as they know that WLS will benefit them long-term.

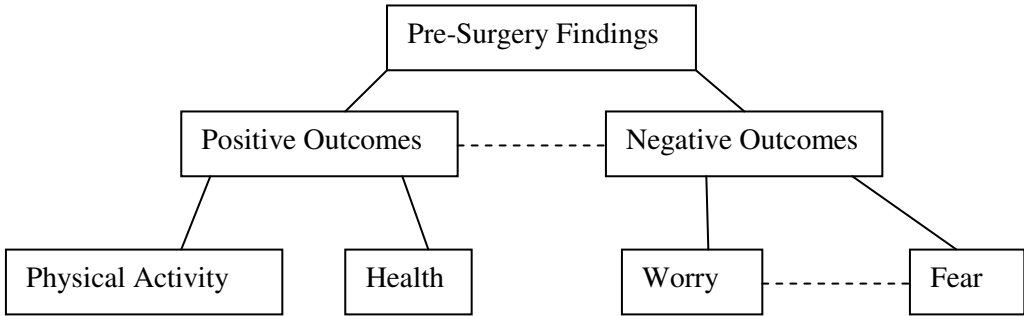


Figure 3. Depiction of Themes and Connections as Discussed by Pre-Surgery Couples

With respect to the connections between the positive and negative outcomes, participants (both husbands and wives) seem to be hopeful and positive in regards to their physical outcomes with the weight-loss increasing mobility and overall health. The negative outcomes are discussed slightly differently between the husbands and the wives. The husbands discussed worry and fear in regard to the potential physical risk involved with the surgery; however the wives discussed worrying about their family and relationship outcomes. There is an overlap in the husbands' discussion of positive and negative outcomes and this is in reference to the physical body/health.

The couples making up our pre-surgery group discussed two unique concepts beyond what was shared with the post-surgery group. While health and physical activity were at the forefront of the discussion for the husbands as they discussed potential changes or outcomes following surgery (such as more mobility thus enabling the couple to 'do more' together), there were some negative emotions such as worry and fear that were prominent throughout both the husbands' and wives' interviews. The post-surgery couples shared many of the themes with the pre-surgery couples, however one unique concept discussed by post-surgery couples involved drinking alcohol and this will be discussed in the next section.

Dyad 3 and 4: 'Post-Surgery'

Dyad 3. Dyad 3 consisted of a middle-aged couple who had been together 8 years. The wife had the surgery 6 months prior to the interview. They live in a large bungalow. Both had been married prior to this relationship. The husband from Dyad 3 has children from a previous marriage, however the wife does not. Both husband and wife reported feeling happy and secure in their relationship both pre-surgery and in the 6

months following surgery, although the wife indicated that her confidence had increased because of the surgery. When asked what her satisfaction looked like prior to the surgery the wife responded:

“I mean really we have a pretty good relationship so I would say that... you know we were both overweight so it’s not like I was overweight and he wasn’t, it was kind of like a team overweight. So now it’s changed in a sense that I feel better about myself... but do I think it makes my marriage stronger? I don’t think so... the surgery wasn’t dependent on us staying together” (TU: D3P2: 17-22).

This quote demonstrates a number of things about their marriage. Firstly, she states that the relationship was good prior to surgery and that her obesity was never an issue in their marriage and maybe this is because they were both overweight. Secondly she indicates that her marriage was not a deciding factor when choosing to undergo WLS. There were discussions from the husband regarding their strong friendship and how that was very important to him in terms of marital satisfaction.

Dyad 3 is similar to Dyad 1 in that the husband is a professional cook. There were indications throughout the interviews that his cooking was problematic for their weight and that even after the surgery there were issues with him adapting to her new needs in terms of portion sizes.

This couple is in a financial position that allows them to go shopping and go out for food and drinks regularly and they both admit they enjoy alcoholic beverages quite frequently. Reflecting on life after the surgery, the wife in Dyad 3 does acknowledge that restaurant bills are cheaper so this may mean she can shop more for clothes and go on vacations more regularly.

Lastly, as it was mentioned in the quote above, the husband in this couple had his own weight issues. D3P1 had actually planned on undergoing the surgery himself,

however backed out at the last minute when they considered that it may not be practical to both undergo the surgery at the same time. If there were health problems or any negative outcomes following the surgery, they wanted one spouse to be healthy enough to care for the other. At the time of the surgery, the husband was at the point that the other husbands were at in that he wanted to lose weight by eating healthy and changing his lifestyle to accommodate his wife's new lifestyle.

Dyad 4. Dyad 4 consisted of our oldest couple to partake in this study. They had been together 23 years and the wife indicated that her husband was very supportive throughout the process. Although the relationship appears strong and they seem secure and happy, the wife discussed some trauma that she had experienced in her life. She had been married twice before her current partner and was cheated on in both marriages. She had also reported sexual abuse in her childhood. The wife then indicated that sometimes there were sexual issues throughout her life because of this sexual abuse in her past. She also had a history of depression, which she suggests caused her to gain more weight. Overcoming these issues has appeared to be a great feat and she believes her husband's support has been helpful in this.

This couple may have transitioned through this process so smoothly because five years prior the husband was diagnosed with cancer. They had some experience with dealing with health problems in their spouse and overcoming cancer may have brought them closer together as a couple. The wife also discussed legal problems they ran into that challenged her immensely in her daily life, however her husband stood by her side.

The husband and wife in Dyad 4 report that they have such a strong friendship and they are able to do things together such as vacation and play cards and just enjoy

their time together. Because they are older and have been through a lot together, they report sex as not being a main focus in their relationship. While the couple reports having a happy marriage, there are still issues that are reported such as the husband's drinking. The wife in Dyad 4 discussed losing her father to drunk driving; consequently her husband's drinking is a problem.

Post-Surgery Shared Themes. In this section, the unique theme of drinking alcohol will be discussed, where other prevalent themes were shared amongst all dyads and will be discussed in the 'shared themes' section. Patient participants in both dyads experienced weight-loss following surgery (an average of 75 pounds) thus deeming surgery successful.

Drinking Alcohol. As discussed in the introduction, after WLS, many individuals seek out different means of filling the void now that food is not a viable option. Thus it is very interesting that alcohol was the one theme unique to these post-surgery couples. While one couple discusses alcohol in a manner of dislike and a source of conflict, the other couple suggests that alcohol is one thing that they are not willing to give up after the surgery. Although there are two different dialogues occurring regarding this theme, nevertheless this is still a prevalent issue being discussed by both post-surgery couples and this section aims to explore this concept.

Dyad 3 talks about alcohol as a major role in socializing and having fun. The wife of Dyad 3 stated "*and I would be thinner if I didn't drink beer, but I'm not going to give that up*" (TU:D3P2: 210-211). This quote indicates that while this participant clearly understands that alcohol (specifically beer) is preventing her from losing all the weight she potentially can, she refuses to cease this behaviour. There are two opposing views

with regard to alcohol amongst these wives. The wife in Dyad 3 indicates that alcohol is a component of her life she is not willing to let go of; while the wife in Dyad 4 indicates that alcohol is a source of conflict in her marriage.

The husband of Dyad 4 shares his wife's views about alcohol and suggests that people who indulge in drinking after WLS are irresponsible. While drinking alcohol may serve as a way to fill the void for some after WLS, the husband and wife of Dyad 4 suggest that alcohol can be problematic with regard to the individual post-surgery. The husband in Dyad 4 stated:

“One thing [my wife] doesn't do is drink. I mean a glass of wine with her meal or whatever [but] she doesn't *drink*. She never drank any more than two a day in her life I don't think so... not like me! I'll drink four or five fuck... but I'm just saying I just don't see the purpose of some people why they do [the surgery] and then sit there. I mean nothing wrong with drinking, nothing wrong with having three or four drinks, but to have 7 or 8 or 10 I don't understand that” (TU: D4P1:169-173).

This quote suggests that the husband of this couple drinks himself and therefore does not have a problem with some alcohol consumption by WLS patients; however he does not understand how individuals consume many drinks after having the surgery as he indicated that this may inhibit the weight-loss process. While he suggests that drinking is a part of his life from time to time, his wife indicates that his drinking is problematic within their marriage; she stated “*we do have a few issues you know, [my husband] drinks too much...*” (TU: D4P2:109-110). This quote suggests that while one spouse may think that their behaviours are acceptable, they can have a negative impact on the other spouse. This wife even found it problematic to associate with friends who drink heavily: “*I always come back to the alcohol. You know I hang out with people that drink heavily, and I'm trying to get away from that for myself*” (TU: D4P2: 222-223). This woman is trying

to distance herself not only from the act of drinking, but from people who indulge in heavy drinking, and this is even causing issues within her marriage.

Two different perspectives of alcohol are highlighted in this section; however both couples talked about alcohol as a prevalent topic of discussion throughout their interviews. One couple carried on their self-medicating routine, while the other, and particularly the wife, wasn't in favour of drinking. What may differentiate these two perspectives could be the history of alcohol involvement. Drinking is something that could be explored in future studies with regard to post-surgery couples and whether or not this is consistent amongst all post-surgery spouses, or if this is just a construct discussed by our two couples. LePage (2010) suggested that individuals may seek out transfer addictions such as alcohol, however the findings here suggest that this transfer may depend on the individuals past experience with substance use/abuse.

Pre and Post- Surgery Shared Themes

The figure below depicts the way in which themes were constructed from the analysis of the case studies. Thus far, themes that were unique to the pre-surgery couples as well as the one theme unique to the post-surgery couples have been discussed. Many themes that were prevalent amongst the interviews were actually shared amongst both the pre- and post-surgery couples as represented in the pink themes, and the next section aims to analyze these themes with regard to similarities and/or differences between surgery groups as well as existing paradoxes. Analysis of these themes will lend itself to the development of the quantitative portion of this study.

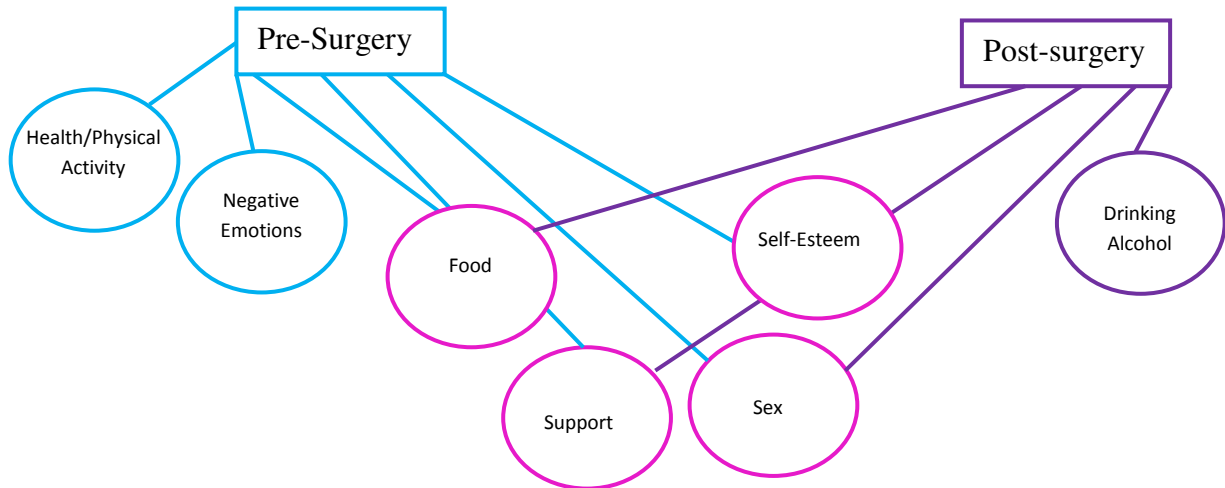


Figure 4. Depiction of the Construction of Themes from Case Studies

Some themes emerged within the interviews that were shared between pre- and post-surgery couples and the discussion here will examine similarities and/or differences between these couples. Pre-surgery couples' expectations about the way their relationships will change because of food and post-surgery couples' discussion of how food did in fact impact their relationships appear to be similar across cases. There also appears to be similarities in existing gender differences amongst all cases; for example, men and women discuss expectations or outcomes involving sex differently, and men appear to talk more about the positive outcomes after surgery and leave out negative expectations or outcomes, where as women seem more willing to discuss the negatives. Finally, there are some differences with pre- and post-surgery groups where self-esteem seems to be discussed more positively post-surgery and types of support needed from spouses are expected to be important by the pre-surgery couples are not in accordance with the types of support that the post-surgery couples value.

Food. Food was an issue/concern discussed by all couples. Pre-surgery couples discussed their expectations of how food will impact their relationships and post-surgery

couples showed similarities in that food did in fact influence their relationships after WLS.

Pre-Surgery Couples' Discussion of Food. The women of the pre-surgery couples spoke about food in a sense that they were concerned about eating after the surgery and expressed that they felt it would be hard to keep on track with diets having their husbands around influencing this process. Disagreements or conflict around food can be straining in a relationship and may cause relationships to shift as couples will have to relate over different things. Because it is the women that are going through the surgery, it makes intuitive sense that they would discuss food more than the men. It will be the women who will have to drastically change their relationship with food after the surgery, where the men will have a choice. Although husbands were not going through a physical transformation personally because of WLS, one out of the two husbands did discuss food (less in depth than his wife) in a congruent manner demonstrating worry and concern for eating habits and relationships based around food post-surgery. Husband D2P1 states:

“I think the problems will be around food, because we do you know... it's always ‘what are we feeding the kids?’ you know? ‘What's for supper? What's for breakfast? What are we doing?’ you know... life revolves around food because if you don't eat you... but now [D2P2] is going to have to eat different, so it's still going to revolve around food, but it's in a whole different manner. So that's going to just make you know... when the kids are hungry, it's probably going to fall on me more to make their food because D2P2 may have already eaten because it will take her a bit longer” (TU: D2P1 : 192-199).

This quote indicates that as a spouse, expectations about more responsibilities surrounding food exist whereby there may be a change in roles post-surgery in terms of food preparation and feeding the children. This may lead to feelings of resentment or frustration that could be translated into their marriages. Although the husbands may have

to do things differently in order to accommodate their wives, their bodies are not physically going to change and they could eat what they want if they choose to do so. Food and food preparation are something that all couples/families do have to worry about as eating is clearly a necessity in life.

Dyad 1 was unique as the husband was a chef, and this made the wife even more apprehensive regarding expectations around food. She states that “So as far as the food thing goes, I know he’ll support me, but I also know he’s going to have a mourning time sort of because he won’t be able to cook like that for me anymore” (TU:D1P2: 214 – 216). As most couples will admit, food is a big part of their relationships because bonding time happens over meals; however this couple in particular really has food as a major focus point in their lives because this is where the husbands’ passion lies. Furthermore, because D1P1 is such a great cook, his cooking is a weakness to his wife who further states:

“I have to just keep reminding him that I’m not going to be able to eat like that... and just to eat that much at a time... I really need to get that into my mind... because I eat healthy most of the time, but I have my little quirks and if he cooks me a good meal I’m not going to lie, sometimes I eat two of them” (TU: D2P2: 232 – 237).

What was even more surprising about this couple is that even though participant D1P1 was a cook, he did not bring up food at all during his interview. Although it may make more sense for the patient to talk about her concerns about food, as she is the one going through surgery, it would also be expected that her partner would have mentioned food as well considering it is his profession.

As demonstrated by the pre-surgery couples, food generally appears to be a concern for couples in their expectations for after surgery (although some incongruence

exists). One participant sums this point up clearly by stating “*We’ll just have to change how we relate because we relate a lot over food*” (TU: D2P2: 54 – 55). In a relationship, couples spend a lot of time in the kitchen preparing or cooking meals for the family and even more time when these couples are obese and have strong relationships with food. When there is such a drastic change in one spouse in terms of eating restrictions, food can no longer be a focus in their lives or in their relationship. Relationships are expected to have to adjust and change forms as food cannot be the main means of bonding and spending time together anymore. The post-surgery couples had similar discussions regarding the way food has impacted their relationships following the surgery.

Post-Surgery Couples’ Discussion of Food. Similar to what was discussed in the pre-surgery section, post-surgery participants (especially those who personally had the surgery) did struggle with food. Although the pre-surgery couples and post-surgery couples have parallel stories regarding food, it should be noted that the husbands did not talk about food as much as the wives in regard to struggles after surgery. This may be because the wives were the patients and therefore were directly affected by food and had no choice but to change their eating habits as an outcome of their surgery. Husbands have the option to not change their eating behaviours, but the wives had no choice in the matter as their stomachs could not physically take in as much food following surgery.

Participant D3P2 stated:

“We’re eating healthier because I need to eat healthier. So that makes a difference in you know planning our meals and spending the time together and not making it a copout like “oh I’m tired let’s go out”” (TU: D3P2: 139 – 143).

This quote reflects how the wives have to be conscious of their eating habits. This consciousness is not necessarily by choice, but it is because they have to make these

changes to their diet in order to accommodate their new bodies. Again, there is the use of the word 'we' instead of 'I' indicating the couple is going through these struggles together and that this wife really does feel like part of a team rather than having to go through her struggles alone. Different coping strategies have been suggested by the wives in overcoming these forced changes in their diet. Participant D4P2 cooks her own meals and that allows her to have agency over what she is putting in her body, and also she can avoid being tempted by unhealthy foods. Participant D3P2 is very similar in that although she doesn't cook the food, she does the shopping so she is responsible for what she allows in the house. She said "*I bring home the food so it's all ready, he doesn't have to think about it, he just cooks it*" (TU: D3P2: 139 – 143). This preparation seems to allow the patient to stay on track with her food and possibly alleviates the stress or worry of temptations or ineffective eating habits from the past (such as going out for dinner).

While the women struggle to stay on track with their newly acquired healthy eating habits, it appears that the husbands have created two ways of coping with these changes: hop on the bandwagon and join in on healthy eating, or resist. These two means of coping for the spouses may not be exclusive, as it could be that one spouse could both resist, and be happy to follow along the new regime, both in the same day. One wife commented on the resistance of her husband by stating:

“when we're eating and splitting meals and... sometimes I say I want two pieces of chicken and he gives me three and he goes “I don't listen a lot” but then he always takes it off my plate and eats it” (TU: D3P2: 141 – 143).

While this quote demonstrates pushback from the husband's perspective, there is also a benefit for the husbands if they choose to follow suit. One husband comments on this benefit: “*Like I said in a month I've lost 7 pounds. But it's because I eat what she eats*”

(TU: D4P1: 249 – 250). As most of the husbands also express their need to lose weight, this could be a very beneficial tactic to conquer their own obesity issues. The issues around food seem to be complex and it may be that every couple will have their own way of coping with this new way of eating.

Overall Discussion of Food. Food was discussed as an expected area for conflict by the pre-surgery couples, and was also discussed by the post-surgery couples as an area of discord. As discussed above, it appears as though the pre-surgery dyads who took part in this study had realistic expectations towards food being a source of conflict.

Throughout the pre- and post- surgery interviews, the women discussed food as a source of relational conflict more than the husbands. It is thought by the researcher that this is not as much a gender difference, but that the difference resides between the patient and their spouse. Since the patients (in this case all the wives) have to go through such extreme physical changes that dramatically affect their eating habits, it makes logical sense that they would expect these issues with regards to food more so than their spouses, and that they would reflect more on these issues afterwards. While food and eating habits are something that men and women seem to be in accordance with, sexual satisfaction was an area of disagreement.

Gender Differences and Sexual Relations. Another cohesive aspect between pre- and post-surgery couples resides in the different ways that men and women discuss sex. In Dyads 1 and 4 they both discuss being older, being together for a long time and being best friends and that sex was no longer an important aspect of their marriage; this is demonstrated as D4P2 stated “*well [my husband] and I are best friends so like, you know like sex is not the most important thing in our lives at this age*” (TU: D4P2: 52-53).

Dyads 2 and 3 however discuss sex differently from Dyads 1 and 4, where the husbands express being content in their sexual satisfaction and the wives imply that their sex lives could be better.

The husband of Dyad 2 states “our *sex life is great... when we go out... we’re comfortable holding hands and ... we kiss, we’re affectionate you know? It’s all there*” (TU:D2P1:151-153). The husband of Dyad 3 implied that after the surgery the sex physically feels better and this may be because of the weight-loss but does not bring up sex at all after that. The wives however are quite expressive when it comes to talking about sex. Although the pre-surgery wife (D2P2) does specifically say she’s not *dissatisfied*, she does discuss some areas of her sex life that she hopes surgery will help her improve. She stated early on in the interview “*I hope sex is better... honestly, not that it’s not good now, but there’s things you want to do that you can’t when you’re overweight*” (TU:D2P2:141-142). Later on in the interview D2P2 stated “*I’m excited to try those things*” (TU:D2P2:305) which demonstrates how she looks forward to the outcomes after surgery in regard to trying new things sexually and being able to do things after weight-loss that she cannot do before. Furthermore, she stated

“Well, we’ve got it pretty well down-pat how to do it rather well, we have three kids right... how to do it, get it done and both be happy... but I’d like to have more energy to not have to do it that quickly” (TU:D2P2:348-353).

It is as if this participant talks about sex as it is just getting a job done, however she is looking forward to be able to enjoy her sexual experiences more after surgery where she can do more, and take her time.

The post-surgery wife in Dyad 3 suggested that after surgery sex did become more frequent, however there still exists room for improvement:

“I would say... in the sex sense, we don’t have a lot of it, but I would say it’s a little bit better than it was. You know what I mean? Like it’s not fantastic but it’s not... ya I can actually remember the last time, where before that I would have to think when the hell was the last time? So ya... I would say that that’s improved, but not up to what I would like it to be is my thought” (TU:D2P2:39-43).

Even though there seems to be improvement in sex and more frequent sex, it is still not satisfactory to this participant. This does not align with how the husband discusses sex.

Individuals in the couple held different views on sexual relationships and sexual satisfaction. Men in these couples appear to be consistently satisfied, while women have a desire for better sexual relationships. This notion will be further explored in the discussion section.

Differences in Self-Esteem. Self-esteem is something that was discussed in depth by the participants (especially the women in these specific case studies) in both the pre- and post- surgery dyads. Pre-surgery women were excited to feel better about themselves after the surgery but did express some concerns for their transformation and the way that this would impact their relationships; this will be further elaborated on in the next section. Post-surgery couples did not discuss the concerns that the pre-surgery women expressed, however did for the most part express stories which aligned with the expectations of the pre-surgery women. These similarities along with the paradoxes will be discussed in the following sections.

Pre-Surgery Couples’ Discussion of Self-Esteem. In terms of self-esteem, women discussed their anticipation that the surgery will allow them to feel better about themselves post-surgery. While discussing how the women felt about themselves at the time of the interview (pre-surgery), one of the women indicated that she is often surprised by her weight as her mental schema of her body is not obese.

“I’m fairly confident... but at the same time I don’t see myself in my head how I am in my body... and I’ll be like ‘holy shit’ like I totally, it really does every time take me by surprise. Because I don’t see myself like that...” (TU: D2P2: 420 – 423).

This quote really indicates the disconnect that these women have between their body and mind. She is surprised by her appearance in the mirror as she does not think her body represents the person she is inside. It is very interesting to see that her husband shares a very congruent story regarding his wives’ self-esteem. He stated that “*she doesn’t like how she feels about herself. She’s always shocked when she looks in the mirror and sees what she looks like because she’s a very beautiful person... she’s just overweight as well and she doesn’t like it*” (TU: D2P1: 214 – 244). The fact that her husband is so aware of how she feels about her appearance may be indicative of the openness and communication in their marriage, and that he truly understands her insecurities and how she views herself.

The hopes that the women expressed for a better future after surgery go deeper than just their physical appearances, as the women state that they hope this procedure gives them a resurgence of life. One woman stated: “*I don’t want bikinis, I don’t want... I just want sundresses! I just want to be... you know... feel feminine again... I know I’m going to feel euphoric in every possible way... mind, body and soul*” (TU: D1P2: 438 – 441). This demonstrates that although the body will change and they expect to feel good about these physical changes, they also expect their mind and soul to heal accordingly. Husbands also note that they expect the wives will feel better about themselves as participant D2P1 said “*She will start to feel good about herself, she won’t feel good about loose skin once that starts to happen, but we’ll do something about that*” (TU: D2P1: 277 – 279). This quote is a great representation of how the whole journey throughout WLS

affects these individuals as a couple. The husband stated ‘*we’ll* do something about that’ indicating that this is a team effort and these issues following surgery will be dealt with as a couple.

Beyond changes that happen with the self, women also have expectations in regard to the way their husbands will react to their changes, and this is where an apparent paradox exists. The wives that participated in these interviews discussed how they wanted their husband to find them attractive after these changes. Participant D2P2 indicated that she would “*like to look good in a bathing suit for [her] husband ...*” (TU: D2P2: 74 – 75), furthermore that she would “*like to feel that he would be proud of [her] walking down the street*” (TU: D2P2: 145 – 146). These quotes indicate that part of her transformation of self and her expectations to feel better revolve around the way her husband perceives her (or the way she perceives that he perceives her). The physical changes that accompany WLS will not only allow these wives to feel better about themselves, but they have hopes that their husbands will be more proud, or that their physical changes will please them as well. The paradox lies in the fact that although there are hopes that the weight-loss will please their husbands, there are also fears that exist with losing weight in that their husbands may not find them as attractive.

A surprising finding was that insecurities exist in losing weight as these wives feel as though their husbands may be less attracted to them after surgery. This seems paradoxical because the women stated before that they are excited to lose the weight so they can make their husbands ‘proud’ to be with them, but also they are afraid that their husbands like larger women and therefore they may become less attractive to their husbands. Participant D1P2 states “*Oh I think he’s going to be pretty happy, although he*

does like larger women! So... it was a concern” (TU: D1P2: 443-444). The fact that they are concerned about this weight-loss in regard to how their partner is going to react may depict how this procedure affects the couple as a whole and not just the individual going through the surgery. To further demonstrate this, Participant D2P2 expressed her concerns: “... *I’ve seen what it does to your belly... and you know there are surgeries that can fix that, but I’m worried that he won’t find me attractive anymore*” (TU: D2P2: 466 – 467). Ultimately it is obvious that these women feel that the surgery is worth whatever repercussions follow it as they do end up going through with the WLS, but it is important to note that there are back and forth struggles with regard to how their marriages will be affected. This falls in line with the cost-benefit analysis as discussed earlier. While the prospective patients look forward to wearing bathing suits and feeling feminine and note that they hope their husbands are proud to be seen with them, they also express fear and insecurity in how they will be received by their loved ones.

Post-Surgery Couples’ Discussion of Self-Esteem. The wives who had the surgery expressed a sense of wholeness or serenity with themselves after the surgery. One wife stated:

“Now you know I’m not ashamed. Everybody tells me I look good you know and everything. It’s a total. Ya. I feel happy with myself. I’m happy. So if somebody you know comes down and puts me down I just... don’t care... who cares you know I know I look good and who cares about what other people think” (TU:D4P2: 212-214).

This quote illustrates that the surgery has not only allowed her to feel better physically, but to find happiness and strength within herself. She has newfound confidence and this is really apparent in this quote. By saying she is not ashamed ‘now’ this may mean that she once was (one can assume by her weight), and this weight-loss has allowed her to no

longer feel ashamed of the way she looks; therefore she is able to have more confidence in what she looks like and the strength to not dwell on what people around her think. The shame she felt may have come from the stigmas associated with obesity and the way she has been treated in society because of those stigmas. Whether it was negative social interactions with strangers or intimate interactions with those closer to her, she had been made to feel ashamed due to her weight. The weight-loss may have led to more positive feedback or interactions with others allowing her to not feel the shame that she felt while being obese.

The new found confidence for participant D4P2 goes much further than body-image, she has found the ability to face her challenges without fear. After disclosing that she had depression previously in her life that literally debilitated her to hiding in her closet when her household had visitors, she stated "*The challenges in my life that are given to me now, I'll be able to deal with them face on now. I don't need to go hide in the closet anymore*" (TU: D4P2:419-420). This is a powerful quote whereby this participant is acknowledging where she has come from in terms of low self-esteem and lack of happiness in her past, and now states that after the surgery she is able to accept her challenges rather than hide from them. The new found confidence is a clear indication of how far the surgery can take an individual with regard to inner happiness.

Although our one post-surgery participant indicated a huge shift in self-esteem, our other wife states that she has always been a confident woman "*and it didn't matter how big [she] was*" (TU:D3P2:158-159). Participant D3P2 discussed the fact that although she was always happy with herself, after the surgery she was able to find

clothing easier (as clothing was more accessible) and purchase clothing that was more affordable:

"You know I always took care of myself... I always did my hair, I always did my make up, I never friggin wore track pants or anything... like I always put an effort into what I looked like... but knowing now that I can go into a store and pull something off a rack and get it for 9.99 instead of 99.99 it's totally different. It's not a struggle as what am I going to wear and is it going to look right or whatever... it's totally different now".
(TU:D3P2:201- 207).

Although this participant never felt that her appearance suffered from her weight, she did feel that after-surgery her shopping was not limited to plus-size clothing stores (which are significantly more expensive) and she was able to more easily put together outfits and have clothing fit her without a struggle.

There appears to be two very different stories from the wives who had the surgery in that one wife found a very new sense of happiness and confidence after her surgery, whereas the other wife had always had this confidence, but now expresses she is able to put herself together with more ease. With the wives stories defined, what are the husband's perspective of their wives self-esteem after their surgery?

The husband in Dyad 4 acknowledges that his wife feels better after surgery and suggests that this has allowed her attitude to be better. He states "*well she's obviously happy. She's down there making her clothes four inches smaller and everything. You know she's really enthused about it*" (TU:D4P1:528-529) which suggests that she is exuding this happiness enough for her husband to feel her enthusiasm. In Dyad 3, although the wife felt that she was always happy with herself, the husband stated "*I think she needed to do it to feel good about herself*" (TU:D3P1:15) demonstrating some discrepancy. This husband also expresses concerns with his own self-esteem:

“I mean I get up every morning and I get out of the shower and look in the mirror and go "Jesus! You gotta do something!"” (TU:D3P1:202-204).

This couple appears to be complex in that the wife expresses always being confident, whereas the husband suggests that her surgery has given her new confidence, furthermore the husband battles his own struggle with self-esteem in terms of his weight. Again, this is another depiction of how this is a process that involves the couple as a whole. The wife’s surgery may have conjured up insecurities in the husband and made him take a double-look at his own weight.

Overall Discussion of Self-Esteem. With regard to self-esteem it appears that the wives pre-surgery expect the surgery to really help them feel better, and in fact post-surgery the women do claim to feel great about themselves. The difference seems to appear in the fact that the pre-surgery women have concerns about losing the weight and whether or not their husbands are still going to find them attractive, however post-surgery women did not express these concerns. It may be that pre-surgery women are nervous for the whole procedure and this causes them to over-think some things that may not actually be problematic. Furthermore, post-surgery women may be so elated with their new appearance and increased confidence that they no longer are too concerned with how they are viewed by their husbands.

Differences in Types of Support. Support has been brought up by all individuals as an important aspect in their marriage both pre- and post-surgery. When asked what forms of support are the most beneficial or will be expected to be the most beneficial post-surgery the answers were very different between pre- and post- couples.

Pre-surgery couples indicate that they believe support will be most beneficial in the form of physical help. The husbands and wives suggest that help with the chores, and looking after the children will be vital in a successful outcome following surgery. The wife from Dyad 1 states *“Well the thing is that he supports me... he helps me a lot! Cooking, cleaning, working around the house...”* (TU: D1P2: 167 – 168). This form of support is very physical and there is not much acknowledgement of the emotional support or expectations of needing emotional support following surgery. The husband from Dyad 2 acknowledges this emotional component of support but also the importance of physical support. He states *“I’m going to emotionally, I’ll be here willing to help and willing to get yelled at because it’s a bad day... I can take it... and you know I will help out physically around the house. I hate cleaning but I will do it”* (TU: D2P1: 322 – 326).

The couples post-surgery discuss support in the form of compliments and understanding the weight-loss. D3P1 stated

“So you have to make it so that you understand that four ounces is good... for instance she... was waiting to get into the 1’s, and about a week ago she got into the 1’s and o me getting into the 1’s I can’t even imagine, but for her it was a big milestone because she doesn’t remember the last time she was in the 1’s so...” (TU:D3P1:43-47).

This quote demonstrates the husband’s presence throughout this journey and how he tries very hard to be understanding and supportive even if he can’t understand these ‘milestones’, knowing that they are important to his wife and giving her support emotionally was important for this couple.

It may be that couples pre-surgery are more focussed on the physical aspect as there is some fear there that healing will be a hard process and help with the chores will be vital to keep the house afloat. After surgery however, couples are past the physical

healing and now find compliments and an understanding attitude from the husbands to be most important. This will be further investigated in Phase 2 of this study where types of support will be quantified in attempts to understand what is important to these couples throughout the journey of WLS.

Both Having Surgery

In regard to the couple where both spouses had WLS, it was decided by the researcher that this couple should be discussed separately as the experience appears to be unique compared to individuals where only one spouse was preparing for surgery or had surgery. Concepts were discussed regarding resentment/animosity towards one another, insecurity within themselves and their relationship and the perception that the surgery spawned a new life for the wife and now the husband does not know where he fits in with her new life. These issues will be examined with the hope of bringing light to the experience of this specific couple. It is not the purpose of the researcher to argue that this experience will be the same for all couples in which both spouses undergo WLS, but simply to give richness and texture to these particular individuals.

Resentment/Animosity. According to previous literature (for example Fobi, 2004), it is fairly well understood that with WLS, men generally lose more weight and at a faster rate and this couple is no exception (the wife lost 75 pounds while the husband lost 112 pounds). Beyond the gender difference that may exist with weight-loss, in this situation the wife and husband also underwent different surgeries (the husband having gastric bypass surgery and the wife having a more experimental vertical sleeve gastrectomy surgery). Because of the incongruence's in weight-loss between husband and

wife, the notion of resentment was discussed by both spouses. Right from the beginning of the interview the husband acknowledges these negative feelings and states “*At first it was really good... but then there was animosity because I was losing weight faster and she didn't. I lost it faster, I got to my goal, she never did so she was pissed*” (TU: D5P1: 5 – 8). He goes on to say “*... well for the first 5 months it was good until she realized that she wasn't losing weight and everybody was commenting on me and not on her...And it got to the point where I had to ask people not to say anything*” (TU: D5P1: 12 – 13). This quote further indicates that the husband was concerned about the negative emotions from his wife regarding the results from his surgery. Furthermore, the wife was angry because she felt as though he did not have to follow her diet and exercise regimen “*...He still does those same behaviours. Sit on the couch and watch tv and snack. He can get away with it so he hasn't had to change that behaviour. I can't*” (TU: D5P1: 192 – 194). The fact that their weight-loss journeys took on such different trajectories probably caused an imbalance in the relationship that prompted these feelings of animosity and anger. They went through a life transition together, but it took them on two very different paths and this was probably not expected for them.

While there was anger just following the surgery, during the time of the interview there was still a lot of animosity only it has shifted from being towards the husband, to being towards the wife. Because the wife is investing almost all of her spare time into her newfound passion (yoga), the husband feels as though he is alone in his marriage as he stated:

“Right now? It’s a little rough... just because she’s never home. She’s always at yoga that’s all I hear about is yoga. I’m a little sick of yoga. I don’t know it just seems like if I wanted to be a single parent I would have just left. And that’s the way it is right now” (TU:D5P1:79-81).

Although right after the surgery there were negative feelings from the wife about the husband losing the weight faster than her, now the animosity comes from issues around the house where the husband feels like he is doing most of the work. The wife agreed, however stated that he knew he had been doing the “*lion share of the work*” (TU:D5P2:254) but in her mind the work isn’t getting done as quickly as she expected. There will always be a source of conflict in a relationship. Although the source of this conflict has shifted from conflicts regarding the surgery to conflict regarding a new home, the wife of Dyad 5 does believe that her and her spouse are ultimately in a better place “*We were both pretty unhappy and now we’re both in a much better place individually and together*” (TU:D5P2:12-13). While there still exists some conflict, both participants do indicate that this process has made them better people and a stronger couple. Something that can make a couple happier individually and thus come together as a stronger couple may be self-esteem, which will be discussed next.

Self-Esteem and Feelings of Insecurity. While husband and wife of Dyad 5 experienced weight-loss surgery together, part of the reasons they had a different trajectory was due to feelings about the self. While the husband was able to lose weight and meet his weight-loss goal easily, the wife was not and this was reflected in their self-esteem. Reflecting back on how she felt before the surgery, D5P2 stated “*I still felt secure in the marriage but not in myself so my own self worth and confidence and everything was a mess so I don’t feel like I was a great contributor to the marriage as much as I am now*” (TU:D5P2:37-39). This quote indicates how sense of self can be reflected in a

marriage, and when each person feels he or she is a better version of their respective self, they can both contribute better to a relationship. The wife does state that although they were unhappy before they at least had each other and that's one thing that never changed

"...we were both a mess before so we were sort of a mess together... but the good news there is that we were a mess together so we were okay...we're both in a much better mental state now" (TU:D5P2:44-47).

The wife in Dyad 5 reflects on the transformation to her self-esteem as she stated

"I'm still not where I want to be but I know I'm still a lot better than I was. And... I mean nobody can see that more than he can" (TU:D5P2:138-139). The wife in Dyad 5 explains best how negative feelings toward the self may be reflected in a marriage.

"Like definitely self-esteem was just in the toilet. And I think it was easier to treat each other worse too because you felt so shitty about yourself so you project that on to each other. And if you're not feeling good you're operating from a place feeling insecure and ... with insecurity brings jealousy... before, I got to the point of deep, dark despair. I was definitely seeking attention from men.... and now it's "oh that's great, that's nice, thank you, I don't care" but then it meant a lot more that somebody could actually look my way, it's like I was craving that... and I think too if I continued and did not have things change I can definitely see that that would have become self-destructive. Because he would say "you look beautiful" and I would say "no I'm gross" and I think potentially that could have come to me having to seek that approval from someone else" (TU:D5P2:386-407).

This quote is powerful as it demonstrates just how a low self-esteem could really have negative impacts on not just the individual, but the couple as a whole. When the wife felt insecure, she was not able to give herself fully to her marriage and suggests that they were projecting negative feelings onto each other. In addition, the wife of Dyad 5 reported how feelings of unworthiness may have lead her to seeking out approval and reassurance in other men.

The husband, on the other hand stated that he felt he was always secure even before the surgery, however he stated *“if anything I felt a little insecure- after she lost all the weight... because people were looking... and I’m jealous”* (TU:D5P1: 68-72). Her weight-loss was even the contributing factor to him getting the surgery: *“I was getting it for her! That’s the only reason I did it”* (TU:D5P1:355). He went on to say *“I was happier than a pig in shit the way I was. I didn’t care that I was big because I was still I was healthy. I was like the healthiest big guy you ever saw”* (TU:D5P1:362-363). This shows that self-esteem was never a problem for the husband, and if anything, the surgery made him even more confident, while the wife was lacking confidence before surgery, and became more confident after the surgery.

Again, while husband and wife had different trajectories after surgery with regard to weight-loss and self-esteem, it may have been the wife’s new found love of yoga that brought her self-esteem up to where it was at the time of the yoga, and it may also have been that factor which caused her to be away from the house, thus was a source of animosity from the husband's perspective. This new life that the wife had found seemed to have been at the centre of the emergent themes within the interviews from this dyad.

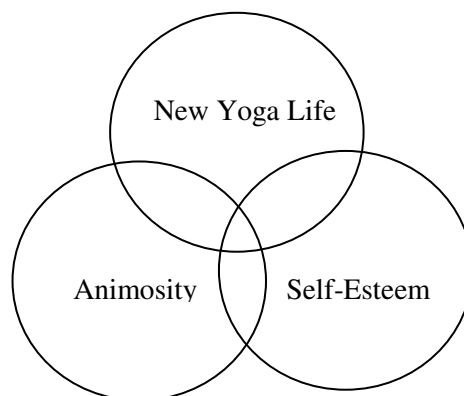


Figure 5. Depiction of Themes Discussed by ‘Both’ Couple

A New Life/Where Do I Fit In? With D5P2 being so involved with her new yoga life (which her husband does support as he feels it makes her a better person), the husband is not sure where he fits in. The wife stated:

“I think he’s nervous that I’m changing so I think that yoga may be our weight-loss surgery. Like with other couples where the change happens if it’s just one... he’s now almost feeling the feeling that a spouse would when their partner has had the surgery. Like “uh oh what’s going to happen? If you change are you still going to like me? If you change everything about the way that you are, where does that leave me?” he definitely got a sense of that so I’m trying to like say “no it’s still me”” (TU:D5P2:546-552).

This really demonstrates the changes that yoga has caused in the relationship, and the uncertainty that the husband now feels as a repercussion. The husband is so lost in this new life that he even stated “*There’s been times where I’ve wondered ‘okay is she really at yoga all these hours or is she off doing something?’*” (TU:D5P1:168-169). This quote shows that although the husband is proud of his wife and encourages her on this new journey, he is left with a lot of uncertainty and insecurity because of it. While he tries to be supportive, he is also fed up with this new life and the fact that he is by himself trying to hold together the family. He stated:

“That’s the issue now and I mean I want her to do [yoga] because it makes her happy. But in the same sense, it’s consuming her entire life. Like honestly when she is home she’s on her laptop looking at yoga. Even some of her friends have commented on how tired they are of hearing about yoga” (TU:D5P1:84-87).

As literature has demonstrated (LePage, 2010), after surgery many people seek out alternate addictions as they cannot go to food for comfort any more, these are referred to as transfer addictions. It may be that because D5P2 cannot rely on food for comfort, she has sought out yoga to put her energy into as a coping mechanism. While her husband was able to continue on with his old eating habits without any negative repercussions, he did not have to change, while she did. Taking two different trajectories may be working

against this couple, however beyond these insecurities, both parties of this couple stated repeatedly that they are happy with one another and that their relationship is better after the surgery than it was before. The yoga has made the wife a better person as suggested by both partners and it may be yoga that has allowed her to give herself more fully to her relationship, thus resulting in a happier marriage.

Discussion

The qualitative portion of this thesis provided evidence that WLS is a phenomenon that not only impacts an individual, but also has effects on their spouses and the couple as a unit. Participants discussed expectations for improved relationship satisfaction and being able to do more things physically post-surgery to bring the couple closer together. Furthermore, anticipation of increased sexual satisfaction post-surgery was discussed by all pre-surgery participants, indicating that physical improvements will allow them to be more adventurous in the bedroom. Again, this highlights that the surgery will not only allow for an individual to feel better physically, but will also influence how they interact with their partners. These anticipations are paralleled to empirical literature that suggests sexual activities increase post-surgery due to increased confidence in their bodies (Applegate & Friedman, 2008). Some negative relational outcomes were also discussed in the qualitative portion of this study. Individuals had to rebuild their relationships and find different ways to bond as food was no longer an option post-surgery. These changes in the relationship may lead to conflict as most couples discussed arguments about food and food preparation. Applegate and Friedman (2008) suggested that conflict may also arise when lifestyle changes impact a spouse who did not necessarily want these changes. This can relate to food preparation changes where

individuals have to cook differently or snack differently because their partners cannot eat as much; however if a spouse enjoys their previous eating habits they may be resistant to this change. Furthermore, increased confidence in a spouse's new body may lead partners to feel inadequate and insecure in themselves and their relationship (Applegate & Friedman, 2008). These areas of both conflict and improvements between spouses suggest WLS is not just an individual journey; it is a process that impacts the relationship in both positive and negative ways.

A second important concept is that physical/health improvements in individuals post-surgery such as weight-loss, increased mobility and improvements in cardiovascular health lead to greater relationship satisfaction. Spouses pre-surgery indicated that they were looking forward to the weight-loss so that they could enjoy doing more 'things' together. Men and women discussed these 'things' differently. While men were looking forward to going to baseball games, vacations and concerts together, women were looking forward to doing household chores and everyday things such as going for walks with their spouse. While there may appear to be gender differences here, this may be so as all women interviewed were preparing for or had undergone surgery. These women therefore may put more value on being able to take part in the mundane activities, while their spouses are more capable of doing those mundane activities, therefore long for the out of the ordinary. Regardless, these 'things' are discussed as ways they can become closer with their spouses after-surgery. Furthermore, as aforementioned, increased mobility was anticipated to lead to more exciting and fulfilling sexual interactions. In one case it was said that obesity caused bladder issues leading to embarrassing instances during sexual intercourse, and weight-loss would help her overcome these issues and

allow her to better enjoy her sexual encounters. Lastly, seeing partners in physical pain and being in a constant state of worry for their health was stressful on the men and their relationships. Anticipating the dissipation of their partners' pain, and subsequent reduction of worry was something that the husbands discussed frequently. By taking away major sources of worry and stress from a relationship, spouses may be able to better enjoy their time together and this positivity will likely lead to improvements in their relationships. Being able to take part in more routine life events such as household chores and interactions with children was strongly conveyed as being very important to those undergoing the surgery. While their spouses may focus more on eventful outings and special occasions, individuals going through the surgery are focussed on making mundane life-events easier. The spouses may take for granted going on walks or cutting the grass as these chores are not too difficult for them, however those undergoing the surgery are looking forward to an easier every-day life.

While individuals may be looking forward to less stress in their relationship due to less worry about their physical pain and being able to do more together, Porter and Wampler (2000) may argue that the conflict within the relationship may just shift to something different once those problems are ameliorated. As Porter and Wampler (2000) found that once weight-loss was achieved, any conflict within the relationship regarding weight and obesity shifted to another source, thus relationships generally remained stable throughout. This may be the case as although individuals are looking forward to being more physical together (intimately and mundanely), the conflict or stress that stemmed from the immobility may shift to conflict regarding food and food preparation.

The third overall finding from the qualitative portion of this study is that individual hope and change contribute to relationship satisfaction. The hope for a happier, more mobile, and confident self, creates optimism between spouses and an overall more promising future for the partners with regard to their relationship. As suggested by the Bronfenbrenner's (1977) model, an individual's state is going to be reflected in their relationship (and the relationship will have affects on an individual's state). Thus, if an individual is lacking confidence and is in a constant state of pain and physical stress, this will be reflected in their relationship. Once there is a feeling of hope and anticipation of change, this optimism will be reflected in the relationship and the anticipation alone may lead to improvements in the relationship satisfaction. Following surgery, the improvements in physical health and mobility may lead to happiness and pride in the individual, and this happiness will be brought to the relationship and reflected in relationship satisfaction. Improvements in marital satisfaction may lead to an overall happier partner and thus improvements in the whole family unit. There may be a new sense of agency that is set by society (in the ways they are treated by others) and by the self (in the pride they have for their weight-loss achievement). This agency may lead to higher confidence, which was discussed by many post-surgery participants and would definitely translate into the relationship.

Lastly, the notion of 'we' was present throughout the interviews indicating that this journey is not just one that affects the individual, but also impacts the couple as a whole. Throughout the interviews, there were discussions about a sense of worry, and impacts of the weight-loss on the sense of self. These issues were not just present in those who are preparing for or have undergone the surgery, but were also present for their

spouses. Spouses of those preparing for the surgery worried about changes in routine following the surgery and what they and their partner would bond over afterwards. Spouses of individuals who had already undergone the surgery discussed changes in their self-worth after watching their spouses make drastic physical changes. Individuals preparing for the surgery discussed being worried that their spouses would no longer be attracted to them post-surgery and expressed how they thought they would feel more confident *and* more insecure about themselves after the surgery in different ways. These illustrations demonstrate that this is not just a process that affects the individual preparing for surgery or post-surgery. This notion of ‘we’ is a major concept contributing to the notion that this research is very important. If we want to provide individuals and their spouses with proper care throughout this journey, it is important to understand that it is not only the patient who needs this care, but their spouses should also be informed of the changes that may occur throughout the journey and what impacts may be involved.

The notion of ‘we’ is a perfect representation of the ways that the Microsystem and Mesosystem from Bronfenbrenner’s (1977) model interact. Changes in the individual that impact them physically and psychologically influence their close interpersonal relationships as reflected by the spouses of the WLS patients suggesting that they are also going through this process. On the other hand, the individuals emphasis on how important support from their spouses was throughout the journey of WLS indicates how interpersonal interactions impact individuals (or how aspects of the Mesosystem influence personal outcomes in the Microsystem). Relational outcomes following WLS are a clear demonstration of Bronfenbrenner’s (1977) Ecological Model in motion.

The findings of the qualitative portion of the study demonstrate that there are individual experiences with regard to this journey and couples seem to be affected differently. There are hesitations and apprehensions pre-surgery with regards to appearance, the surgery itself, the affect it will have on their family, and the relationship outcomes. After surgery some may go to alcohol as a new source of comfort and sexuality is suggested to become more satisfactory (although variation exists here). Spousal support appears to be an important factor that individuals rely on both pre- and post-surgery and both spouses appear to go through this process as a unit regardless of who had the surgery. This information may contribute to the knowledge of the Centres of Excellence where nutritionists and social workers are said to help coach individuals preparing for WLS in terms of what to expect within their relationships.

Limitations

It is clear that one limitation to this study is that only the women in our sample had undergone surgery (with Dyad 5 being an exception as both husband and wife underwent surgery). The fact that only one husband had undergone surgery does not necessarily give a representative picture of what this process would be like for *all* couples; however, the point of these interviews was to gain perspective on some key issues that go on throughout this journey. Women, however, are the primary individuals who use this service (Canadian Institute for Health information, 2014), thus focusing on women's perspectives is representative of those actually going through this journey. Another limitation in regards to our sample here is that participants to take part in this study were more likely individuals who are agentic and involved with their health and this process. Again, while this type of sampling may seem biased to these agentic

couples, these couples are more likely to be accessing social support in the form of a support worker, therefore getting the perspectives of these couples may be most valuable to these professionals.

It was clearly demonstrated in the qualitative portion of this study that variability exists in terms of relationship satisfaction, self-esteem, views on sexuality and support. These variabilities are worthy of studying quantitatively and that is what the next section will examine.

Chapter 4: Methodology (Phase II)

Many themes emerged from the qualitative interviews; some were expected from examining relevant literature such as changes in self-esteem and sexuality, and some themes were more of a surprise such as differences in support. I intend to provide a complimentary perspective to go along with the qualitative analysis and to demonstrate how these important constructs are distributed within a larger population. I chose constructs that were not fully explored in the existing literature, and also could contribute to a meaningful story of the experience of WLS from the perspective of both spouses. Relationship satisfaction was a key focus of exploration from the beginning of the study, and thus finding a scale to tap into this construct was a priority. Constructs that were salient in the previous literature and also deemed important through individual interviews were sexual satisfaction, self-esteem, self-worth, body image and perception of attractiveness and spousal support, thus these ideas will be explored quantitatively in this section.

Although dyadic analysis was intended for this paper, because of limitations in the recruitment (which will be discussed in the next section), research questions were modified. Original research questions were: ‘Does marital satisfaction increase following WLS? And if so, What factors are affected by this process?’ After the qualitative portion of the study, the researchers wanted to make more specific research questions to test from the information gathered in Phase 1. These questions are: 1) what factors of the self and the relationship is different between pre- and post-surgery individuals; 2) what aspects of the self and the relationship are related to relationship satisfaction post-surgery; and 3) from the significant factors uncovered in question 2, which contribute independently to

relationship satisfaction? Further information regarding analysis will be discussed in a future section.

A cross-sectional design was chosen so that researchers could explore if there were differences in constructs between individuals and/or couples pre-surgery as well as post-surgery. Furthermore, a cross-sectional design would allow researchers to test whether constructs differed depending on time passed after surgery. Although a longitudinal design would allow researchers to monitor any changes and give the clearest picture of how relationships change throughout the process, because of time restraints that methodology was not feasible. A survey was used in order to quantify data so that the researcher could conclude whether qualitative findings could be translated to a larger population.

Recruitment

In order to test these hypotheses, a sample of weight loss surgery patients and their spouses were recruited. Recruitment consisted of a snowballing technique whereby contacts made through the qualitative phase (and through an undergraduate thesis) were asked to participate in an online survey. Because it was intended to research the participants' perspective of their own lived experience, having individuals and their spouses who have actually undergone (or are about to undergo) the surgery was very important. Participants who have had the surgery or are preparing for the surgery appear to keep this experience very close to them so participants were not easy to recruit. Researchers believed that a snowballing technique would be the best way to gain access to these individuals. The researcher e-mailed bariatric group leaders (which were found

on the obesityhelp.ca website) asking for their time to fill out and disperse the survey, as well as on relative bariatric support group Facebook walls. Lastly, a participant from the qualitative phase was a member of three Facebook support groups and volunteered to post links to the survey on these pages. Two \$50.00 visa gift cards were used as incentives to help with recruiting. Surveys were administered using an online program called Qualtrics which could be shared and accessed through a URL link.

The use of social media was the main strategy of recruitment. Researchers posted twitter posts, which included a brief description of the study, the goal of the study which is to provide information to clinics and to increase quality of patient/spousal care, and finally, advertised the \$50.00 Visa gift-card. Similar posts were made on Facebook where bariatric support groups were contacted. With the researcher having memberships to a few 'closed' Facebook groups, it was possible to post directly on those walls, however these support groups are quite sensitive and may have perceived research as being invasive. Facebook posts were usually deleted within a few hours, however some receptive comments were made and a few participants were gathered in this short time. A personal contact was very helpful throughout this process, as she was a member of a widely used bariatric online forum, she was able to post about my research and this is where the bulk of participants were recruited from. Because she had the surgery, other patients appeared to be more receptive to her postings, where the researchers may have been perceived as more disengaged and just looking for data rather than caring about the actual lived experience.

To be considered for participation in this study, individuals must be in a heterosexual relationship (either marriage or cohabitation), and at least one spouse must

be either having WLS in the next 6 months, or have had WLS in the past 10 years. By recruiting couples with different structures many comparisons can be made such as comparing dependent measures for those who have been through the surgery together, versus those with only one partner undergoing surgery, comparing domains for those who have had the surgery versus those who are pre-surgery, investigating gender differences, and whether there is a difference in domains between post-surgery groups depending on time of surgery.

Questionnaire

Demographic Questionnaire. The demographic questionnaire appeared first in the online survey and gathered information on age, gender, where the individual is in their journey (if pre-surgery, when will they be having their surgery; if post-surgery, when was the date of the surgery), weight before surgery, weight after surgery (if applicable), how long the couple has been together, whether or not they have children (and how many), where they live, and where they had the surgery. See full online questionnaire in Appendix E.

Relationship Assessment Scale (RAS). Marital satisfaction was measured using the Relationship Assessment Scale (RAS), which has been tested in both clinical and non-clinical populations. This scale consisted of seven items and responses were rated from a 1 (not at all/never) to 7 (very much/all the time) scale. Scores are added together and divided by seven and the possible range is 1-7 with higher scores indicating greater marital satisfaction. Items from this scale explored overall marital satisfaction, conflict and dissatisfaction, security within the relationship and value placed on the relationship.

This scale has an alpha reliability of .86 (Hendrick, 1988). An example of one of the items in this scale is “In general, how satisfied are you with your relationship?”.

Perception of Attractiveness. Individuals in the qualitative study discussed the desire to want to feel more attractive after surgery, and those post- surgery couples said they still did not feel totally satisfied with their bodies and their weight. The Multidimensional Body-Self Relations Questionnaire (MBSRQ) as designed by Cash, Winstead, and Janda (1985) explores ratings of attractiveness using 10 subscales; Appearance evaluation, appearance orientation, fitness evaluation, fitness orientation, health evaluation, health orientation, illness orientation, body areas satisfaction scale, overweight preoccupation and self-classified weight. There are 69 items in this questionnaire; items 1-57 are rated on a 5 point likert scale (1 being definitely disagree to 5 being definitely agree), questions 58-60 are also rated on a 5-point likert scale with varying answer options, and questions 60-69 rate how attractive individuals believe their listed body parts are on a 5-point scale (1 being very dissatisfied to 5 being very satisfied).

Appearance Evaluation. The Appearance Evaluation subscale measures an individuals’ feelings of attractiveness and how satisfied/unsatisfied they are with the way they look. Higher scores on this subscale indicate greater satisfaction with their own appearance. This subscale has an alpha reliability of .88 (Cash, 2000). An example of an item on this subscale is “I like my looks just the way they are”.

Appearance Orientation. The Appearance Orientation subscale measures how much importance an individual places on their appearance. Higher scores indicate that

participants are more invested in their appearance, place more importance on their appearance and put in a lot of effort to look good. This subscale has an alpha reliability of .86 (Cash, 2000). An example of an item on this subscale is “It is important that I always look good”.

Fitness Evaluation. The Fitness Evaluation subscale measures an individuals’ perception of how physically fit they are. Higher scores in this subscale suggest that participants consider themselves physically fit and are engaged in physical activities as part of a healthy lifestyle. This subscale has an alpha reliability of .77 (Cash, 2000). An example of an item on this subscale is “I easily learn physical skills”.

Fitness Orientation. The Fitness Orientation subscale measures how important an individual finds their physical fitness. Higher scores indicate that an individual feels being physically fit, and engaging in activities to maintain this lifestyle, are important. This subscale has an alpha reliability of .91 (Cash, 2000). An example of an item on this scale is “I try to be physically active”.

Health Evaluation. This subscale measures an individual’s feeling of physical health and lack of illness. Higher scores suggest that an individual feels they are good health. This subscale has an alpha reliability of .92 (Cash, 2000) An example of an item on this subscale is “I am a physically healthy person”.

Health Orientation. This subscale measures an individual’s investment in having and maintaining a physically healthy lifestyle. Higher scores on this measure indicate that individuals are conscious of their health and try to live a healthy lifestyle. .This subscale

has an alpha reliability of .78 (Cash, 2000). An example of an item on this subscale is “I have deliberately developed a healthy lifestyle”.

Illness Orientation. This subscale measures how reactive individuals are to any physical illnesses. Individuals with higher scores are alert to physical symptoms of being ill and quick to seek medical attention. This subscale has an alpha reliability of .77 (Cash, 2000). An example of an item on this subscale is “I pay close attention to my body for any signs of illness”.

Body Areas Satisfaction Scale. This subscale lists distinct areas of the body and asks individuals to rate how satisfied they are with these areas. Higher scores indicate that an individual is content with more areas of their body. This subscale has an alpha reliability of .75 (Cash, 2000). An example of an item on this subscale is “Use this 1-5 scale to indicate how dissatisfied or satisfied you are with your weight”.

Overweight Preoccupation. This subscale measures an individual’s fat anxiety and dieting behaviours. This subscale has an alpha reliability of .75 (Cash, 2000). An example of an item on this subscale is “I constantly worry about being or becoming fat”.

Self-Classified Weight. This subscale measures how an individual rates their weight from very underweight to very overweight. This subscale has an alpha reliability of .79 (Cash, 2000). An example of an item on this subscale is “I think I am 1 (very underweight) to 5 (very overweight).”

Index of Sexual Satisfaction (ISS). Sexual satisfaction was measured using a modified version of the Index of Sexual Satisfaction (ISS) scale (Hudson, 1982). The original scale consists of 25 items that explore the severity of problems in the sexual

aspect of a relationship. Concerns over participant withdrawal led to the decision to remove 12 items that might have been perceived by this population as too invasive,(for example “my partner is too rough or brutal when we have sex”). Scores were added and divided by 13 and range from 1-7, where higher scores indicate greater sexual problems. This scale has a mean alpha of .92 indicating excellent internal consistency and excellent construct validity (Hudson, 1982). An example of an item on this scale is “I feel my partner enjoys our sex life”.

Depression Scale. Depression was measured using The Center for Epidemiologic Studies Depression Scale (CES-D) which is a 20 item scale which is rated using a 0 (rarely or none of the time) to 3 (most of the time) scale. This scale measures depressive symptomology in the general population. Items include depressive moods, feelings of worthlessness, helplessness, guilt, sleep difficulties and loss of appetite. Scores range from 0-60, and higher scores on this scale indicate greater symptoms. The CES-D has strong reliability (alpha >.85) and has been validated in both household and clinical populations (Hann, Winter & Jacobsen, 1999; Radloff, 1977) An example of an item on this scale is “I felt depressed”.

Body Image Silhouettes. All individuals discussed body image/self-esteem within the interviews. While the Rosenberg scale taps into self-esteem, the body image silhouettes (described by Leonhard and Barry, 1998) allow researchers to further understand this construct. Body image silhouettes are presented on the survey and individuals are asked with reference to the figures rate how you perceive your body now (on a scale of 1-9) and rate your ideal body image (on a 1-9) scale. These two questions allow the researcher to calculate discrepancies between current state and their dream

weight. We can also explore whether spouses have more discrepancy once their partners undergo surgery (ie. Do they become more insecure with their own bodies once their partner comes closer to their dream weight?). According to a Brazilian Longitudinal study, the Body Image Silhouettes demonstrated a test-retest reliability of .92 to .97 (Griep, Aquino, Chor, Kakeshita, Gomes & Nunes, 2012).

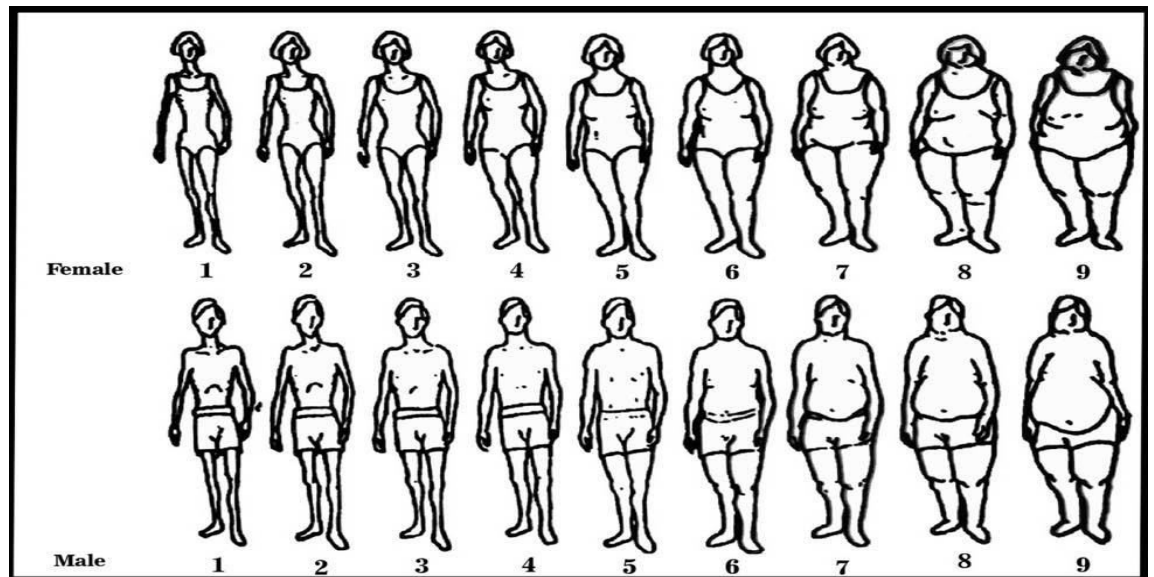


Figure 6. Body Image Silhouettes as Devised by Leonhard and Barry (1998)

Self-Esteem Scale. The Rosenberg Self-Esteem Scale was used to measure global self-esteem and consisted of 10 items and responses were rated from 1 (strongly agree) to 4 (strongly disagree) (Rosenberg, 1986). This scale has a test-retest reliability of .93 (Cronbach’s alpha) (Kakeshita & de Sousa Almeida, 2006). Possible scores range from 10-40 with higher scores indicating higher self-esteem. The test-retest correlations range from .82 to .88 (Rosenberg, 1986). An example of an item on this scale is “On the whole, I am satisfied with myself”.

Support Scale. The Medical Outcome Study (MOS) Social Support Survey was used to test individuals' types of support. The MOS is a 19-item scale whereby responses are rated on a 5-point likert scale (1 being none of the time – 7 being daily). There are five subscales in the MOS including emotional/informational support, tangible support, affectionate support, positive social interaction, and an additional item (“someone to do things with to help you get your mind off things”). Subscales are suggested to be reliable with all alphas $>.91$ and stable overtime (Sherbourne & Stewart, 1991). An example of an item on the tangible subscale is “Someone to take you to the doctor if you needed it”. An example of an item on the affectionate subscale is “Someone who shows you love and affection”. An example of an item on the positive social interaction subscale is “Someone to have a good time with. And lastly, the only item on the additional subscale is “someone to do things with to help you get your mind off things.”.

Data Management and Analysis Plan:

Regarding drop-out rate, there was a total of 138 participants began the online survey, however after deleting all data entries that did not finish the survey in its entirety, 55 cases remained. Data was then examined for dyads as the previous intent of the research was to explore dyadic analysis. Dyads were matched based on the anniversary dates they supplied and then cross-checked based on their own and their spouses birthday. If dyads had matching anniversary dates and their birthdays matched their spouses report of their birthdays they were deemed a couple. After these connections were made only six dyads were found, and this led researchers to abandon dyadic analysis. Dyad data was not used for further analysis and the 7 spouses (individuals whose partners were preparing for or had the surgery) were removed. The spouses which

were removed consisted of only husbands. The removal of these participants was necessary as to not violate the assumption of independence.

From the 55 participants who completed the entire survey, if there was a missing item and less than 5% of the sample did not complete this particular item, a mean score for that item was calculated and used to replace that missing score. Items number four and seven were reverse coded in the RAS, items number 1,2,3,7,8,10 and 11 were reverse coded on the ISS scale, items number 4,8,12 and 16 were reverse coded on the CES-D scale, and items number 2,5,6,8, and 9 were reverse coded on Rosenberg's Self-Esteem Scale. Specific analytical techniques will be discussed along with findings in the results section, however the next few paragraphs will outline a brief theoretical description of what was performed.

Chi-square tests and t-tests were conducted to determine whether significant differences existed with regard to participants who finished the survey completely, and participants who dropped out. A Chi-square Test for Independence revealed that dropout was related to gender $\chi^2 (1, N = 101) = 4.17, p < .05$. Male participants were more likely to complete the survey (less likely to drop out) than I surmised. Furthermore, dropout was also related to where participants were in their weight-loss journey $\chi^2 (4, N = 101) = 17027, p < .005$. Significantly more participants who had the surgery dropped out than was expected and significantly more participants finished who were preparing for surgery or who had a spouse who had the surgery than were expected.

To test hypothesis 1 (what factors of the self and relationship is different between pre- and post- surgery individuals), a Multivariate Analysis of Variance (MANOVA) was

designed whereby pre- and post-surgery couples were separated and the constructs of self and relationship were compared between groups. A MANOVA is a useful technique here as it can test the effect of one IV (surgery group) on a set of DVs (self-esteem, depression, sexual conflict, changes in perception of self, relationship satisfaction and support). Wilks' Criterion was used to assess whether mean differences of the DVs existed between the different surgery groups at a significant level. Homogeneity of covariance was assessed and assumptions were not violated. This test and results will be further explained in the results section.

For hypothesis 2, correlations were used to test significant relationships between relationship satisfaction score and qualities of the self and relationship. Pearson Correlation Coefficients will describe the strength and direction between the variables and these will be demonstrated further in a correlation matrix.

To test the third and final hypothesis a Standard Multiple Regression as used to see which factors would contribute significantly to the Relationship Assessment Scale when regressed upon simultaneously. A Standard Multiple Regression will help determine the unique and shared contribution of the constructs deemed important in Hypothesis 2 to the prediction of relationship satisfaction. In order to test the assumption of multicollinearity, correlations between variables were examined and it was noticed that they were above .80 in some instances. This raised some concerns so tolerance was then examined and demonstrated scores greater than 0.1 indicating no violation to multicollinearity. Due to the large dropout rate certain aspects of analysis had to be abandoned. There were not enough couples participating in the study, thus dyadic analysis was not possible with this data. Furthermore, most individuals participating in

this survey were post-surgery, thus sample sizes were unequal which limited some aspects of analysis.

Because of clear limitations, original research questions were modified. Based off the data, researchers wanted to know 1) what factors of the self and the relationship is different between pre- and post-surgery individuals; 2) what aspects of the self and the relationship are related to relationship satisfaction post-surgery; And 3) from the significant factors uncovered in question 2, when allowed to be simultaneously regressed upon the relationship assessment scale, which factors contributed significantly?

Chapter 5: Phase II Results and Discussion

When the quantitative aspect of this study was designed, it was the goal of the researcher to recruit a minimum of 100 participants to provide us with sufficient power for the planned analyses. After 100 participants completed the survey, Qualtrics data was analyzed and indicated that there was a large drop-out rate of 58%. More participants were needed after this initial recruitment, thus researchers went back to social media to further recruit. Researchers encouraged more participation (strategies will be discussed below) however, were aware of pragmatic restrictions, in particular time. Due to the time restriction, the study was closed on February 16 2015, thus was available for 9 months (from June 10, 2014). At the time of survey closure, a total of 138 individuals had visited this online survey, and approximately 58% had started the demographic scale and 40% had completed the survey to the last scale (the MOS). Of those who completed the first (demographic) portion of the study, one individual dropped out at the RAS scale, 12 additional participants dropped out at the MBSRQ, and 6 additional participants dropped out at the CES-D.

Demographics

Of the 55 participants that completed the entire survey, 82% were female ($N = 45$) and 18% were male ($N = 10$). In terms of where these individuals were at in their weight-loss journey 60% of participants had the surgery ($N = 33$); 27% were preparing for surgery ($N = 15$); and 13% were spouses of individuals who either had the surgery ($N = 5$) or were preparing for surgery ($N = 2$). The majority of the participants were married ($N = 43$) and had children ($N = 42$).

Table 3. *Frequency Distribution of Participants that Completed the Survey With a Focus on Participants that Received Weight- Loss Surgery*

	Overall Males	Males who had Surgery	Overall Females	Females who had Surgery
Where are you in your journey?				
Had surgery	3	3	29	30
Preparing for surgery	1		14	
Spouse had surgery	4		1	
Spouse preparing for surgery	2		0	
Both had surgery	0		1	
Relationship status				
Single	0	0	2	1
Married	9	3	34	25
Common-law	1	0	9	4
Children				
Yes	8	3	34	24
No	2	0	11	6
Highest level of education				
Less than high school	0	0	2	1
High school/GED	3	2	5	4
Some college	2	0	6	6
College diploma	3	1	26	15
University degree	1	0	4	3
Masters degree	0	0	2	1
Doctoral degree	1	0	0	0
Employment status				
Working full time	8	3	27	17
Working part time	1	0	4	3
Unemployed	0	0	5	3
Student	0	0	2	1
Self-employed	0	0	1	1
Other	1	0	6	5
Annual Income				
0-\$20,000	1	0	6	4
\$20,000-\$40,000	2	0	16	12
\$40,000-\$60,000	4	1	9	4
\$60,000-\$80,000	3	2	6	5
\$80,000-\$100,000	0	0	3	2
\$100,000+	0	0	5	3

Cronbach's Alphas

Cronbach's alphas were calculated to examine how well items within scales and subscales correlated with one another. This allows researchers to understand whether or not their items are tapping into similar concepts as they are intended. The following table demonstrates that all scales and subscales have a Cronbach's alpha greater than .70, deeming them reliable enough to draw significant conclusions. The one exception is a subscale in the MBRSQ (Overweight Preoccupation Subscale) which has a Cronbach's alpha of .45. This subscale was not used in future analyses.

Table 4. *Means, Standard Deviations (SD), Possible Ranges and Cronbach's Alphas for Subscales*

Scale/Subscale	Mean (SD)	Possible Range	Cronbach's Alpha
RAS	5.42 (1.12)	1-7	.88
MBSRQ		1-5	
Appearance Evaluation	2.48 (.90)		.87
Appearance Orientation	3.33 (.70)		.82
Fitness Evaluation	3.13 (1.03)		.71
Fitness Orientation	2.93 (.69)		.82
Health Evaluation	3.33 (.93)		.87
Health Orientation	3.39 (.75)		.78
Illness Orientation	3.09 (.97)		.79
Body Areas Satisfaction	2.63 (.77)		.81
Overweight Preoccupation	3.44 (.90)		.45
Self-Classified Weight	4.23 (.75)		.85
ISS	3.57 (1.68)	1-7	.96
CES-D	20.41 (13.24)	0-60	.94
Rosenberg's Self-Esteem Scale	29.63 (6.49)	10-40	.92
MOS		1-7	.98
Tangible Support	5.02 (1.71)		.96
Emotional/Informational	5.06 (1.50)		.97
Support			
Affectionate Support	5.08 (1.72)		.97
Positive Social Interaction	5.21 (1.53)		.95
Support			

Legend for Subscales: RAS (Relationship Assessment Scale), MBSRQ (Multidimensional Body-Self Relations Questionnaire); ISS (Index of Sexual Satisfaction); CES-D (Center for Epidemiologic Studies Depression Scale); MOS (Medical Outcomes Support Scale)

Research Question 1.

In order to test what factors of the self and the relationship differed between pre- and post-surgery, individuals were sorted into pre-surgery and post-surgery groups and couples were considered individuals for the remaining analyses. A MANOVA was performed using where individuals were in their weight-loss journey as the independent variable (pre-surgery/post-surgery), and factors of relationship satisfaction, sexual conflict, depression, self-esteem, support and difference between perception of self and ideal self as the dependent variables. This would indicate whether or not any overall differences existed between pre and post-surgery groups on the dependent measures. The test revealed a significant multivariate difference for the pre- and post-surgery groups, *Wilk's Lambda* $F(1,45) = 2.33$, $p = .05$ indicating a significant model. Table 5 presents the means and standard deviations of the dependent variables for the weight-loss journey groups.

Subsequent univariate analyses indicated a significant difference between pre- and post-surgery participants on sexual conflict scores, $F(1,45) = 4.33$, $p = .04$, depression scores, $F(1,45) = 5.91$, $p = .02$, and DIFFERENCE scores, $F(1,45) = 8.78$, $p < .01$. Post-surgery participants had significantly less sexual conflict in their relationships, significantly less depression, and perceived themselves as closer to their ideal body image than pre-surgery participants.

Table 5. Means (M), Standard Deviations (SD), Univariate F, p and Effect sizes (η^2) of Pre-Surgery (N = 15) and Post-Surgery (N = 32) Groups for ISS, CES-D, DIFFERENCE, RAS, MOS and SE

Variable	Pre-Surgery		Post-Surgery		Univariate F	P	η^2
	Mean	(SD)	Mean	(SD)			
ISS	4.24	(1.74)	3.11	(1.72)	4.33	0.43*	0.09
CES-D	26.27	(12.25)	17.19	(11.8)	5.91	0.02*	0.12
DIFFERENCE	3.87	(1.25)	2.50	(1.57)	8.78	0.01*	0.16
RAS	5.10	(1.27)	5.62	(1.14)	2.09	0.12	0.04
MOS	4.54	(1.26)	5.30	(1.49)	2.93	0.94	0.06
SE	28.07	(6.43)	30.56	(6.35)	1.56	0.22	0.03

Legend for Subscales: ISS (Index of Sexual Satisfaction); CES-D (Center for Epidemiologic Studies Depression Scale); DIFFERENCE (perception of ideal self - perception of current self as measured by body image silhouettes); RAS (Relationship Assessment Scale; MOS (Medical Outcomes Support Scale); S.E. (Rosenberg's Self-Esteem Scale) *= $p < .05$, **= $p < .01$

Research Question 2

The second research question stated: what aspects of the self and the relationship are related to relationship satisfaction post-surgery? After determining that there were differences in dependant variable scores between individuals pre- and post-surgery, it was evident that these two groups could not be collapsed. Correlations of the main variables were analyzed based on the post-surgery groups to investigate their relationships with RAS. Although ideally, comparisons would be made with regard to the pre-surgery group, the sample size of the pre-surgery group was not large enough to examine the reliability of relationships. Regarding the main correlations of individuals post-surgery and RAS, it appears that those who reported higher relationship satisfaction also reported more support, higher self-esteem, less sexual conflict in their relationship, and perceived their partners to be attractive.

Table 6. *Correlation Matrix of SE, MOS, DIFFERENCE, RAS, ISS, CES-D and ATTPART for Post-Surgery Participants (N=33)*

	RAS	MOS	Difference	SE	ISS	CES-D	ATTPART
RAS		.52**	.14	.57**	-.62**	-.19	.58**
MOS			.16	.51**	-.52**	-.52**	.44**
DIFFERENCE				-.29	.09	.37*	.06
SE					-.67**	-.79**	-.35**
ISS						.44**	-.54**
CES-D							-.25
ATTPART							

Legend for Subscales: S.E. (Rosenberg's Self-Esteem Scale); MOS (Medical Outcomes Support Scale); DIFFERENCE (perception of ideal self - perception of current self as measured by body image silhouettes); RAS (Relationship Assessment Scale); ISS (Index of Sexual Satisfaction); CES-D (Center for Epidemiologic Studies Depression Scale). * = $p < .05$, ** = $p < .01$

In addition, support was significantly, positively correlated with self-esteem, and how attractive an individual perceives their partner to be, as well as negatively correlated with sexual conflict and depression. This indicates that an individual with more support reports higher attraction to their partner and higher self-esteem, as well as lower levels of depression and lower sexual conflict within their relationship.

Significant negative relationships exist between self-esteem and sexual conflict, depression and how attractive one perceives their partner to be. This indicates that the happier and more confident these individuals reported to be with themselves, the less sexual conflict that exists in their relationships, the less depressed they were, and the less attractive they perceived their partners to be.

Finally, the more sexual conflict is positively associated with depression and negatively correlated with how attractive they perceive their partner to be. This indicates that the more sexual conflict reported in a relationship, the higher level of depression is reported and the less attractive an individual perceives their partner.

Research Question 3

Lastly, from the significant factors uncovered in the previous question, I wanted to examine which factors contributed significantly to relationship satisfaction when simultaneously regressed upon the relationship assessment scale. Standard Multiple Regression was performed on the dependent variable RAS, presenting the average rating of marital satisfaction from post-surgery individuals. The following were the predictor variables: MOS (average rating of support), SE (rating of self-esteem), ISS (rating of sexual conflict), and ATTPART (how attractive you find your partner). These independent variables were all included as they were significantly related with RAS at the bivariate level. Of the four predictor variables, only ATTPART was significantly related with RAS, accounting for 15% of the unique variance ($F_{(4,27)} = 11.31, p < .01$). The shared contribution of the variables was 48%. In summary, participants who perceive their partners as being more attractive have higher levels of relationship satisfaction.

Table 7. Summary of Correlation Matrix, Means and Standard Deviations, and Unique Contribution of Dependent Variable: RAS and Independent Variables: MOS, SE, ISS, and ATTPART, for Post-Surgery Participants. N=32

	RAS (DV)	MOS	SE	ISS	ATTPART	T	P	B	Semipa r Cor.	sr ²
MOS	.52					.62	.54	.09	.07	
SE	.61	.50				1.86	.07	.03	.22	
ISS	-.60	-.51	-.67			.14	.89	.11	.02	
ATTPART	.74	.52	.50	-.68		3.32	.003	.46	.39*	.15
						Intercept = .11				
Mean	5.46	5.36	30.43	3.39	7.89					
SD	1.12	1.49	6.43	1.61	2.07					
					R ² = .63					
				Adjusted	R ² = .57					
					R = .79					

Unique variability = .15

Shared variability = .43

Legend for Subscales: RAS (Relationship Assessment Scale); MOS (Medical Outcomes Support Scale); S.E. (Rosenberg's Self-Esteem Scale); ISS (Index of Sexual Satisfaction); ATTPART (how attractive one perceives their partner to be). * = $p < .05$,

It was found that there were significant differences between pre- and post-surgery participants on measures of sexual conflict and depression. Individuals had less sexual conflict within their relationships post-surgery than the pre-surgery couples and had significantly less depression. Furthermore, individuals post-surgery have less discrepancy between their ideal body and how they perceive their body to be currently. This all may make intuitive sense. If individuals feel they are closer to their ideal body, they may be more confident in their sexual endeavours with their partners, and also may feel less depressed with themselves. In the future, a larger sample size would allow researchers to capture a more powerful understanding of these differences pre- and post-surgery

couples, furthermore dyadic analysis would be beneficial in understanding both the patients and the spouses perspective.

Because there were not enough participants pre-surgery to make any further comparisons, post-surgery individuals became the focus of the analyses. Here it was found that relationship satisfaction for individuals post-surgery was associated with sexual conflict in that individuals who are more satisfied with their relationship were less likely to experience sexual conflict with their spouses. Furthermore, those with higher self-esteem and more support were more likely to be satisfied in their relationships. This again is logical as individuals who are happier in their relationship were more likely have happier sex-lives (less conflict) and this relationship satisfaction may lead to higher self-esteem or it may be that higher self-esteem within a relationship will create more satisfying relationships overall. Lastly, individuals with more support may have more help with problem solving from their loved ones.

Although relationship satisfaction was related to a few variables, only how attractive an individual finds their partner was significant predictors of relationship satisfaction. It is interesting that although there was a measure of how attractive an individual perceives themselves to be, this self-rating of attraction did even correlate significantly with relationship satisfaction, however the rating of the partner's attractiveness did. It may be that individuals who went through surgery did not hold their appearance with the highest regard before the surgery and thus did not rely on that to contribute to their happiness in their relationship. Although patients became closer to their ideal bodies after the surgery, they still did not feel that their appearance was significant to their relationship as it had not been for so long.

Discussion

The survey portion of the study found differences in depression, sexual conflict and view of body between pre and post-surgery individuals. Individuals pre-surgery showed higher levels of depression than those post-surgery and this may be a reflection of weight-lost and higher self-esteem. Feeling better about themselves post-surgery and being proud of their accomplishments with weight-loss may lead individuals to feel less depressed. Also, it has been indicated that obesity leads to depression (Vetter, Wadden, Lavenberg, Moore, Volger, et al., 2011), thus as weight-loss is achieved, these levels of depression may subside. Individuals' perceptions of their bodies become closer to their ideal body after surgery and this also may make intuitive sense.

Whether or not ideal body images were significantly thinner was not studied in the current study, thus although we cannot say that ideal body image was shifting to a thinner self as Munoz and colleagues (2010) concluded, our findings are noteworthy. Obtaining a body closer to their ideal may have positive effects on self-esteem. Since they had more excess body fat pre-surgery they would be much larger than their ideal body, and as these individuals lose weight, they become closer to their thinner ideal. This may go hand-in-hand with the decreases in depression, as individuals may feel less depressed as they become closer to their ideal body weight. Lastly, individuals post-surgery reported less sexual conflict than those pre-surgery. This may be because as weight-loss is achieved, individuals may feel more comfortable with their bodies and thus more adventurous with sexual interactions. These findings are aligned with Applegate and Friedman's (2008) study whereby increases in mobility may lead to increased endurance and flexibility improving sexual satisfaction. These findings demonstrate

overall that there are differences between pre- and post-surgery individuals. Future research should further investigate these differences and aim to capture populations that fully represent pre- and post-surgery individuals and their spouses.

These findings align with previous literature whereby relationship satisfaction did not differ significantly between pre and post-surgery couples. Although it cannot be stated that there are no changes in relationship satisfaction throughout the journey of WLS (as this was not a longitudinal study), it can be noted that there were no significant changes between groups. Porter and Wampler (2000) state that any relationships whereby obesity was an issue would substitute that issues with another source of conflict once weight-loss was achieved. This may be the case for our participants. While no significant differences exist between pre and post-surgery groups with regards to relationship satisfaction, it may be that after WLS spouses would find new sources of stress or conflict other than obesity.

Secondly, with regard to individuals after they had WLS, relationship satisfaction was related to support, sexual conflict and self-esteem. Individuals with more support appeared to be happier in their relationship. This may mean that having the support of other family members may offer an outlet for individuals to discuss any struggles and combine different elements of problem-solving strategies from these support systems. This relationship between relationship satisfaction and support may also indicate that individuals who have supportive spouses have more trust, security and happiness in their relationship.

Sexual conflict was negatively correlated with relationship satisfaction thus as sexual conflict decreases, relationship satisfaction increases (or vice-versa). This makes

intuitive sense, as individuals in a happier relationship are less likely to have conflict and dissatisfaction in their sexual relationship. In the same sense, individuals who have less problems and conflict in their sexual relationships will have greater overall relationship satisfaction.

Self-esteem was positively correlated with relationship satisfaction in that individuals who reported higher self-esteem also reported higher relationship satisfaction. It may be that an individual is more confident when he or she is in a happier relationship or that an individual's self-confidence leads to more satisfactory relationships. These findings illustrate what concepts are related to relationship satisfaction and these findings may be helpful when implementing proper support for individuals and their spouses throughout the journey of WLS. It may be beneficial to have supports in place when going through this process to keep relationship satisfaction high. Also, self-esteem workshops may be offered to these individuals and their partners in order to not disturb relationship satisfaction. Lastly, sexual conflict should be considered when working with these individuals and their spouses, and counselling or workshops in this regard may be helpful for these couples.

Lastly, quantitative analysis demonstrated that although there were many variables that correlated with relationship satisfaction, only how attractive one perceives their partner to be significantly predicted relationship satisfaction for individuals post-surgery. It was surprising that an individuals' perception of how attractive his/her partner is predicted relationship satisfaction, but one's perception of how attractive they are did not. The fact that partner's attractiveness affects relationship satisfaction more than their own attractiveness may indicate that these individuals have been faced with a mind-body

disconnect for so long that their attractiveness is no longer factored into the equation. It was important to individuals post-surgery however that they be attracted to their spouses, so although their looks are not as important in a relationship, they are still somewhat superficial with regards to their spouses. Applegate and Friedman (2008) suggested that changes in an individual's appearance following WLS happen so quickly that these physical changes may not be detected for a period of time. Here, it may be that participants own sense of attractiveness may not contribute to their overall relationship satisfaction, as they have not gotten accustomed to their new bodies. Because our participants consisted of only married couples, it may be that those who remained married perceived their spouses as attractive. It is possible that since partners' attractiveness appears to be important in marital satisfaction after WLS, if weight-loss was successful and an individual perceived his/her partner as unattractive they would possibly seek out a 'better model' and end the relationship. This could be further studied in future research comparing married couples with individuals who had dissolved marriages.

Chapter 6: Overall Discussion

As WLS becomes more popular throughout North America, it is important that we understand this process in its entirety. There has been much research from the biomedical standpoint with regard to how the body physically changes after surgery, what surgeries are the most effective in terms of weight-loss achieved, and what physical improvements as well as detriments are involved post-surgery. Little research to this date focuses on the individual and the psychological and social aspects. Furthermore, only a few studies have considered what affects the surgery has on family dynamics and in particular, marriage. With this gap in the literature it may be difficult for those involved to get the proper care they and their families deserve. If doctors, social workers, and nurse practitioners are aware of how WLS may affect families and relationships, they can provide information pre-surgery to prepare the individuals for the journey that lies ahead, and can also provide care for the family post-surgery.

Before discussing overall findings, it is important to demonstrate ways in which WLS differ from any other surgery. Without this clarification, research in this field may lack depth as it may be taken for granted that this surgery comes with the same worries and hope as other surgeries such as heart-surgery. There are a couple of defining features of WLS which make it distinctly unique to other surgeries. Firstly, WLS is connected to a stigma; individuals who are obese are seen as lazy and getting surgery to 'fix' this is viewed as 'taking the easy way out'. Obesity, as discussed in the introduction, has many connotations inherently linked with it, and individuals who are obese are treated as lesser by society as a whole. This stigma follows that individual through the process of the surgery itself. Individuals report feeling afraid of telling people they had the surgery as

they do not want to further perpetuate this notion of being lazy and taking the ‘easy way’ to achieving weight-loss. For most individuals undergoing surgery, WLS is a last option. It is as risky as open-heart surgery in terms of fatality, however it comes with a stigma.

Secondly, many illnesses and surgeries can be invisible to others, but obesity is a public display. After surgery, the extreme weight-loss that most achieve is also very visible. Questions from others about how they lost the weight are inevitable and thus individuals cannot go through this journey without being under public scrutiny. Again, as stigmas are related to these visible qualities, an individual undergoing WLS is different compared to almost any other surgery. The visibility of this entire journey is very unique to these individuals and has an impact on how they change post-surgery and how their relationship with their spouses will thus be impacted.

Lastly, extreme weight-loss due to WLS leads to changes in personal schema for an individual. Other surgeries may come with a renewed sense of hope for the future and health, but extreme weight-loss from WLS results in internal changes just as much as external. Individuals are being treated differently by others, their social interactions have changed, their confidence thus increases, and they now need to redefine themselves. Often times, individuals report changing faster physically than they can keep up mentally (LePage, 2010). This disconnect between mind and body post-surgery appears to be unlike many other surgeries and the combination between this, the visibility of their journey and the stigmas attached throughout make WLS a distinctly unique procedure with unique impacts on the individuals and thus their families.

Thus far the qualitative and quantitative findings have been discussed as separate entities, however these findings work in concordance with one another as one finding

most certainly informs the other. This study was designed to allow findings from the qualitative portion of this study to inform how the quantitative portion was designed, and allow findings from Phase 2 to further clarify findings from Phase 1.

The fact that Phase 2 findings suggested differences in depression levels between pre and post-surgery couples was reflective of discussions of hope and wanting to find a better self in the pre-surgery interviews. Although pre-surgery individuals did not state that they were necessarily 'depressed' going in to the surgery, there was a suggested hope for a more happy and content self after the surgery. The women in the interviews who were post-surgery did in fact state that they found a happier self after the surgery and they were more comfortable and confident in their appearance. This was mirrored in the depression scores of individuals pre- versus post-surgery. This hope of a better self that the pre-surgery individuals discussed, and this reflecting of finding this better self as discussed by the post-surgery individuals in Phase 1 was in fact demonstrated by the quantitative findings. Although happiness was not directly measured, the difference in depression levels between pre and post-surgery couples may indicate that individuals have found happier selves through the surgery. An improvement in physical health and becoming closer to their ideal body may result in more happiness and may be reflected in less depression for individuals post-surgery.

The hope for a better self as discussed in Phase 1 was also reflected in the self-esteem differences between pre- and post-surgery individuals in Phase 2. Individuals post-surgery had significantly higher self-esteem than those pre-surgery and this is probably a reflection of the change in body and becoming closer to their ideal body image thus happier with their current appearance. When a comparison is made between one's

current body image and their ideal body image, and the gap between these two states is large, one's confidence and self-esteem may suffer. When one becomes closer to their ideal body with weight-loss, the gap between their current body and their ideal body becomes smaller, and their confidence and self-esteem may increase due to less extreme comparisons. The hope for finding a self that they are happier with as discussed by the pre-surgery individuals is something that is achievable through WLS if successful weight-loss is achieved.

There were also parallels between Phase 1 and Phase 2 with regard to the notion of 'we' throughout the journey of WLS. Although there were not enough dyads in the study to do an in depth dyadic analysis as was intended, it was demonstrated that relationship satisfaction was predicted by individual self-esteem as well as perception of spouse attractiveness. This suggests that it is not just changes within the individual post-surgery that affects the relationship, but there are elements of both spouses that will contribute to this satisfaction. This finding was further supported by the Phase 2 finding which suggested support was significantly related to relationship satisfaction at a bivariate level. This could indicate that marriage and satisfaction within one's relationship is not just dependent on the happiness of an individual and how WLS changes one's self, but also how the spouse is supportive throughout this process. Spouses can play a large role in marital satisfaction after surgery by giving emotional, tangible, and informational support, all of which were discussed in the interviews. Both quantitative and qualitative findings demonstrate that the process of WLS and marital outcomes are not just dependent on how the individual journey's through this process, but also how their spouses support them and how they perceive their spouses physical

appearance after their own transformations. This could be important to health care practitioners in emphasizing the importance of spousal support throughout this process when dealing with individuals undergoing WLS. Information should be available to the individual and their spouse so that spouses can have the information needed to offer appropriate support in all forms to their partner.

As the qualitative data suggested, physical health and improvements in mobility after surgery was related to marital satisfaction as both spouses pre-surgery expressed their desire to want to 'do more' together or how post-surgery spouses discuss their achievement in being able to take part in more activities post-surgery which brought them closer together. Physical mobility and improvements in health were also discussed as being a relief to the spouses who no longer have to worry about their loved ones being in pain or experiencing discomfort. Improvements in physical mobility may also be related to sexual functioning and this was possibly the reason why there was less sexual conflict experienced by post-surgery spouses than pre-surgery spouses. It may have been that pre-surgery there was sexual conflict based around longevity of sexual experiences, limited sexual positions that couples could experience and even problems with bladder or heart conditions associated with obesity. After these physical improvements are made couples may be able to last longer during sex, try new things to add excitement to their sex lives and not worry about embarrassing situations during sex that they had to worry about before. Since sexual conflict was negatively associated with relationship satisfaction, these improvements in sexual functioning would have positive effects on their marriage.

Limitations. Although there are some clear implications that can be drawn from this study, this research is not without limitations. Participants were hard to recruit for

several reasons. Firstly, this is a private and sensitive population. Individuals don't often like to discuss their surgeries openly to strangers or researchers, and furthermore online forums are not open to the public. It is very hard to get on these forums and to preserve the privacy and integrity of the groups, any posts that appear to be mining for data are removed almost immediately. Having a personal contact that was part of these groups was extremely valuable for recruitment, and without this contact, more than 80% of the participants would not have been gathered. The online forums do give contact information for support group leaders of different groups around Northern Ontario and those leaders were contacted. Not one of the 15 leaders that were contacted responded to these emails where the researcher offered an informational workshop.

Time was a factor in regard to recruitment since there are time restrictions on completions dates of a masters' thesis. Since we were working with a sensitive population that was hard to recruit, time restraints further limited this component of the study. It may also have been more successful to run the quantitative portion of this study during the summer. During the winter there are more individuals that are busy over the Christmas holidays and thus reaching out to support groups may not have been ideal for that reason. During the summer, more people take holidays and it may have been easier to get into contact with support groups and recruit individuals with more time on their hands to complete the survey.

Failure to recruit was mostly due to the sensitive population in question. Facebook groups and the online forum were private and outside individuals were not welcome to post any type of promotions or advertisements. Furthermore, when individuals were recruited to the online survey, it is speculated that the drop out was high

as individuals were faced with personal, and at times very long surveys. These surveys may have been discouraging if they had sparked negative reactions to the participants or if the participants were constrained by time. Even though it was specified that questionnaire would take approximately 30 minutes, the length of the MBSRQ could have been intimidating. In retrospect, it may be that the longer scales were more daunting for the participants.

In the future it would be vital to further these findings by recruiting more dyads so that dyadic analysis could be appropriately conducted. By comparing and contrasting spouse and patient perspectives, one can gather a more complete story of what this process is like for the couple as a whole. It would also be helpful to do a longitudinal study so that one may compare individual scores throughout different stages of the WLS journey. These comparisons could further indicate if it is time post-surgery, weight-loss achieved, or any other factors that contribute more largely to the changes in relationship dynamics.

Research in the field of WLS needs to explore more than just the physiological and biomedical outcomes following the surgery and be more considerate of the process for the individual and those closest to them. As Bronfenbrenner's (1977) model suggests, stress or dramatic changes in an individual can have an impact on the family unit. Marriages may suffer post-surgery if they are not given the information and resources they are needed in order to adjust successfully to these changes.

Chapter 7: References

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Chapter 8: Appendix
Appendix A: Ethics Approval



 TRENT UNIVERSITY 1964-2014

OFFICE OF RESEARCH
 www.trentu.ca/research

1600 West Bank Drive
 Peterborough, ON Canada K9J 7B8
 Telephone (705) 748-1011 x 7050
 Facsimilie (705) 748-1587
 Email research@trentu.ca

Dr. Geoff Navara
 Psychology Dept.
 LHS

April 25, 2014

File #: 23002
 Title: The relationship between weight loss surgery and marital satisfaction

Dear Dr. Navara,

The Research Ethics Board (REB) has given approval to your updated proposal entitled "The relationship between weight loss surgery and marital satisfaction".

A reminder that the committee strongly suggests and encourages you to encrypt your data that is being collected. For help with encryption services, please contact Trent's IT Department.

In accordance with the Tri-Council Guidelines (article D.1.6.) your project has been approved for **one additional year**. If this research is ongoing past that time, please submit a Research Ethics Annual update form, available on the Research Office website.

Please note that you are reminded of your obligation to advise the REB before implementing any amendments or changes to the procedures of your study that might affect the human participants.

On behalf of the Research Ethics Board, I wish you success with your ongoing research.

With best wishes,


 Dr. Chris Furgal
 REB Chair
 Phone: (705) 748-1011 ex. 7953 Fax: (705) 748-1587
 Email: chrisfurgal@trentu.ca

c.c.: Karen Mauro
Compliance Officer

Appendix B: Consent Form

DEPARTMENT OF PSYCHOLOGY

1600 West Bank Drive

Peterborough, ON Canada K9J 7B8



INFORMATION AND CONSENT FORM TO PARTICIPATE IN THE STUDY
"Relationship Between Bariatric Surgery and Marital Satisfaction"

Contact: **Geoff Navara, Ph.D. (705-748-1011 x 7539)**
geoffnavara@trentu.ca

Danielle Sage, MA (Candidate)

daniellesage@trentu.ca

This study has been approved by the Trent University Research Ethics Board

Purpose of the Study: I understand that this study is about my experience with bariatric surgery and relationship. The researchers are interested in my personal experiences as a way to better understand marital outcomes following bariatric surgery.

Description of the Study: I understand that taking part in this study will consist of participating in an interview approximately 30 minutes length, the content of which will be recorded on tape. The interview will ask me about my experiences with bariatric surgery and marital relationship. I also understand that I will be completing a brief background and medical history questionnaire.

Benefits: I understand that there will be no direct gain for taking part in this study. The results of this study will provide knowledge that will help researchers, health practitioners and policy makers understand the experience of individuals undergoing bariatric surgery. Sometimes people enjoy and feel better when they share their experiences with others.

Potential Harm: While there are no known harms associated with participating in the interviews for this study, I understand that a slight possibility exists that I will experience a strong emotional reaction when discussing my situation.

Confidentiality: I understand that my involvement in the study will not be revealed to anyone by the researchers. My confidentiality will be respected and no information regarding my identity will ever appear in any publications or presentations. Specifically,

the research team will maintain my confidentiality by removing names and other identifying information from the questionnaire, transcript, and excluding names from written reports. Tapes and transcripts will be locked filing cabinets accessible only by study researchers. Identifying information will be kept separate from any tapes and transcripts.

Participation: I am aware that my participation is voluntary and I have the right not to participate or to freely withdraw from this study at any time during its course.

Information Storage: I understand that the researchers will store any information gathered from me in a secure cabinet that only they will have access to. I understand that any computer files containing my information will be secured with passwords and stored on secure computers. Any computer files sent over electronic media will be encrypted. The researchers will destroy the raw data (electronic recordings, questionnaires) after five years.

Use of Information: I understand that this information will be used in reports, presentations, and journal articles. This information may be used to develop policies, practices and programs to help bariatric surgery patients.

Conflict of Interest: I understand that the researchers have no commercial interest in completing this study. I also understand that this study is not funded by any commercial interest.

Consent: The research study and procedures have been explained to me and any questions have been answered to my satisfaction. The potential harms have been explained to me and I also understand the benefits to taking part in this study. I know that I may ask now, or in the future, any questions that I have about the study or the research procedures. I have been assured that no information will be released or printed that would disclose my personal identity.

If I have questions about the study I can contact any of the people listed at the top of this page. I may also contact Karen Mauro at the Trent University Research Ethics Office at 705-748-1011 x 7050 if I have any questions about my involvement as a research participant.

I have been provided with a copy of this consent form for my records.

Participant's name

Participant's Signature

Date

Researcher's Name

Researcher's Signature

Date

Appendix C: Interview Protocol

Interview Protocol:

1. Check to ensure these are completed

- Timer
- Tape Recorder
- Debriefing

2. Introduction to study:

- Thank you for agreeing to participate in the study.
- Review study information and consent letter.
- Discuss any questions or concerns.
- Consent signed by supervisor and researcher.
- Copy provided to participant.

3. Introduction to Interview:

- We are interested in studying marital relationship outcomes following weight loss surgery. As such we are interested in your experience with your spouse. We want to know how you experienced your surgery and subsequent relational factors that may have been affected.
- I would like you to feel free to share your perspectives and experiences, both good and bad.
- We will be tape recording this session and taking notes throughout. Is that OK with you?
- We have approximately 30 minutes for this discussion, is that OK with you?
- We have open-ended questions to guide our discussion, but this is intended to be similar to a free-flowing conversation and the interview guide will only be used to make sure we touch on certain domains.
- Why don't we get started then?

- What do you expect the experience of WLS to be like for you in terms of your marriage?
- Can you describe what marital satisfaction means to you:
- Can you describe your satisfaction with your marriage now/ before the surgery?
- Can you describe what you expect your satisfaction with your marriage to be like after surgery?

- What (if anything) do you expect to change in your marriage?
- What other factors have influenced your marriage in the past year?
- What areas of your marriage are satisfactory now/before the surgery?
- What aspects of your marriage are problematic now/ before surgery?
- What aspects of your marriage do you foresee being satisfactory after surgery?
- What aspects of your marriage do you foresee to be problematic after surgery?
- How do you feel about yourself now/before your surgery?
- How do you think your partner feels about you now/before surgery?
- How do you expect to feel about yourself after the surgery?
- How do you think your partner will feel about you after the surgery?

Possible prompting questions: Can you please elaborate? How so? Please expand.

Thank you for your participation. This has been very helpful. Are there any questions? Would you like a copy of the interview transcript for your records?

Time out:

Appendix D: Feedback Sheet

Peterborough, ON Canada K9J 7B8

Telephone: (705) 748-1011 x7086

Facsimile: (705) 748-1580

www.trent.ca/psychology

Feedback Sheet

Bariatric Surgery Study

Thank you for participating in this study. Your time and effort are much appreciated. Our research seeks to investigate the lived experience of individuals who have undergone bariatric surgery. Particular focus will be paid to marital outcomes following weight-loss surgery.

Bariatric surgery is becoming a common method of weight reduction among obese people who have not been capable of sustained weight loss with other methods. More than 2000 bariatric surgery procedures will be performed in Ontario in 2013. Bariatric surgery is relevant to a significant number of patients and their families.

The majority of patients succeed in losing weight and keeping it off. On average, patients lose 67 percent of their excess weight and 65 to 80 percent of patients maintain weight loss over a 10-year period. Patients reduce their chance of dying by 89 percent compared to similar obese individuals not undergoing surgery.

Following surgery, food restriction and nutrient absorption is reduced over a period of one to two years, after which the patient's system adapts and weight regain becomes a possibility. Bariatric surgery patients also experience important changes in their views of themselves as a function of weight loss, such as, feelings of anger towards previously unsupportive others and self-recrimination for their inability to lose weight without intervention {{1365 Norris, Joan 2009;}}. Many patients struggle with issues of personal efficacy, self esteem and self image - all factors that have been related to emotionally-driven eating patterns and weight gain {{1348 Sarwer, David B. 2005;}}. Many also experience the effects of stigma from others. We don't know how these emotional responses may impede efforts to keep weight off. Given the general success of surgery, it is important to understand who does well (and not so well) and what we can do to improve success further. {{1360 Walfish, Steven 2009;}}

Along with dramatic physical changes that follow bariatric surgery, there are also psychological and social consequences and this can disrupt many aspects of an individual's life including the marriage. Marital satisfaction may improve as individuals can engage in more physical activities with each other, yet marital conflict may arise from jealousy and unwanted lifestyle changes. {{Applegate & Friedman, 2008;}} It is the purpose of this study to further understand these marital consequences following surgery.

Understanding what is important to patients and those that support them is of critical importance to improve the health and quality of life for individuals struggling with weight loss. Our research group is committed to improving the knowledge base in this area. Thank you again for the gift of your time.

This study received ethics clearance through the Trent University Research Ethics Board. If you have any questions or concerns about your participation in this study, you can contact Karen Mauro at the Office of Research, Trent University, 705-748-1011 or kmauro@trentu.ca.

Further Reading

Wee, Christina C.(2009). A 52-year-old woman with obesity: Review of bariatric surgery. *JAMA: Journal of the American Medical Association*, 302, 1097-1104.

Resources

The following are accessible contacts in case you are upset following participation in this study or otherwise:

Telecare Peterborough

- (705) 745-2273 (24 hours, 7 days a week)
 - Offers a listening ear to anyone in distress, despair, or lonely. Assists the caller with empathy, non-judgmental listening and, where possible, offers resources to help. ***Will accept collect calls.***

The Women's Health Care Centre (prhc.on.ca/WomensHealth/)

- (705) 743-4132 (Monday-Friday, 8:30-4:30) or
- (705) 743-2121 ext 0 to contact on-call nurse
 - Service in Peterborough providing all women with information, support and counseling to make informed choices about their health.

Canadian Mental Health Association (www.peterborough.cmha.on.ca)

- (705) 748-6711
 - Provides help to individuals and families with services to promote and enhance the mental health and wellness.

Peterborough Regional Health Centre- Mental Health Services

- (705) 743-2121 (Hospital Switchboard)
- (705) 876-5002 (Adult Outpatient Program)
- (705) 876-5114 (Family and Youth Clinic)
 - Provides expertise and care in assessment, stabilization and treatment for serious mental health concerns

Community Counselling and Resource Centre (ccrc@ccrc-ptbo.com)

- (705) 742- 4258
 - Skilled professionals help explore and understand issues and assist the development of solutions.

Appendix E: Background History Survey

Background History Questionnaire

General Information: Name: _____

Date: _____

Height: _____ Starting Wt: _____ Current Wt: _____

Date of surgery/anticipated surgery: _____ Place of Birth: _____ Religion: _____ Do you have a family physician? Yes No

Name of family physician: _____ Telephone Number: _____

Marital Status (Check one): Engaged Married Divorced Living with someone Remarried: How many times? _____

How long have you been with your partner? _____

With whom do you live? (Check all that apply): Self Parent Spouse Roommate Child (ren) Friend(s) Others (Specify): _____

Have you been in therapy before or received any professional assistance for any problems? Yes No

Have you ever been hospitalized for psychological/psychiatric problems? Yes No

If yes, when and where?

[Empty rectangular box for response]

Does any member of your family suffer from an "emotional" or "mental disorder"? Yes No

Do you have any current concerns about your physical health? Yes No

If yes, please specify:

Please list any medications you are currently taking:

Please describe any surgery you have had (give dates): is for

Please describe any physical handicap(s) you have:

Check any of the following that apply during your childhood/adolescents:

<input type="checkbox"/> Happy childhood	<input type="checkbox"/> Not enough friends	<input type="checkbox"/> Sexually abused
<input type="checkbox"/> Unhappy childhood	<input type="checkbox"/> School problems	<input type="checkbox"/> Physically abused
<input type="checkbox"/> Emotional behavioural problems	<input type="checkbox"/> Financial problems	<input type="checkbox"/> Severely bullied or teased
<input type="checkbox"/> Legal trouble	<input type="checkbox"/> Strong religious convictions	<input type="checkbox"/> Eating disorder
<input type="checkbox"/> Death in family	<input type="checkbox"/> Drug use	Others: _____ _____ _____
<input type="checkbox"/> Medical problems	<input type="checkbox"/> Used alcohol	
<input type="checkbox"/> Ignored	<input type="checkbox"/> Severely punished	

Check any of the following behaviours that often apply to you:

<input type="checkbox"/> Overeat	<input type="checkbox"/> Loss of control	<input type="checkbox"/> Phobic avoidance	Others: _____ _____ _____ _____ _____ _____ _____
<input type="checkbox"/> Take drugs	<input type="checkbox"/> Suicidal attempts	<input type="checkbox"/> Overspending	
<input type="checkbox"/> Unassertive	<input type="checkbox"/> Compulsions	<input type="checkbox"/> Can't keep a job	
<input type="checkbox"/> Outbursts of temper	<input type="checkbox"/> Smoke	<input type="checkbox"/> Take too many risks	
<input type="checkbox"/> Drink too much	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Lazy	
<input type="checkbox"/> Work too hard	<input type="checkbox"/> Nervous tics	<input type="checkbox"/> Eating problems	
<input type="checkbox"/> Procrastination	<input type="checkbox"/> Poor concentration	<input type="checkbox"/> Aggressive behaviour	
<input type="checkbox"/> Impulsive reactions	<input type="checkbox"/> Sleep disturbance	<input type="checkbox"/> Crying	

Appendix F: Online Survey

WLS and Marital Outcomes



Q1 My name is Danielle Sage and I am a graduate student in the department of psychology at Trent University. As part of my master's program I am conducting research on the psychological and social outcomes following weight-loss surgery under the supervision of Dr. Geoffrey Navara. I have been researching this topic for three years for both my undergraduate and graduate studies and have conducted many interviews with individuals as well as couples to explore this topic of interest. Currently, there has been a lot of research on the physical and medical outcomes following surgery, however the social outcomes are less well-understood. This survey is the final piece of my study and here I hope to further explore the effects of weight-loss surgery on the self, as well as on interpersonal relationships. It is ultimately my goal to provide a framework of knowledge for social workers working with bariatric patients and their spouses in their efforts to provide better care. I am studying the following combinations of couples in order to try to capture all participant experiences :-Couples whereby the wife has had the surgery- Couples whereby the husband has had the surgery-Couples whereby both have had the surgery- Couples whereby the wife is preparing for the surgery-Couples whereby the husband is preparing for the surgery-Couples who are both preparing for the surgeryIt is encouraged that both husband and wife participate in this survey (individually) in order to give us a fuller understanding of the journey for all involved. If you wish to participate please click Yes and you will proceed to the consent portion of the study. More information is available here regarding contact information, confidentiality and possible risks and benefits. This survey should take about 30 minutes and this will be further discussed in the next section. Thank you for your time!

- Yes (Proceed to Consent) (1)
- No (Please Close the Window) (2)

Q2 The Relationship Between Weight-Loss Surgery and Marital SatisfactionThank you for agreeing to take part in this study. The following section contains further information explaining the purpose of the study, what your involvement entails, possible benefits and risks and confidentiality. Contact information is also listed directly below for both myself (the student researcher) as well as my supervisor (Dr.Geoffrey Navara). Please feel free to contact him or myself if you have any questions or concerns pertaining to this study. Danielle Sage, BSc., M.Sc. candidate daniellesage@trentu.ca (705) 768-6974 Dr. Geoffrey Navara geoffnavara@trentu.ca

(705) 748-1011 ext. 7539 Purpose of the Study: In the past few decades obesity has been on the rise leading to a global epidemic. In combatting obesity within Ontario, the Ontario Government has invested \$75 million directly into funding weight-loss surgery. With weight-loss surgery being more popular than ever it is important to understand the outcomes for individuals and their loved ones following surgery. Much research has been done to further the understanding of the physical and biomedical outcomes of surgery, however the social and psychological outcomes remain fairly unexplored. It is the purpose of the current research to investigate the impacts of weight-loss surgery on the individual as well as in their interpersonal relationships. The goal of the study is to provide health care practitioners (particularly social workers) with a framework of understanding to promote better care to individuals and their loved ones throughout this journey. It is important to gain information not only from those who have received/are soon receiving surgery, but also from their spouses in attempt to explore marital outcomes from all perspectives. I understand that this study is about my experience with bariatric surgery and my relationship with my spouse. The researchers are interested in my personal experiences as a way to better understand bariatric surgery as it pertains to marriage.

Description of Involvement: I understand that taking part in this study will involve completing in an online survey which will take approximately 30 minutes, the content of which will be viewed only by the researchers. This study questionnaire will consist of a general demographics portion as well as relationship and self-questionnaires. I am aware that my participation is voluntary and I have the right not to participate or to freely withdraw from this study at any time during its course. I also understand that I have the right to decline to answer any questions in the survey.

Potential Risks and Benefits: The results of this study will provide knowledge that will help researchers, health practitioners and policy makers understand the experience of couples undergoing bariatric surgery. Sometimes people enjoy and feel better when they share their experiences with others. Another possible benefit is that this research could be used to inform policy and create further understanding for those implementing care for individuals and their spouses throughout their journeys. While there are no known harms associated with participating in this study, I understand that a slight possibility exists that I will experience an emotional reaction when answering questions about my situation.

Confidentiality: I understand that my involvement in the study will not be revealed to anyone by the researchers. My confidentiality will be respected and no information regarding my identity will ever appear in any publications or presentations. Specifically, the research team will maintain my confidentiality by not gathering information on names and other identifying information from the questionnaire, and no identifying information will be used in written reports. The date of mine and my spouses anniversary as well as birth dates will be used to pair up spouses, however information given in my survey will not be accessed or seen by my spouse in any case.

Information Storage: I understand that only Dr. Geoff Navara and Danielle Sage will have access to the survey information that is gathered. I also understand that the researchers will store any information gathered from me in a secure spreadsheet that only they will have access to. I understand that any computer files containing my information will be secured with passwords and stored on secure computers. Any computer files sent over electronic media will be encrypted. The researchers will destroy the raw data (electronic recordings, questionnaires)

after five years after the last publication. Use of Information: I understand that this information will be used in reports, presentations, and journal articles. This information may be used to develop policies, practices and programs to help bariatric surgery patients and their spouses. Conflict of Interest: I understand that the researchers have no commercial interest in conducting this study. I also understand that this study is not funded by any commercial interest. Consent: The research study and procedures have been explained to my satisfaction. The potential harms have been explained to me and I also understand the benefits to taking part in this study. I know that I may ask now, or in the future, any questions that I have about the study or the research procedures. I have been assured that no information will be released or printed that would disclose my personal identity. If I have questions about the study I can contact the researchers listed at the top of this page. I may also contact Karen Mauro at the Trent University Research Ethics Office at 705-748-1011 x 7050 if I have any questions about my involvement as a research participant. Please note that this study has been approved by the Trent Research Ethics Board. By clicking on the below 'Yes' i agree to participating in this study.

Q3 I agree to taking part in this study

- Yes (proceed to questionnaire) (1)
- No (please close the window) (2)

Q4 Gender

- Male (1)
- Female (2)

Q5 Where are you in your weight-loss journey?

- I have had the surgery (1)
- I am preparing for the surgery (2)
- My spouse has had the surgery (3)
- My spouse is preparing for the surgery (4)
- Both of us have had the surgery (5)
- Both of us are preparing for surgery (6)

Q6 What is your relationship status?

- Single (1)
- Married (2)
- Commonlaw (3)
- Other (4) _____

Q7 How long have you and your partner been a couple (in years and/or months)?

Answer If Where are you in your weight-loss journey? I have had the surgery Is Selected Or Where are you in your weight-loss journey? I am preparing for the surgery Is Selected Or Where are you in your weight-loss journey? Both of us have had the surgery Is Selected Or Where are you in your weight-loss journey? Both of us are preparing for surgery Is Selected

Q8 Why did you choose to have / are you choosing to have the surgery? Choose all that apply

- Health reasons (1)
- I didn't/don't like the way I look(ed) (2)
- To keep up with my spouse (3)
- Other (4) _____

Q9 Current Weight (in pounds):

Q10 Height (in feet and inches ie. 5'5"):

Answer If Where are you in your weight-loss journey? I have had the surgery Is Selected Or Where are you in your weight-loss journey? Both of us have had the surgery Is Selected

Q11 What was your starting weight (in pounds)?

Answer If Where are you in your weight-loss journey? I have had the surgery Is Selected Or Where are you in your weight-loss journey? I am preparing for the surgery Is Selected Or Where are you in your weight-loss journey? Both of us have had the surgery Is Selected Or Where are you in your weight-loss journey? Both of us are preparing for surgery Is Selected

Q12 What is your goal weight (in pounds)?

Q13 Date of Surgery (or partners' surgery): dd/mm/yyyy

Q14 Where is surgery taking place?

Q15 What city do you live in?

Q16 Do you have children?

- Yes (1)
- No (2)

Answer If Do you have children? Yes Is Selected

Q17 How many and what age?

Q18 What is the highest level of education you have completed?

- Less than High School (1)
- High School/GED (2)
- Some College (3)
- College Diploma (4)
- University Degree (5)
- Masters Degree (6)
- Doctoral Degree (7)
- Professional Degree (JD,MD) (8)

Q19 What is your current employment status?

- Working full-time (1)
- Working part-time (2)
- Unemployed (3)
- Retired (4)
- Other: (5) _____

Q20 What is your current annual income?

- \$0 - 20,000 (1)
- \$20,000 - 40,000 (2)
- \$40,000 - 60,000 (3)
- \$60,000 - 80,000 (4)
- \$80,000 - 100,000 (5)
- \$100,000 + (6)

Q21 The following questions will be used to pair you with your partner. Please remember your partner will have no access to your answers at any time, this will only be seen and used by the researchers. Your birthdate (dd/mm/yyyy):

Q22 Your partner's birthdate (dd/mm/yyyy):

Q23 You and your current partners' anniversary (dd/mm/yyyy):

<p>general, how happy are you with your present relationship? (15)</p> <p>16. What do you think is the likelihood that you will be in this relationship 10 years from now? (16)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Q25 The following section contains a series of statements about how people might think, feel, or behave. You are asked to indicate the extent to which each statement pertains to you personally. Please read each statement carefully and, using the scale, indicate your answer.

	Definitely Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Mostly Agree (4)	Definitely Agree (5)
1. Before going out in public, I always notice how I look. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I am careful to buy clothes that will make me look my best. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would pass most physical-fitness tests. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. It is important that I have superior physical strength. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. My body is sexually appealing. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am not involved in a regular exercise program. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I am in control of my health. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I know a lot of things that affect my physical health. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I have deliberately developed a healthy lifestyle. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I constantly worry about being or becoming fat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(10) 11. I like my looks just the way they are. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I check my appearance in a mirror whenever I can. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Before going out, I usually spend a lot of time getting ready. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. My physical endurance is good. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Participating in sports is unimportant to me. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I do not actively do things to keep physically fit. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. My health is a matter of unexpected ups and downs. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Good health is one of the most important things in my life. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I don't do anything that I know might threaten my health. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I am very conscious of even small changes in my weight. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Most people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

would consider me good-looking. (21)					
22. It is important that I always look good. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. I use very few grooming products. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. I easily learn physical skills. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Being physically fit is not a strong priority in my life. (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I do things to increase my physical strength. (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I am seldom physically ill. (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I take my health for granted. (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. I often read books and magazines that pertain to health. (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. I like the way I look without my clothes on. (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. I am self-conscious if my grooming isn't right. (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. I usually wear whatever is handy without caring how it looks. (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. I do poorly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

in physical sports or games. (33)					
34. I seldom think about my athletic skills. (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. I work to improve my physical stamina. (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. From day to day, I never know how my body will feel. (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. If I am sick, I don't pay much attention to my symptoms. (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. I make no special effort to eat a balanced and nutritious diet. (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. I like the way my clothes fit me. (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. I don't care what people think about my appearance. (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. I take special care with my hair grooming. (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. I dislike my physique. (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. I don't care to improve my abilities in physical activities. (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. I try to be physically active. (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. I often feel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

vulnerable to sickness. (45)					
46. I pay close attention to my body for any signs of illness. (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. If I'm coming down with a cold or flu, I just ignore it and go on as usual. (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. I am physically unattractive. (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. I never think about my appearance. (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. I am always trying to improve my physical appearance. (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. I am very well coordinated. (51)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. I know a lot about physical fitness. (52)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. I play a sport regularly throughout the year. (53)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. I am a physically healthy person. (54)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. I am very aware of small changes in my physical health. (55)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. At the first	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

sign of illness, I seek medical advice. (56)					
57. I am on a weight-loss diet. (57)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q26 For the remainder of the items, use the response scale given with each item.

Q27 58. I have tried to lose weight by fasting or going on crash diet

- 1. Never (1)
- 2. Rarely (2)
- 3. Sometimes (3)
- 4. Often (4)
- 5. Very Often (5)

Q28 59. I think I am:

- 1. Very underweight (1)
- 2. Somewhat underweight (2)
- 3. Normal weight (3)
- 4. Somewhat overweight (4)
- 5. Very overweight (5)

Q29 60. From looking at me, most other people would think I am:

- 1. Very underweight (1)
- 2. Somewhat underweight (2)
- 3. Normal weight (3)
- 4. Somewhat overweight (4)
- 5. Very overweight (5)

Q30 61-69. Use this 1-5 scale to indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

	1. Very Dissatisfied (1)	2. Mostly Dissatisfied (2)	3. Neither Satisfied nor Dissatisfied (3)	4. Mostly Satisfied (4)	5. Very Satisfied (5)
61. Face (facial features, complexion) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. Hair (colour, thickness, texture) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. Lower torso (buttocks, hips, thighs, legs) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. Mid torso (waist, stomach) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. Upper torso (chest or breasts, shoulders, arms) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. Muscle tone (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. Weight (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. Height (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
69. Overall appearance (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q32 Please click the appropriate number, which best describes how often you felt or behaved this way during the past year.

	0 Rarely or none of the time (1)	1 Some or little of the time (2)	2 Occasionally or a moderate amount of the time (3)	3 most or all of the time (4)
1. I was bothered by things that usually don't bother me (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I did not feel like eating; my appetite was poor (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I felt that I could not shake off the blues even with help from my family or friends (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I felt that I was just as good as other people (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I had trouble keeping my mind on what I was doing (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I felt depressed (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I felt that everything I did was an effort (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I felt hopeful about the future (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I thought my life had been a failure (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I felt fearful (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. My sleep was restless (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I was happy (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I talked less than usual (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I felt lonely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(14)				
15. People were unfriendly (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I enjoyed life (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I had crying spells (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I felt sad (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I felt like people dislike me (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I could not get 'going' (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

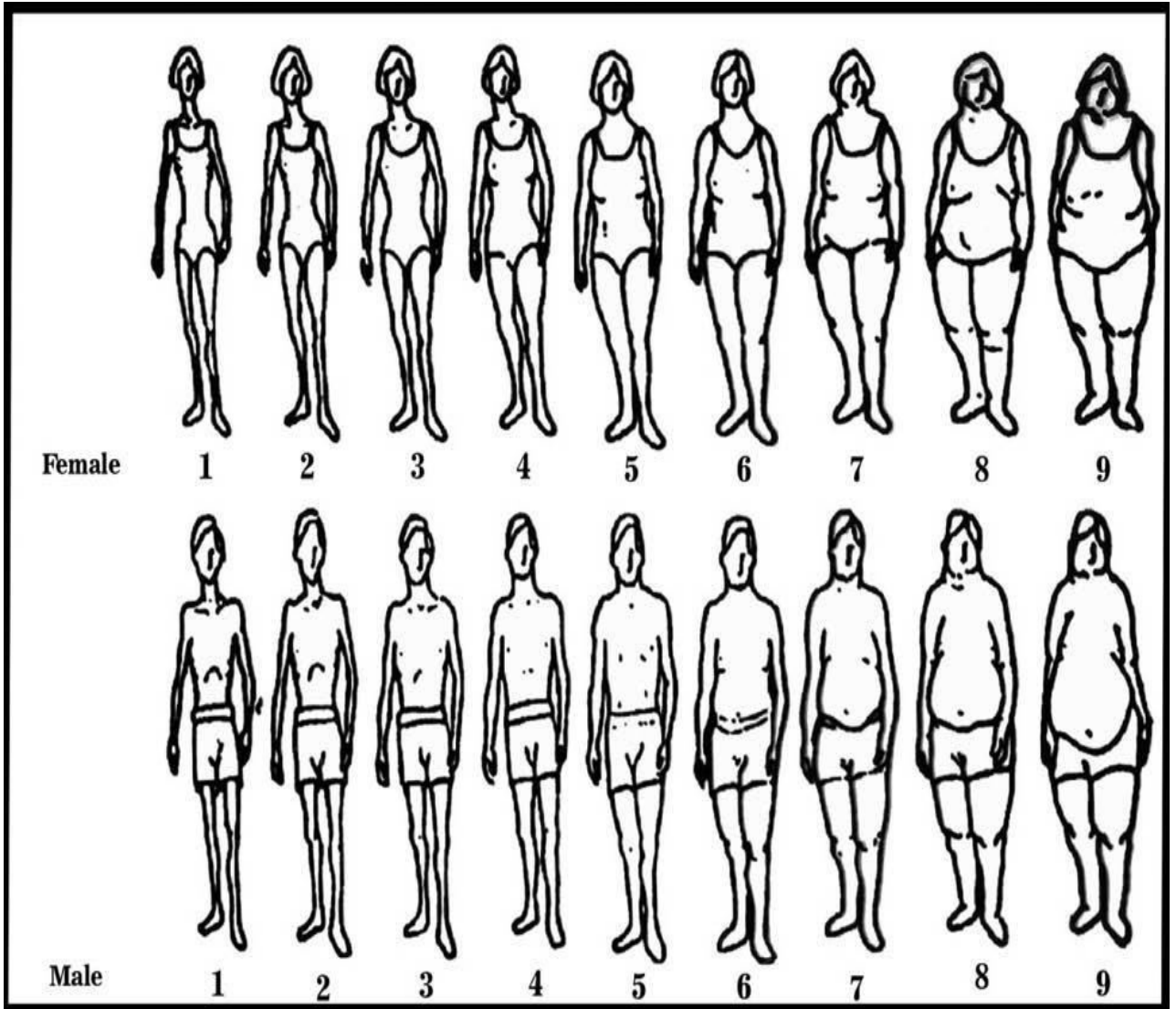
Q33 The next set of questions concern a variety of feelings, symptoms and complaints. For each one, click the number to the right that best describes the extent to which you have experienced that symptom during the past year. At the one extreme 0 means that you have not been bothered by the problem. At the other extreme, 4 means that the problem has been an extreme bother.

	0 No bother (1)	1 (2)	2 (3)	3 (4)	4 Extreme bother (5)
1. Nervousness or shakiness inside (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Loss of sexual interest (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Feeling low in energy or slowed down (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Thoughts of ending your life (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Trembling (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Crying easily (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Feeling of being trapped or caught (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Suddenly scared for no reason (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Blaming yourself for things (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Feeling lonely (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Feeling blue (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Worrying too much about things (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Feeling no interest in things (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Feeling fearful (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Heart pounding or	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>racing (15)</p> <p>16. Feeling hopeless about the future (16)</p> <p>17. Feeling tense or keyed up (17)</p> <p>18. Feeling everything is an effort (18)</p> <p>19. Spells of terror and panic (19)</p> <p>20. Feeling so restless you can't sit still (20)</p> <p>21. Feelings of worthlessness (21)</p> <p>22. Feeling that familiar things are strange or unreal (22)</p> <p>23. Feeling pushed to get things done (23)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Q34 Below is a figure that we will use to answer questions pertaining to body perception and ideal body. Please try to answer the following questions as honestly and accurately as possible.

Q35



Q36 With reference to the figures above:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)
Rate how you perceive your body now (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rate your ideal body (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q37 On a scale of 1-10 how attractive do you find your partner (1 being not at all attractive, 10 being very attractive)

Q38 The next questions ask about your current feelings about yourself. For each of the following, please click the response that best describes how strongly you agree or disagree with the statement about yourself.

	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)
1. On the whole, I am satisfied with myself. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. At times, I think I am no good at all. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I feel that I have a number of good qualities. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am able to do things as well as other people. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I feel I do not have much to be proud of. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I certainly feel useless at times. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I feel that I'm a person of worth, at least on an equal plane with others. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I wish I could have more respect for myself. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. All in all, I am inclined to feel that I am a failure. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I take a positive attitude toward myself. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q39 1. About how many close friends and close relatives do you have (people you feel at ease with and can talk to about what is on your mind)?

17. Someone to turn to for suggestions about how to deal with a personal problem. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Someone to do something enjoyable with. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Someone who understands your problems. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Someone to love and make you feel wanted. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q41 Thank you for participating in this study. Research of this kind would not be possible without your cooperation and support. Your time and effort are much appreciated. Our research seeks to investigate the lived experience of individuals who have undergone bariatric surgery. Particular focus will be paid to marital outcomes following weight-loss surgery. Bariatric surgery is becoming a common method of weight reduction among obese people who have not been capable of sustained weight loss with other methods. More than 2000 bariatric surgery procedures will be performed in Ontario in 2013. Bariatric surgery is relevant to a significant number of patients and their families. The majority of patients succeed in losing weight and keeping it off. On average, patients lose 67 percent of their excess weight and 65 to 80 percent of patients maintain weight loss over a 10-year period. Patients reduce their chance of dying by 89 percent compared to similar obese individuals not undergoing surgery. Following surgery, food restriction and nutrient absorption is reduced over a period of one to two years, after which the patient's system adapts and weight regain becomes a possibility. Bariatric surgery patients also experience important changes in their views of themselves as a function of weight

loss, such as, feelings of anger towards previously unsupportive others and self-recrimination for their inability to lose weight without intervention {{1365 Norris, Joan 2009;}}. Many patients struggle with issues of personal efficacy, self-esteem and self-image - all factors that have been related to emotionally-driven eating patterns and weight gain {{1348 Sarwer, David B. 2005;}}. Many also experience the effects of stigma from others. We don't know how these emotional responses may impede efforts to keep weight off. Given the general success of surgery, it is important to understand who does well (and not so well) and what we can do to improve success further. {{1360 Walfish, Steven 2009;}} Along with dramatic physical changes that follow bariatric surgery, there are also psychological and social consequences and this can disrupt many aspects of an individual's life including the marriage. Marital satisfaction may improve as individuals can engage in more physical activities with each other, yet marital conflict may arise from jealousy and unwanted lifestyle changes. {{Applegate & Friedman, 2008;}} It is the purpose of this study to further understand these marital consequences following surgery. Understanding what is important to patients and those that support them is of critical importance to improve the health and quality of life for individuals struggling with weight loss. Our research group is committed to improving the knowledge base in this area. Thank you again for the gift of your time. This study received ethics clearance through the Trent University Research Ethics Board. If you have any questions or concerns about your participation in this study, you can contact Karen Mauro at the Office of Research, Trent University, 705-748-1011 or kmauro@trentu.ca. Researchers Contacts: Danielle Sage BSc. (Trent University) daniellesage@trentu.ca (705) 768-6974 Dr. Geoff Navara M.A. (Wilfrid Laurier University) PhD. (University of Guelph) geoffnavara@trentu.ca (705) 748-1011 ext. 7539

Q42 If you are interested in reading more about this topic the article below provides a framework for individuals who have gone through weight-loss surgery and the impacts this has on romantic relationships: Applegate, K. L., & Friedman, K. E. (2008). The impact of weight loss surgery on romantic relationships. *Bariatric Nursing and Surgical Patient Care* 3, 135 - 141.

Resources: The following are accessible contacts in case you are upset following participation in this study or otherwise: Telecare Peterborough (705) 745-2273 (24 hours, 7 days a week) o Offers a listening ear to anyone in distress, despair, or lonely. Assists the caller with empathy, non-judgmental listening and, where possible, offers resources to help. *Will accept collect calls.* The Women's Health Care Centre (prhc.on.ca/WomensHealth/) (705) 743-4132 (Monday-Friday, 8:30-4:30) or (705) 743-2121 ext 0 to contact on-call nurse o Service in Peterborough providing all women with information, support and counseling to make informed choices about their health. Canadian Mental Health Association (www.peterborough.cmha.on.ca) (705) 748-6711 o Provides help to individuals and families with services to promote and enhance the mental health and wellness. Peterborough Regional Health Centre- Mental Health Services (705) 743-2121 (Hospital Switchboard) (705) 876-5002 (Adult Outpatient Program) (705) 876-5114 (Family and Youth Clinic) o Provides expertise and care in assessment, stabilization and treatment for serious mental health concerns Community

Counselling and Resource Centre (ccrc@ccrc-ptbo.com) (705) 742- 4258 o Skilled professionals help explore and understand issues and assist the development of solutions. Toronto Distress Centre (416) 408-HELP (4357) o Providing life-sustaining and life-enhancing services.

Q43 If you are interested in receiving a brief summary of the findings from this study once data is collected and analyzed please leave your email in the space provided. Participants will not be contacted for any other reason and e-mail addresses will not be linked with any information received.