

THE RELATIONSHIP OF SELF-COMPASSION WITH
PSYCHOLOGICAL WELL-BEING IN PRE-BARIATRIC
SURGERY PATIENTS WITH OBESITY

By

KATHLEEN M. VERBA

Bachelor of Science
Texas A&M-Commerce
Commerce, Texas
1991

Master of Science
Texas A&M-Commerce
Commerce, Texas
1993

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
August, 2017

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Dissertation Approved:

Al Carlozzi, Ed.D
Dissertation Chair

Tony Hammer, Ph.D
Dissertation Director

Hugh Crethar, Ph.D

Valerie McGaha, Ph.D

Ed Harris, Ph.D

Name: KATHLEEN VERBA

Date of Degree: AUGUST, 2017

Title of Study: THE RELATIONSHIP BETWEEN SELF-COMPASSION AND WELL-BEING
IN PRE-BARIATRIC SURGERY PATIENTS WITH OBESITY

Major Field: COUNSELING PSYCHOLOGY

Abstract: Research has shown mixed results in the relationship between psychological well-being and obesity. Bariatric surgery is one option for many people who are seeking to reduce body weight and routinely requires examination of psychological processes to help project successful outcomes for patients. Self-compassion is an approach to negative and stressful events in life and increases positive and non-evaluative view of self. To date, little research has focused on the interaction of self-compassion and obesity. This study explored the relationship between well-being and self-compassion in patients who are obese and seeking bariatric surgery. Results indicated that the higher the self-compassion, the lower the experience of symptoms of depression and anxiety. Specifically, greater Mindfulness was a predictor for lower depression and anxiety symptoms. In reverse, higher isolation and self-judgment predicted depression and anxiety.

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CHAPTER 1

INTRODUCTION

Obesity has been defined in the research and medical literature as extra adiposity, or fat tissue (Flegal, Carroll, Ogden, & Curtin, 2010). Obesity has nearly doubled since 1980 and the latest available data shows 35% of adults worldwide are overweight and 11% obese (World Health Organization: WHO, 2015). Obesity is complex and multifaceted and research continues to uncover links to prevention and interventions. Obesity affects more than 200 million men and nearly 300 million women world-wide and 65% of the world's population live in countries where excess weight kills more people than being underweight (WHO, 2015). Data from 2012 identified more than 40 million children under the age of 5 as overweight or obese (WHO, 2015).

Professionals and researchers often define obesity in terms of what is known as Body Mass Index (BMI). This term was coined in 1995 and represents an individual's weight in kilograms divided by the square of the person's height in meters (kg/m^2). A BMI equal or greater than 25 is considered *overweight* and a BMI equal or greater than 30 is considered *obese* (WHO, 2015). The National Institute of Health (NIH) created a classification of obesity used to group three types of obesity: Class I = BMI of 30 to 34.9; Class II = BMI of 35 to 39.9; Class III = BMI of 40 plus (NIH, 2015a). The current BMI Classification system remains the standard tool used

for diagnosing obesity.

Obesity is visible and a bulls-eye target for potential stigmatization from others. Stigmatized groups are often devalued and considered separate from the in-group due to their perceived defects, whether visible or invisible (Major & O'Brien, 2005). Obese individuals report being targeted in "variety of forms and on multiple occasions" (Puhl & Brownell, 2006). When weight loss is viewed as controllable, and unlike other stigmatized groups whose traits are *not* seen as controllable, the stigmatizing belief that an overweight or obese individual is lazy and lacks motivation prevails (The Obesity Society, 2015). Compounding this belief is the reality that obese individuals who lose weight may fail to keep that weight off over time. This reinforces the perception of laziness and a lack of will power to both self and others. Unlike obesity, being thin carries powerful social and economic benefits (Puhl & Brownell, 2006).

Obesity and Psychological Well-Being

Interest in understanding the complexity of obesity from a psychological well-being point of view continues to grow given the incidence of obesity in our societies. Psychological well-being has been defined in a number of ways, but it has often been referred to in the research literature as the absence or reduction of depression, anxiety, and/or stress in one's life, depending on the focus of concern (Ridner, 2004). For the purposes of the present study, psychological well-being will be defined in terms of levels of depression and anxiety as measured by the total scores on the Millon Behavioral Medicine Diagnostic (MBMD) which includes scales for depression and anxiety that have been normed with bariatric surgery patients.

There are mixed findings in the research literature regarding the relationship between psychological well-being and obesity. Some researchers have found that obesity is associated with psychological distress or poorer psychological well-being whereas other researchers have

found that no such relationship exists or no relationship between these variables is apparent without mediators influencing that relationship. For example, Class II and Class III obese individuals have been found to experience more psychological distress (i.e., more negative affect and less positive affect) than thinner peers and these findings cut across race and gender (Carr, Freidman, & Jaffe, 2007). In addition, Class III females may experience other psychiatric complications, such as physical and sexual abuse, health stress, and financial/legal issues compared to either Class I or Class II females (Wadden et al., 2006). Increased symptoms of depression and anxiety have been associated with higher BMI scores for women but not for men (Bookwala & Boyar, 2008; Palinkas et al., 1996). In other studies, obesity levels were not related to psychological distress or life dissatisfaction (Annis, Cash, & Hrabosky, 2004; Dierk et al., 2004)

Different factors have been found to mediate the relationship between psychological distress/well-being (i.e., depression, anxiety, and stress) and obesity, including body image dissatisfaction (Gavin, Simon, & Ludman, 2010), as well as impairment in physical health (Jorm et al., 2003). In other studies, perceptions of being overweight were significantly related to psychological distress and not the actual amount of excessive weight in both men and women (Atlantis & Ball, 2008).

Bariatric Surgery as a Treatment Option for Obesity

Of the many weight loss strategies available to obese individuals, bariatric surgery has been found to make a significant and positive impact in an individual's life. For example, two years following bariatric surgery, patients reported improved psychological functioning related to their weight loss and a subsequent decrease in BMI (Thonney, Pataky, Badel, Bobbioni-Harsch, & Golay, 2010). Four years post bariatric surgery, patients experienced significant

increases in eating self-efficacy and subsequent weight loss (Batsis et al., 2009). Even after one year, patients often experienced the positive impact of bariatric surgery in many dimensions of their lives, such as an appreciation of life, relating to others, and an enhanced sense of self (Shiri, Gurevich, Feintuch, & Beglaibter, 2007). The most significant psychological experiences may occur between several weeks after surgery to six months post-surgery (Dymek, le Grange, Neven, & Alverdy, 2002).

Self-compassion

Self-compassion consists of being aware of both the positive and negative aspects of life experiences. Self-compassion is described as a positive and non-evaluative attitude that may protect against negative psychological responses to challenging events (Neff, Kirkpatrick, & Rude, 2007). Self-compassion is defined as being kind and understanding towards oneself in moments of failure or pain (self-kindness) instead of self-critical (self-judgment); viewing personal experiences as part of common human experiences (common humanity) rather than separate from others' experiences (isolation); and being mindfully aware of painful thoughts and emotions (mindfulness) rather than over-identifying with them (overidentification; Neff et al., 2007). The negative consequences associated with rumination, isolation, and self-judgment can be counteracted with self-compassion. Self-compassion is associated with positive psychological outcomes, including less depression and anxiety and increased life satisfaction (Neff, 2003b). Individuals who report more self-compassion have been found to cope better with stressful events due to lower defensiveness and self-blame and, consequently, have more self-regulatory resources to put towards self-care (Terry & Leary, 2011).

Self-compassion consists of six components that fall theoretically along three continua: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus

overidentification (Neff, 2003a). However, it should be noted that an individual may conceivably be high at both ends of a continuum (self-judgment and self-kindness) and become aware of negative cognitions and feelings (mindfulness), yet also counter them with more self-kindness.

Self-compassion has been associated with positive psychological health (Neff, Kirkpatrick, & Rude, 2007; Neff, Rude, & Kirkpatrick, 2007; MacBeth & Gumley, 2012) and predicts positive psychological health beyond what is accounted for by personality attributes (Neff, Rude, Kirkpatrick, 2007). Individuals who report higher levels of self-compassion have been found to cope better with stressful events than those who report lower levels of self-compassion (Leary, Tate, Adams, Allen, and Hancock. 2007). People who report higher levels of self-compassion cope better with health-related concerns given that self-compassionate ways may reduce self-blame and foster better compliance with medical recommendations, less depletion of self-regulating emotions by illness, and more resources for self-care (Terry & Leary, 2011). Reframing the bariatric experience in self-compassionate language is an important consideration while processing the medical and psychological changes experienced by pre-bariatric patients with obesity.

Self-compassion is a fairly new construct and has not been explored in many medical patient populations. Only a few researchers have explored the construct of self-compassion with medical patient populations including patients diagnosed with cancer (Przedziecki, 2013; Pinto-Gouveia, 2014), patients with HIV, (Brion, Leary, & Drabkin, 2013), and patients diagnosed with schizophrenia (Eicher, Davis, & Lysaker, 2013).

No researchers to date have explored the experience of self-compassion in pre- or post-bariatric surgery patients who were diagnosed with obesity. In addition, there is an inconclusive

relationship between obesity and psychological well-being in the research literature. This study will investigate the dimensions of self-compassion in relation to psychological well-being, that is, depression and anxiety, in pre-bariatric surgery patients. It should be noted that exploring these two constructs (self-compassion and psychological well-being) fits with recommendations that future researchers should investigate both the positive and negative dimensions of well-being (Wood & Terrier, 2010).

In summary, obesity continues to rise across the nation and correlates with numerous health and psychological challenges. Societal standards for slim physiques place obesity outside the norm and increase isolation and stigmatization towards larger sized individuals. Research is needed to break down the complexity of obesity and increase our understanding of the multifaceted nature of obesity from a biopsychosocial perspective and to explore the correlates and predictors of psychological well-being associated with obesity. While positive changes in mood, physical self-worth, and body dissatisfaction may influence long-term weight changes (Palmeria et al., 2010), it is important for psychologists to understand the correlates and predictors of psychological well-being and distress related to individuals who are obese, particularly those who are seeking medical interventions, such as bariatric surgery, in order to resolve obesity. It is during the pre-bariatric surgery phase when psychologists begin to intervene with and identify ways to help a patient through psychological transition following surgery.

Current Study

The purposes of the present study are to explore the bivariate relationships between and among dimensions of self-compassion and psychological well-being, that is, depression and anxiety levels, among pre-bariatric surgery patients with obesity. In addition, the dimensions of self-compassion may be potentially significant predictors of depression among pre-bariatric

surgery patients as well as potentially significant predictors of anxiety among pre-bariatric patients. Such research can be useful to clinicians who work with pre-bariatric patients both in preparing patients for surgery as well as follow up sessions. In addition, this research can provide a greater understanding of possible benefits of self-compassion to individuals who are overweight and obese and not seeking bariatric surgery.

Research Questions

1. What are the bivariate correlations between dimensions of self-compassion and psychological well-being, including depression and anxiety levels, in a sample of pre-bariatric surgery patients?
2. What is the linear relationship of the six dimensions of self-compassion with depression levels for this sample of pre-bariatric surgery patients?
3. What is the linear relationship of the six dimensions of self-compassion with anxiety levels for this sample of pre-bariatric surgery patients?

Hypotheses

RQ1, Hypothesis 1. It was hypothesized that the three positive dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness), as well as the total self-compassion score, would be significantly and negatively related to depression and anxiety levels.

RQ1, Hypothesis 2. It was hypothesized that the depression and anxiety levels would be significantly and positively correlated with one another.

RQ1, Hypothesis 3. It was hypothesized that the three negative dimensions of self-compassion (Self-Judgment, Isolation, Overidentification) would be significantly and positively related to depression and anxiety levels.

RQ 2, Hypothesis 1. It was hypothesized that there would be a significant linear relationship between the six dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self-Judgment, Isolation, Overidentification) and depression levels.

RQ 2, Hypothesis 2. It was hypothesized that the positive dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness) would significantly and negatively load as predictors of depression levels.

RQ 2, Hypothesis 3. It was hypothesized that the negative dimensions of self-compassion (Self-Judgment, Isolation, Overidentification) would significantly and positively load as predictors of depression levels.

RQ 3, Hypothesis 1. It was hypothesized that there would be a significant linear relationship between the six dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self-Judgment, Isolation, Overidentification) and anxiety levels.

RQ 3, Hypothesis 2. It was hypothesized that the positive dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness) would significantly and negatively load as predictors of anxiety levels.

RQ 3, Hypothesis 3. It was hypothesized that the negative dimensions of self-compassion (Self-Judgment, Isolation, Overidentification) would significantly and positively load as predictors of depression.

CHAPTER II

METHODS

Participants

Archival data for one hundred and twenty-three pre-bariatric surgery patients with obesity from a psychologist's clinic was used in this study. The sample was drawn from data collected during psychological evaluations of patients with obesity that were seeking bariatric surgery. Overview of patient demographic data is found in Table 1. The patients were referred to psychologist by a bariatric surgeon in order to determine their psychological readiness for bariatric surgery. Patients completed a semi-structured interview with the psychologist as well as a set of questionnaires related to their moods, personality, and behavioral health indicators. They signed an informed consent form giving permission for this information to be used for research purposes. It should be noted that the psychologist is one of many specialists enlisted by bariatric surgeons in order to determine readiness for bariatric surgery. The psychologist contracted with medical facility that conducted bariatric surgeries, though the psychologist did not have access to ongoing or final outcome data for individual clients, including medical data such as BMI scores, or weight loss, or whether or not the patient had final approval for surgery.

Procedures

After an initial phone call was made by patients to set up psychological evaluation

session with psychologist, patients were sent the Client Information Form (see Appendix A) through the mail, asked to complete form, and bring to scheduled session. Upon arrival, and in the waiting room before session, clients filled out paper copy of Consent to Utilization of Psychological Services (see Appendix B), Self-Compassion Scale (see Appendix E), and other mood assessments not used in this study. During initial session with psychologist, client and clinician reviewed consent documents, client information documentation, and procedures for evaluation before beginning semi-structured interview. Semi-structured interview conducted by psychologist routinely addressed specific reasons patient was considering bariatric surgery, medical and psychosocial history, current psychological functioning, resources for emotional and social support, and conceptual view of bariatric process. Following the semi-structured interview, clients completed online version of Millon Behavioral Medicine Diagnostic (MBMD) (See Appendix D) and an additional online personality assessment not used in this study.

Measures

Demographic page. The Client Information Form was designed by psychologist conducting psychological readiness for bariatric surgery and consisted of questions about their age, gender, race, sexual/affectional orientation, current relationship status and number of past romantic relationships, education level, religious affiliation, income level, number of children, and number of dependents.

Millon Behavioral Medicine Diagnostic (MBMD; Millon, Antoni, Millon, Minor, & Grossman, 2006). The Millon Behavioral Medicine Diagnostic is a 165-item self-report inventory of psychological factors that can influence the course of treatment of a medically ill patient. The MBMD consists of 29 clinical scales, three response pattern scales, one validity

indicator, and six negative health habits indicators. For the purposes of the present study, the Psychiatric Indications subscales will be used. The Psychiatric Indications subscales of Anxiety- Tension (Scale AA) and Depression (Scale BB) correspond with the DSM Axis I disorders that may complicate a patient's surgical or medical treatment. The subscale Anxiety-Tension (Scale

AA) consists of 15 true/false items and measures an individual's response to stressful events and possible complications with treatment. Scale AA items are weighted into three categories and assigned one, two, or three points. The higher the total score, the greater the indication of anxiety in the individual. Individuals with lower scores on Anxiety-Tension subscale indicate lower symptoms of anxiety. Items on the Anxiety-Tension subscale include "For some unknown reason, I suddenly get very panicky" and "I often feel overwhelmed by minor responsibilities."

The Psychiatric Indications subscale Depression (Scale BB) consists of 23 true/false items and measures an individual's mood (Millon, Antoni, Millon, Minor, & Grossman, 2006). Scale BB items are weighted into three categories and assigned one, two, or three points. Higher scores on this scale indicate an individual may see life as a full of misfortune and trouble and intensify physical and psychological problems. The higher the total score on Depression subscale, the greater the indication of depressive symptoms. Items on the Depression subscale include "I rarely feel a sense of joy these days" and "I've lost interest in things I used to find pleasurable." The other five subscales of the MBMD include Negative Health Habits, Coping Styles, Stress Moderators, Treatment Prognostics, and Management Guides will not be used for the purposes of this study.

The MBMD has been considered a psychologically informative measure with sound

internal consistency and test-retest reliability (Millon, Antoni, Millon, Minor, & Grossman, 2006). The Cronbach alpha for the Anxiety-Tension subscale is .82 and one-month test-retest reliability of this scale is .86. The Depression subscale Cronbach alpha is .89 and the one-month test-retest reliability estimate is .80. The MBMD was developed using general medical populations and included a sample of bariatric patients as a more targeted normative group. Data from over 700 bariatric surgery candidates from six geographically diverse settings was used to

derive bariatric norms (Millon, Antoni, Millon, Minor, & Grossman, 2006). Internal consistency between bariatric sample and rest of sample indicate scales are comparable. The Anxiety-Tension subscale Cronbach alpha for the Anxiety-Tension subscale for the bariatric normative sample is .82. The Cronbach alpha for the Depression subscale for the bariatric normative sample was .85.

The convergent and discriminant validity of the MBMD have been supported in that the MBMD has been positively associated with measures of anxiety ($r = .74$ with the State-Trait Anxiety Inventory, STAI) and depression ($r = .87$ with the Beck Depression Inventory-II, BDI-II) (Millon, Antoni, Millon, Minor, & Grossman, 2006). However, none of the mentioned measures were normed with bariatric patients. The MBMD sample was from the development group and did not specifically represent bariatric candidates. The comparative assessments were not developed to use with medical populations, let alone bariatric candidates. Although there is convergent and discriminant validity of the MBMD with other measures, the populations did not specifically include bariatric candidates.

Self-Compassion Scale (SCS: Neff, 2003). The Self-Compassion Scale is a 26-item

measure used to assess compassion toward self in the midst of one's own suffering.

Participants responded to each item using a 5-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*). The SCS has six subscales: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness and Overidentification.

The first theoretical continuum consists of Self-Kindness versus Self-Judgment. Self-Kindness is being kind and understanding towards oneself in moments of failure or pain. An example of an item from the Self-Kindness subscale is "When I'm going through a very hard time, I give myself the caring and tenderness I need." A high score on the Self-Kindness

subscale indicates an individual engages in kindness towards oneself and a low score indicates an individual does not treat oneself kindly in during moments of failure and pain.

Self-Judgment is being self-critical in moments of failure or pain. An example of an item from the Self-Judgment subscale is "I'm intolerant and impatient towards those aspects of my personality I don't like." A high score on the Self-Judgment subscale indicates an individual is self-critical during difficult times and a low score indicates less self-judgment.

The second theoretical continuum consists of Common Humanity versus Isolation. The Common Humanity subscale assesses whether an individual views personal experiences as part of common human experiences. An example item from the Common Humanity subscale is "When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people." A high score indicates an individual believes their experiences are similar to other people's experiences and a low score would indicate that they do not feel their experiences are similar to others.

The Isolation subscale assess an individual's view their experience as separate from

others' experiences. An example item from the Isolation subscale is "When I fail at something that's important to me, I tend to feel alone in my failure." A high score indicates feelings of isolation away from others and a low score indicates not feeling isolated from others.

The third continuum is Mindfulness versus Overidentification. Mindfulness is being aware of painful thoughts and emotions. An example item from the Mindfulness subscale is "When I'm down I try to approach my feelings with curiosity and openness." A score high in Mindfulness would indicate someone who is comfortable with painful emotions and thoughts and a score low in Mindfulness would indicate a person who would not be open or curious to painful thoughts and emotions.

Overidentification is present when an individual over identifies with painful thoughts and emotions. An example item from the Overidentification subscale is "When I'm feeling down I tend to obsess and fixate on everything that's wrong." A person who scores high in overidentification uses the painful emotions and cognitions as identifiers of themselves and a person low in overidentification does not overly identify with the painful parts of their identity.

The SCS subscales have strong internal consistency reliabilities (Neff, 2003b), including .78 for Self-Kindness, .77 for Self-Judgment, .80 for Common Humanity, .79 for Isolation, .75 for Mindfulness, and .81 for Overidentification. The internal consistency estimate for the 26-item SCS total score is .92. There is evidence that the SCS is not tainted by social desirability bias (Neff, 2003b). Convergent validity of the SCS is strong as evidenced by correlations between the SCS and other scales used to measure similar constructs such as self-esteem. Evidence of divergent validity is indicated in that the SCS is negatively associated with other measures such as the Self-Criticism subscale of the DEQ ($r = -.65$), the Beck Depression

Inventory ($r = -.51$), the Almost Perfect Scale's Discrepancy Subscale, ($r = -.57$) and the Spielberger Trait Anxiety Inventory ($r = -.65$; Neff, 2003b).

CHAPTER III

RESULTS

Research Question 1

The first research question in this study was: What are the bivariate correlations between dimensions of self-compassion and psychological well-being, including depression and anxiety levels, in a sample of pre-bariatric surgery patients? This question focuses particularly on relationships between the six dimensions of self-compassion and well-being, as demonstrated by depression and anxiety levels. The idea behind this question is that the positive and negative dimensions of self-compassion should be positively or negatively related to depression and anxiety levels. To answer this question, a Pearson correlational analysis was conducted to answer three different hypotheses.

Hypothesis 1. It was hypothesized that the three positive dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness), as well as the total self-compassion score, would be significantly and negatively related to depression and anxiety levels. Results of the bivariate correlations in Table 2 show the correlations found between self-compassion subscales, depression, and anxiety. Self-Kindness was significantly and negatively related to depression ($r=-.281$; $p=.01$) and was not significantly related to anxiety. Common Humanity was significantly and negatively related to depression ($r=-.215$; $p=.05$) and was not significantly related to anxiety. Mindfulness was significantly and negatively

related to depression ($r=-.363$; $p=.01$) and was not related to anxiety. Total Self-Compassion score was both significantly and negatively related to depression ($r=-.500$; $p=.01$) and to anxiety ($r=-.333$; $p=.01$).

Hypothesis 2. It was hypothesized that the depression and anxiety levels would be significantly and positively correlated with one another. As listed in Table 1, depression and anxiety were found to be significantly and positively related to one another ($r=.312$; $p=.01$).

Hypothesis 3. It was hypothesized that the three negative dimensions of self-compassion (Self-Judgment, Isolation, Overidentification) would be significantly and positively related to depression and anxiety levels. Results of the bivariate correlations found in Table 3 list the specific correlations found between the negative self-compassion subscales, depression, and anxiety. Self-Judgment was significantly and positively correlated with both depression ($r=.445$; $p=.01$) and anxiety ($r=.424$; $p=.01$). Isolation was significantly and positively correlated with both depression ($r=.499$; $p=.01$) and anxiety ($r=.361$; $p=.01$). Overidentification was significantly and positively correlated with depression ($r=.345$; $p=.01$) and anxiety ($r=.356$; $p=.01$).

Research Question 2

The second research question in this study was: What is the linear relationship of the six dimensions of self-compassion with depression levels for this sample of pre-bariatric patients? Whereas Research Question 1 focused on correlations between all variables, this research question focused specifically on variables of self-compassion as predictors of depression and consisted of three separate hypotheses.

Hypothesis 1. It was hypothesized that there would be a significant linear relationship between the six dimensions of self-compassion (Self-Kindness, Common

Humanity, Mindfulness, Self-Judgment, Isolation, Overidentification) and depression levels. Multiple regression analysis was used to assess which self-compassion component best predicted depression levels. Multiple regression analysis (Table 4) determined that depression levels did vary as a function of the six self-compassion dimensions (Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Overidentification). Taken together, these predictors accounted for about 32% (R^2) of the variability in depression levels [$F(6,116)=8.8882$; $p<.001$].

Hypothesis 2. It was hypothesized that the positive dimension of self-compassion (Self-Kindness, Common Humanity, Mindfulness) would significantly and negatively load as predictors of depression. Results from this analysis indicated that although the variable set significantly contributed to predicting depression levels, only Mindfulness was a significant individual predictor of depression levels [$t(123)=-2.672$; $p=.009$]. Mindfulness explained more of the variance in depression levels than any other predictor (see Table 5).

Hypothesis 3. It was hypothesized that the negative dimensions of self-compassion (Self-Judgment, Isolation, Overidentification) would significantly and positively load as predictors of depression. Results from this analysis indicated that although the variable set significantly contributed to predicting depression, only Isolation was a significant individual predictor of depression levels [$t(123)=3.502$; $p=.001$]. Isolation explained more of the variance in depression levels than any other predictor (see Table 6).

Research Question 3.

The third research question in this study was: What is the linear relationship of the six dimensions of self-compassion with anxiety levels for this sample of pre-bariatric patients?

Whereas Research Question 2 focused on depression and predictor variables of self-compassion, this research question focused on anxiety and the predictors of self-compassion and consisted of three separate hypotheses.

Hypothesis 1. It was hypothesized that there would be a significant linear relationship between the six dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self-Judgment, Isolation, Overidentification) and anxiety levels. Multiple regression analysis was used to assess which self-compassion component best predicted anxiety levels. Multiple regression analysis (Table 7) determined that anxiety levels did vary as a function of the six self-compassion dimensions (Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Overidentification). Taken together, these predictors accounted for about 19% (R^2) of the variability in anxiety levels [$F(6,116)=4.572$; $p<.001$].

Hypothesis 2. It was hypothesized that the positive dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness) would significantly and negatively load as predictors of anxiety. Results from this analysis indicated that although the variable set did not significantly contribute to predicting anxiety levels, Mindfulness was a significant individual predictor of anxiety levels [$t(123)=-2.045$; $p=.043$]. Mindfulness explained more of the variance in anxiety levels than any other predictor (see Table 8).

Hypothesis 3. It was hypothesized that the negative dimensions of self-compassion (Self-Judgment, Isolation, Overidentification) would significantly and positively load as predictors of anxiety. Results from this analysis indicated that although the variable set significantly contribute to predicting anxiety levels, only Self-Judgment was a significant individual predictor of anxiety levels [$t(123)=2.357$; $p=.020$]. Self-Judgment explained more of the variance in anxiety levels than any other predictor (see Table 9).

Summary

In summary, the results of the study indicated that the overall construct of self-compassion significantly correlates with well-being (depression and anxiety levels). The six different dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self- Judgment, Isolation, Overidentification) were analyzed for correlation with depression and anxiety levels. Analysis of correlations indicated that all six dimensions of self-compassion were significantly correlated with depression levels. As for correlations with anxiety, the negative dimensions of Self-Judgment, Isolation, and Overidentification were significantly correlated with anxiety and the positive dimensions of Self-Kindness, Common Humanity, and Mindfulness were not significantly correlated with anxiety.

The six dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self-Judgment, Isolation, and Overidentification) were analyzed regarding their predictive effects on depression levels. Multiple regression analysis determined that depression levels did vary as a function of the set of six dimensions of self-compassion. In addition, the positive dimensions of Self-Kindness, Common Humanity, and Mindfulness were analyzed for negative linear relationship with depression. Multiple regression analysis determined that depression levels did vary as a function of the positive dimensions of self-compassion, and Mindfulness was a significant and negative individual predictor of depression levels. Further, the three negative dimensions of Self-Judgment, Isolation, and Overidentification were analyzed regarding positive linear relationship with depression levels. Multiple regression analysis determined that depression levels did vary as a function of the set of negative dimensions of self-compassion, and Isolation was a significant and positive individual predictor of depression levels.

The six dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self-Judgment, Isolation, and Overidentification) were analyzed regarding their predictive effects on anxiety levels. Multiple regression analysis determined that anxiety levels did vary as a function of the set of the six dimensions of self-compassion. In addition, the positive dimensions of Self-Kindness, Common Humanity, and Mindfulness were analyzed for negative linear relationship with anxiety. Multiple regression analysis determined that anxiety levels did not vary as a function of the set of positive dimensions of self-compassion, and Mindfulness was a significant and negative individual predictor of anxiety levels. Further, the three negative dimensions of Self-Judgment, Isolation, and Overidentification were analyzed regarding positive linear relationship with anxiety levels. Multiple regression analysis determined that anxiety levels did vary as a function of the set of negative dimensions of self-compassion, and Self-Judgment was a significant and positive individual predictor of anxiety levels.

CHAPTER IV

DISCUSSION

This study was conducted to investigate the relationship between self-compassion and well-being, as assessed by depression and anxiety levels, in pre-bariatric patients with obesity. Overall, there were several correlational relationships identified in the present study. As an overarching construct, self-compassion significantly correlated with depression ($r=-.500; p<.01$) and anxiety ($r=-.333; p<.01$). These findings were expected and suggest that pre-bariatric patients who have a stronger sense of self-compassion are more likely to have a greater sense of well-being, as seen by lower depression and anxiety levels. These results are consistent with previous research that studied the relationship between self-compassion and well-being (Pauley & McPherson, 2010; MacBeth & Gumley, 2012; Krieger, Altemstein, Baettig, Doerig, & Holtforth, 2013). However, this study focused on pre-bariatric population and contributes to the understanding of the role self-compassion may play in individuals who are obese and overweight.

Although the results of this study are consistent with other research findings and support the bivariate correlations between self-compassion and well-being, this study also looked further into the individual correlations between each of the six dimensions of self-compassion. Interestingly, the results varied when the six dimensions of self-compassion were analyzed as

individual variables. Each of the negative self-compassion subscales (Self-Judgment, Isolation, Overidentification) significantly correlated with both anxiety and depression as predicted.

However, each of the positive self-compassion subscales (Self-Kindness, Common Humanity, and Mindfulness) significantly correlated with depression but did not significantly correlate with anxiety. This was an unexpected outcome of the study. Each of the positive dimensions of self-compassion was hypothesized to have individual negative correlations with both depression and anxiety. As to date, most researchers have focused on total self-compassion scores and not individual subscales of self-compassion (Magnus, Kowalski, & McHugh, 2009; Vettese, Dyer, Li, & Wekerle, 2011; Allen, Goldwasser, & Leary, 2012; Bluth & Blanton, 2014). Further research may explain whether this outcome is unique to obese pre-bariatric patients or occurs within other populations as well.

In addition, the six dimensions of self-compassion (Self-Kindness, Common Humanity, Mindfulness, Self-Judgment, Isolation, Overidentification) were analyzed regarding their predictive effects on well-being, as represented in depression and anxiety levels. Multiple regression analysis determined that both depression [$F(6,116)=8.8882$; $p<.001$] and anxiety levels [$F(6,116)=4.572$; $p<.001$] did vary as a function of the set of six dimensions of self-compassion. This was an expected outcome and is consistent with previous research that suggests self-compassion can be a significant predictor of greater psychological functioning (Leary, Tate, Adams, Allen, & Hancock, 2007; Pinto-Gouveia, Duarte, Matos, & Fraguas, 2014; Terry, Leary, Mehta, & Henderson, 2013; Wren et al., 2012). This study contributes to what is known about self-compassion as a predictor to psychological well-being and specifically with pre-bariatric patients with obesity.

As with the bivariate correlation analyses, results of multiple regression analyses also

found varied outcomes when analyzing the set of six dimensions of self-compassion and well-being versus individual subscales of self-compassion. The positive subscale of Mindfulness was a significant individual predictor of depression levels [$t(123)=-2.672; p=.009$] and anxiety levels [$t(123)=-2.045; p=.043$] and explained more variance than other predictors. However, Mindfulness was the only variable to be a significant individual predictor for both depression and anxiety. Of all the six dimensions of self-compassion, Mindfulness is the one subscale that has been researched extensively. Bluth and Blanton (2012) distinguish mindfulness in two ways: 1) as a state or trait and 2) as a practice with dedicated techniques encouraging awareness and attentiveness. In addition, and due to conceptual differences between self-compassion and mindfulness, researchers have increasingly combined both mindfulness and self-compassion in studies investigating psychological well-being (Baer, Lykins, & Peters, 2012; Hoge et al, 2013; Mantzios, 2014). The mindfulness outcomes of this study indicate that mindfulness is a predictor of well-being as expressed by reduced depression and anxiety levels. However, further research is needed to investigate whether mindfulness as a state or trait impacts pre-bariatric surgery patients or whether mindfulness techniques encouraging awareness and attentiveness prime pre-bariatric patients for successful mindfulness outcomes.

While the Mindfulness subscale was the only individual predictor of the positive self-compassion dimensions to significantly predict well-being, the negative dimensions of self-compassion were represented by two different subscales: Isolation [$t(123)=3.502; p=.001$] as individual predictor of depression and Self-Judgment [$t(123)=2.357; p=.020$] as an individual predictor of anxiety. These were expected outcomes due to the nature of depression and symptoms of anxiety (Raes, 2010; Wood & Joseph, 2010, Breines & Chen, 2012; Werner et al, 2012). However, it was unexpected that more of the negative dimensions of self-

compassion were not found to be individual predictors of depression and anxiety. The subscale Overidentification was not an individual predictor of well-being in either depression levels or anxiety levels. An individual who overidentifies is someone who holds onto emotions and painful thoughts as main part of their identity (Neff, 2003b). One possibility of this outcome to be considered is that pre-bariatric patients are pursuing a life-changing surgery that will change how their body looks. Perhaps the possibility of upcoming changes to their bodies has dislodged negative and overidentification of painful thoughts and emotions tied to obesity. More research is needed to understand the subscale of Overidentification and whether this dimension changes in a person before or after bariatric surgery.

Implications for Clinical Practice

Psychological evaluations and follow up sessions are routine treatment options for bariatric patients. Self-compassion's precise role in the psychological well-being of pre-bariatric patients is a new area of research and can offer an additional avenue for effective treatment possibilities. Individuals who are open to exploring the cognitions and emotions tied to beliefs about themselves would benefit from this type of investigation. The use of self-compassion with pre-bariatric patients offers an additional route to deepening psychological understanding of emotional and psychological functioning. As these results suggest, the overall construct of self-compassion was found to be beneficial to those seeking bariatric surgery. Self-compassion as a treatment focus could aid mental health professionals in effectively treating patients by establishing how compassionately the patient views themselves during bariatric treatment, both pre and post treatment phases, and compliment other psychological interventions.

Implications for Literature/Research

As indicated previously, there is little research in the area of self-compassion and well-being with pre-bariatric patients. Though obesity is an area of focus for much research, the focus is primarily on prevention of obesity and treatment to reduce obesity. This research investigating self-compassion, well-being, and obesity offers a different view of how individuals interact with themselves in the present moment. Self-compassion is an inward dialogue and does not rely on outer measures of success, such as a number on a scale or frequency and amount of food. These results indicate that patients who had a higher level of self-compassion had decrease depression and anxiety symptoms. Lower depression and anxiety symptoms and stronger self-compassion suggest these individuals have healthier views of self that may have led them to be psychologically prepared for the difficulties inherent in the life changing procedure of bariatric surgery. More research is needed for greater understanding of these results and whether such results would be found in people who are obese or overweight and not seeking bariatric surgery.

Implications for Construct of Self-Compassion

Self-compassion has been studied in a variety of settings and in a variety of mental health and medical populations. As to date, little research had been conducted with pre-bariatric patients. This study adds specific data of how self-compassion and well-being is experienced within pre-bariatric population, both as an overall construct and within each of the six individual components of self-compassion. The greater the amount of overall self-compassion that was reported, the higher the well-being in pre-bariatric patients. This is consistent with other studies focused on other population criteria. A useful addition to research on self-compassion is the individual outcomes of the six components of self-compassion as predictors

of well-being. Only one positive dimension, Mindfulness, was a predictor of both decreased levels of depression and anxiety symptoms. In addition, only one individual negative dimension, Isolation, was a strong predictor of depressive symptoms and only one individual dimension, Self-judgment, was found to be a predictor of anxiety. These specific results add to what is known about the individual dimensions of self-compassion as well as the overall experience of self-compassion. More research is needed to see if these results are unique to pre-bariatric patients or may be common themes in other groups as well.

Limitations of the Study

One of the limitations of this study is the population sampled. Pre-bariatric patients represent a part of the overweight and obese population but do not represent the majority. The findings represent a specific and unique group of individuals who are ready to commit to a major life change. More than 2 in 3 adults in the United States are considered to be overweight or obese (NIH, 20015). The 179,000 bariatric surgeries performed in the United States in 2013 (American Society for Metabolic and Bariatric Surgery, 2015) suggest that pre-bariatric surgery patients are a small representation of individuals who are overweight and obese. While the results of this study enhances what is known about self-compassion and pre-bariatric patients, findings may vary with different sub-populations of individuals who are overweight and obese and generalizations should be made with caution.

The instruments used in this study were self-reports and designed to be the patients' perceptions of their own depression, anxiety, and self-compassion levels and not based on direct observation of their behaviors. Patients who were presenting for a psychological evaluation to determine readiness for bariatric surgery may have been influenced by social desirability and to be seen as psychologically healthy in order for surgery to proceed. In

addition, the majority of the participants were female (82.9%) and the majority of the participants were White (82.9%). Other ethnicities represented were Native American (19.5%), African American/Black (4.1%), Asian (1.6%), Hispanic (1.6%) and Pacific Islander (1.6%) and the results may not represent these sub-populations.

Finally, a research design limitation of this study was the collection of self-compassion data. The depression and anxiety scales were conducted on a computer and required an answer before proceeding to next question. Hence, there were no unanswered questions on the depression and anxiety scales. The self-compassion inventory was a paper and pencil questionnaire with 18 questions on one side and eight on the other side. The eight questions on the back page represented 31% of the questionnaire and patients were eliminated from the data pool if the second page was overlooked and not completed. The data pool would have been larger if the self-compassion instrument would have been administered similarly to the depression and anxiety scales.

Suggestions for Further Study

Although the overarching concept of self-compassion was found to be significantly related to well-being, not all of the six dimensions of self-compassion were significantly related to decreased levels of depression and anxiety. Future research considerations that include a qualitative aspect of how individuals who are overweight or obese experience the six dimensions of self-compassion would be valuable and add to the understanding of how self-compassion is experienced in this population.

Well-being was defined in this study as reduced depression and anxiety levels. However, the term *well-being* is interpreted differently by researchers (Bookwalla & Boyer, 2008; Sin & Lyubomirsky, 2009; Allen, Goldwasser, & Leary, 2012; Bluth & Blanton, 2014).

Additional research within this population and an expanded definition of well-being (i.e. positive and negative affect, life satisfaction, spiritual adherence) may add further understanding of the link between self-compassion and the different aspects of well-being in individuals who are overweight or obese. Also, expanding the investigation from individual well-being to relational well-being would be useful in understanding an individual from a collective viewpoint (White, 2015). Measuring relational health with the instrument Relational Health Indices (Liang, Tracy, Taylor, Williams, & Jordan, 2002) would give specific data regarding how growth fostering community relationships may impact pre-bariatric female patients.

In addition, little is currently known regarding the possible links between self-compassion and weight bias and stigmatization. Self-compassion may play a role in the management of stigmatization and bias felt by individuals who are overweight and obese. Further research into the whether self-compassion may be related to or predict greater insulation from weight stigmatization and bias would add to the understanding of the role self-compassion may play within this population.

This study focused on pre-bariatric patients who were evaluated for psychological readiness for surgery. A useful future research area would be to evaluate, using the same instruments, post-bariatric patients. A study of this sort would provide data to assist in understanding whether self-compassion and well-being outcomes are similar or different between pre- and post-bariatric patients. Such outcomes might also delineate where differences diverge and aid in developing effective and supportive treatments designed specifically for pre- and post-bariatric experiences.

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APPENDICES

Appendix A

Extended Review of the Literature

Obesity has been defined in the research and medical literature as extra adiposity, or fat tissue (Flegal, Carroll, Ogden, & Curtin, 2010). Obesity rates have nearly doubled since 1980 and the latest available data shows 35% of adults worldwide are overweight and 11% obese (World Health Organization: WHO, 2015). Obesity is complex and multifaceted and research continues to uncover links to obesity prevention and interventions. Obesity affects more than 200 million men and nearly 300 million women world-wide and 65% of the world's population live in countries where excess weight kills more people than being underweight (World Health Organization, 2015). Data from 2012 identified more than 40 million children under the age of 5 as overweight or obese (WHO, 2015).

Researchers and practitioners typically define or classify obesity and obesity levels in terms of scores on the Body Mass Index. The Metropolitan Life Insurance Company's actuarial tables of height and weight values were used for decades to estimate ideal and excess weight before Body Mass Index (BMI) became widely used to diagnose obesity (Lopez-Jimenez & Miranda, 2010). BMI was coined in 1995 and represents an individual's weight in kilograms divided by the square of the person's height in meters (kg/m^2). A BMI equal or greater than 25 is

considered *overweight* and a BMI equal or greater than 30 is considered *obese* (WHO, 2015).

The National Institute of Health (NIH) created a classification of obesity used to group three types of obesity: Class I = BMI of 30 to 34.9; Class II = BMI of 35 to 39.9; Class III = BMI of 40 plus (NIH, 2015). Although other approaches offer additional conceptual possibilities, such as focusing on psychosocial areas as causal pathways of obesity (Giabbanelli, Torsney-Weir, & Mago, 2012), the current BMI Classification system remains the standard diagnostic tool used for classifying obesity.

Stigmatization of Obesity

Individuals who are obese or overweight lie outside the norms of many societal foci on slim physiques. Groups that fall outside societal dominance frequently experience bias (The Obesity Society, 2015). Stigmatized groups are often devalued and considered separate from the in-group due to their perceived defects, whether visible or invisible (Major & O'Brien, 2005). Obesity is visible and a bulls-eye target for stigmatization from others. Weight stigma is not limited to American ideals of thinness. In one study, researchers surveyed 680 people, both English and non-English speaking, from urban settings in ten countries and investigated beliefs with respect to excess weight (Brewis, Wutich, Falletta-Cowden, & Rodriguez-Soto, 2011). The results indicated a globally shared negative model of obesity and fat stigma towards a person's social and personal qualities. One of the salient findings from the study was the global belief that obesity is a disease and that excess weight results from personal and societal weakness. However, there was also a shared belief that it is not acceptable to express such judgments openly.

When weight loss is viewed as controllable, and unlike other stigmatized groups whose traits are *not* seen as controllable, the stigmatizing belief prevails that an individual who is

overweight is also lazy and lacks motivation (The Obesity Society, 2015). Compounding this belief is the occurrence of losing weight and then regaining the weight may reinforce the perception of laziness and lack of will power toward self and others. Being thin carries powerful social and economic benefits. (Puhl & Brownell, 2006).

Mental and physical health can be influenced by weight stigma and the necessary self-regulatory resources for weight control may become depleted. For example, in one study, Major, Eliezer, and Rieck (2012) explored social identity threat activated by weight stigma and the impact on individuals' stress response and self-control. Results indicated that women who were obese struggled to give speeches on why they would make a good dating partner and reportedly felt self-conscious and experienced higher blood pressure levels when being videotaped for their speech presentations as compared to others who were not overweight. Videotaped women who were overweight reported more stress-related emotions tied to being videotaped during their speech, which then led to activation of stigma concerns, more often than did women of average weight.

Weight bias, not only within the psyche of the individual but also within society, has played a role in creating communities of support and dialogue among individuals who carry excess weight. Fatosphere is an online fat-acceptance community developed to exchange ideas through blogging (<http://notesfromthefatosphere.blogspot.com/>). A study was developed to investigate the specific concepts that support the online community and is part of the fat-acceptance movement (Dickens, Thomas, King, Lewis, & Holland, 2011). Individuals reported that involvement with Fatosphere increased feelings of empowerment in coping with weight-based stigma, as well as improved health and well-being. Blogging participants reported numerous benefits, such as that the supportive environment helped participants shift to proactive

responses. Initially, reactive strategies such as developing eating disorders and dwindling views of leading a successful life are the most often identified responses to weight stigma. Proactive responses helped participants reframe “fat” and encouraged self-acceptance.

Obesity and Psychological Well-Being

Given the incidence of obesity, interest in understanding the complexity of obesity from a psychological well-being point of view continues to grow. Psychological well-being has been defined in a number of ways, but it has often been referred to in the research literature as the absence or reduction of depression, anxiety, and/or stress in one’s life, depending on the focus of concern (Ridner, 2004). There are mixed findings regarding the relationship between obesity and psychological well-being. Some researchers have found that obesity is associated with psychological distress (Bookwala & Boyer, 2008; Carr, Freidman, & Jaffe, 2007; Palinkas, Wingard, & Barrett-Connor, 1996) whereas other researchers have found that no such relationship exists or no relationship between these variables without mediators influencing that relationship (Atlantis & Ball, 2008; Jorm et al., 2003).

Carr, Freidman, and Jaffe (2007) examined the relationship between BMI, positive and negative affect, and possible mediators of the relationship between affect and BMI levels (i.e. physical health, impact of weight on physical functioning, and distressing interpersonal relationships). Participants whose obesity fell into Class II and Class III experienced more psychological distress than Class I participants and participants with Class I obesity reported more frequent positive affect than those in Classes II and III. In addition, the results were not impacted by race or gender. The authors suggest that psychological distress experienced by participants may have more to do with physical and interpersonal impacts on mood, than actual classification of obesity. However, more research is needed in this area.

Researchers have found gender differences in how psychological well-being is related to obesity. For example, Bookwala and Boyar (2008) investigated the potential association between psychological well-being and BMI as well as gender differences. The 3,251 adult participants were drawn from an existing sample of individuals who participated in the National Survey of Midlife Development in the United States I (MIDUS I) and had a BMI equal or greater than 18.5. Poorer psychological well-being was associated with increased BMI among women across all three classification levels of obesity. However, these relationships were not found for men in this study. The results indicate possible differences in gender weight norms.

Age may also play a role in the psychological well-being of individuals who are obese. Palinkas, Wingard, and Barrett-Connor (1996) conducted a study to explore the relationship between body weight and depressive symptoms in a sample of 2,245 older men and women aged 50-89 living in a community in Southern California. These individuals had participated in various studies over the course of twenty years and were initially surveyed for heart disease, diabetes and other chronic diseases. This fourth study in a series of studies specifically investigated the perception that older men with excessive weight are less depressed than older women with excessive weight. Results indicated that older men carrying excessive weight did indeed experience less psychological distress, as measured by Beck Depression Inventory, than older women with excessive weight and it is possible that these gender differences exist due to a weight bias against women in our culture. However, this was not the focus of that study.

Specific constructs can influence or mediate the relationship between psychological distress and obesity. In women, impairment in physical health plays a mediating role in the association between obesity with anxiety and depression (Jorm et al., 2003). The Jorm et al. (2003) study was designed to investigate risk factors for mental health across the adult life span

and the participants were recruited from voting records. The authors initially investigated the association between obesity, depression and anxiety in a cross-sectional survey and the participants completed a questionnaire covering such topics as demographics, anxiety and depression, cognitive function, well-being, and physical health. The results indicated a significant relationship between these variables in women and only weak and inconsistent associations in men participants. Women who were obese reported significantly higher anxiety and depressive symptoms and lower positive affect than women who were not obese. Physical ill health emerged as the only variable that accounted for the relationship between obesity and negative psychological well-being in women. Interestingly, when physical ill health, lack of physical activity, poorer social support, less education, and financial problems were accounted for, underweight women reported more depression and negative affect than women in the obese and overweight groups.

The perception of being overweight or underweight significantly increases the risk for depression and anxiety. Whether a person believes they carry excess weight, and regardless of whether there is verification from outside sources, the belief that one has excess weight can impact his/her psychological well-being. Atlantis and Ball (2008) investigated whether weight status and weight perceptions are independently associated with depression and anxiety, and the possibility of whether there is a subgroup of individuals at risk of psychological distress. The participants were recruited from the Australian National Health Survey 2004-2005 and psychological distress data was obtained using Kessler Psychological Distress Scale (K10). Perceptions of being overweight or underweight were found to be significant risk factors for psychological distress, rather than actual weight.

Psychological Impact of Bariatric Surgery

Bariatric surgery can make a significant positive impact in an individual's life. Understanding the mechanisms of psychological change in this population can aid psychologists in meeting the specific psychological needs of bariatric seeking individuals. Research findings indicate promising changes in psychological states and improved well-being for post-bariatric surgery patients. For example, two years following bariatric surgery, individuals have experienced improved psychological functioning as a result of their weight loss and subsequent decrease in BMI (Thonney, Pataky, Badel, Bobbioni-Harsch, & Golay, 2010). In another study (Batsis et al., 2009), patients who were four years post bariatric surgery experienced significant increases in eating self-efficacy with their weight loss.

Shiri, Gurevich, Feintuch, and Beglaibter (2007) explored the psychological impact of bariatric surgery in terms of positive growth and development. One year post surgery, 57 patients completed the Posttraumatic Stress Growth Inventory (PSGI), adapted for bariatric populations, to assess their levels of growth, positive changes in relating to others, new life directions, increased personal strength, and greater appreciation of life. Positive impacts were evident in all of the PSGI dimensions, independent of physical and mental health, and family and social support for the patients in this study. Although the sample size in this study was smaller compared to other studies, there were still enough participants to support the analyses conducted and to conclude the impact of bariatric surgery as a substantially positive psychological experience for these patients. The authors recommended using the experience of increased psychological well-being as a therapeutic tool itself by focusing on the positive experience of bariatric surgery and how it relates to developing resilience, positive emotions, courage, interpersonal skills, and hope.

The most significant psychological experiences may be between several weeks after

surgery and six months post-surgery (Dymek, le Grange, Neven, and Alverdy, 2002). In this cross-sectional research study, the researchers recruited patients whose status was one of the following: pre-surgery, several weeks post-surgery, 6 months post-surgery, and 1 year post-surgery. These patients completed several health-related quality of life (HRQL) self-report measures. Pre- and post-surgery groups of patients were compared regarding perceptions of their own health-related quality of life. All of the post-surgery patients reported more positive appraisals of own health and self-esteem and reported less depression when compared with the pre-surgical group of the study. This line of study will be valuable to therapeutic professionals who work with individuals who lose significant amounts of weight as process through the immense psychological adjustment to becoming a thinner person.

Psychological Well-Being

Psychological well-being is seen as both the lack of psychological distress as well as the existence of a positive psychological state (Sin & Lyubomirsky, 2009). Well-being as a positive psychological state falls under two perspectives: hedonic and eudaimonic (Ryan & Deci, 2001). Hedonic is described as seeking pleasure and avoiding pain. Eudaimonic approach seeks meaning and self-realization. Researchers McMahan and Estes (2010) describe well-being as cognitive representations using both hedonic and eudaimonic dimensions. The results of their study indicated that both approaches are indeed related to well-being. However, eudaimonic dimension had a more robust association with each measure of well-being. The authors suggested using eudaimonic dimensions when conceptualizing well-being and positive psychological functioning.

Ryff and Singer (2008) trace *eudaimonia* back to Aristotle's work that described the term as "the highest of all goods achievable by human action" (p. 14). Aristotle's idea to use balance

when conceptualizing well-being and to avoid excess and extremes is seen as a way to prevent becoming too individualistic or focused outside the self. Psychological well-being consists of how a person perceives engaging in life's existential challenges and subjective well-being describes as how a person evaluates satisfaction with life and the balance between both positive and negative affect (Keyes, Shmotkin, & Ryff, 2002).

Eudaimonic well-being focuses on many traits, such as self-acceptance, purpose, and autonomy. As previously discussed, many of the components that make up eudaimonic garner ongoing research interest. Actual mapping of the inner workings of the brain and eudaimonic dimension is a newer area of research. Lewis, Kanai, Rees, and Bates (2014) examined gray matter volume in 70 young, healthy young adults and investigated a possible association with eudaimonic well-being. Their results demonstrated the first linking of neural substrates of eudaimonic well-being and regional brain structure.

Positive and Negative Aspects of Emotional Health

Even though well-being and distress are on opposite ends of a continuum, the constructs do not mirror each other and are seen as separate dimensions. As noted, well-being describes hedonic and eudaimonic dimensions, where as distress describes depressive symptoms, anxiety, and anger (Ryff et al., 2006). Ryff et al. (2006) investigated the well-being (eudaimonic and hedonic), ill-being (depression, anxiety, and anger), and biomarkers of diverse neuroendocrine and cardiovascular factors in a sample of aging women. The women were given self-report questionnaires assessing eudaimonic interests (self-development and purposeful life engagement), hedonic interests (happiness and contentment), negative affect, depressive symptoms, and traits of anxiety and anger. The biological measures were obtained at hospital visit and assessed neuroendocrine and cardiovascular function. The researchers questioned

whether psychological well-being and ill-being are opposite ends of a continuum and whether they predicted opposite directional patterns of biological markers or whether well-being and ill-being are independent and have unique biological correlates. The results indicated a pattern in support of unique and distinct dimensions between well-being and ill-being. Higher well-being was associated with lower biological risk of neuroendocrine and cardiovascular dysfunction and higher ill-being was associated with higher biological risk of neuroendocrine and cardiovascular dysfunction. The results supported a growing understanding of psychological well-being and ill-being and the impact of the two dimensions may have on biological markers of neuroendocrine and cardiovascular functioning. This study adds to conceptualization that different dimensions of psychological well-being contribute to psychological health.

If both well-being and ill-being are viewed as two separate dimensions, what occurs when there is an imbalance of one dimension over the other? Wood and Joseph (2010) examined whether the absence of well-being was a risk factor for depression. Specifically, the authors investigated the risk of clinically elevated depression in individuals ten years after reporting low positive well-being (self-acceptance, autonomy, purpose in life). The large cohort sample of 5,566 participants were selected from Wisconsin Longitudinal Survey data sets and were surveyed twice, once in their mid-fifties and again ten years later. The participants were assessed for depressive symptomology, overall psychological well-being, demographic information, and health conditions. The study found the participants were 7.16 times more likely to be depressed at the ten year mark if they initially experienced low positive well-being. Additionally, the participants were twice as likely to be depressed, after controlling for prior levels of depression, personality, demographics, and medical conditions. The authors suggest monitoring older people with lower positive levels of well-being. From a public policy focus, the use of preventative

interventions would be beneficial and be of medical significance by addressing risk of clinical depression within this population.

Previously held notions of well-being continue to be challenged as more research uncovers and deepens the understanding of positive psychological states. There can be functionality in the negative and dysfunctional, and that imposing optimistic and non-complaining norms may be harming rather than helping individuals (Bohart, 2002). Moving out of psychological dysfunction is often seen as successful progress. However, moving towards increased positive functioning is a separate and worthy success (Fava, 2012). In the same vein, psychological inflexibility is seen as having marks of psychological dysfunction. While psychological flexibility is often linked to positive psychological experiences, flexibility does not automatically assign good health (Kashdan & Rottenberg, 2010).

Well-Being Therapy (WBT) is a specific strategy used to promote psychological resilience and continued growth and decrease depressive symptoms and anxiety (Ruini & Fava, 2012). Enhancing resilience and flourishing are improved by interventions that lead to increasing positive self-image, growth orientation, purposeful and meaningful life, quality relationships, ability to effectively manage life, and self-determination. High risk populations have reported decreased psychological distress after WBT intervention (Ruini & Fava, 2012). WBT intervention works to optimize and balance human functioning and to prevent polarizing positive psychological dimensions. The authors suggest promoting balanced and individualized path to psychological well-being and dodging polarities of positive dimensions.

Positive psychological interventions (PPIs) have been developed and researched as effective intentional treatments for psychological distress. PPIs aspire to nurture positive feelings, behaviors, and cognitions and are most effective when delivered in individual sessions

and for longer periods of time (Sin & Lyubomirsky, 2009). A criticism of positive psychology movement is the focus on only one domain of psychological functioning. Wood & Tarrier (2010) outline the benefits of an integrated discipline and recommend both positive and negative functioning be part of research design. Addressing increase of positive functioning and the decrease of negative functioning with an equal focus will prevent placing one above or below the other in importance.

Noreem and Chang (2002) advocate guarding against viewing psychological wellness as a “one-size-fits-all” mindset and lose the complexity of individual psychological differences. Costs and benefits vary by individuals, situations, and culture and the dominant American culture may not be sensitive to the costs of for individuals from other cultures. Psychological well-being is more than the absence of psychological dysfunction. Well-being can be seen as the presence of both positive and negative dimensions. Additionally, well-being could extend and describe the collective wellness of humanity and of the planet. Ryan and Deci (2001) propose as an individual follows a path that creates wellness for themselves, they may also create environments more favorable for others to pursue well-being.

Psychological Well-Being in Obese Pre-Bariatric Surgery Patients

Obese individuals seeking bariatric surgery undergo numerous screenings and evaluations prior to surgery. Standard practice requires bariatric candidates to be a part of a multi-disciplinary team working together to ensure successful surgery experience before, during, and post-surgery (Bauchowitz et al., 2005; Fabricatore, Crerand, Wadden, Sarwer & Krasucki, 2006; Neff & le Roux, 2013). A psychological evaluation is part of the battery of tests given to bariatric candidates to indicate whether any psychological struggles may impact successful surgery outcomes. Psychological evaluations routinely screen for depression, anxiety, and

personality profiles. Due to increasing and specific use of personality inventories with bariatric populations, several instruments currently include normed bariatric data. The Millon Behavioral Medicine Diagnostic (MBMD) is one of the more common personality inventories normed on bariatric population and routinely used to assess for psychological distress in bariatric candidates. Psychiatric indicators (Anxiety-Tension, Depression) and stress moderators (Illness Apprehension, Social Isolation) are two scales especially relevant for clinicians evaluating bariatric patients (Strack, 2008).

Data on whether psychological evaluations of pre-bariatric patients definitively predict positive outcomes is mixed (Ritz, 2006). In a review of the literature, Muhlhans, Horbach, and de Zwann (2009) found between 37% and 66% prevalence rate of Axis I psychiatric disorders in patients seeking bariatric surgery. The studies varied in demographics, social factors, and methodologies and, as such, the authors suggest these variations may have confounded comparisons between research studies. Furthermore, the experience of depression and anxiety prior to and after bariatric surgery may vary. de Zwaan et al. (2011) investigated depression and anxiety disorders in 107 bariatric pre- and post-surgery patients. The results indicated a decrease in post-surgery depression disorders and no association between weight loss and anxiety disorders compared to pre-surgery patients. The study suggests that pre-bariatric patients experience depression and anxiety differently and that other factors may influence anxiety. The reduction of depressive symptomology, along with little change in anxiety symptomology, indicates mixed Axis I disorders outcomes but overall improvement in well-being.

The use of psychological evaluations from a perspective of risk factors, rather than pass or fail due to presence of depression and anxiety, is increasingly recommended as a viable approach to understanding psychological distress in bariatric candidates prior to surgery (Ritz,

2006). Identifying a combination of variables, rather than a specific score on assessment, can help psychologists share with the rest of multi-disciplinary team the possible or specific barriers patients face before and after surgery as well as providing follow-up counseling/therapy services for these patients (Ritz, 2006). Assessing psychological well-being from a variety of perspectives (e.g., depression, anxiety, positive and negative affect, self-acceptance) may help in conceptualization of a bariatric surgery candidate and identify possible risk factors more concisely.

Self-Compassion

Self-compassion embraces being aware of both the positive and negative aspects of life experiences. Self-compassion is described as a positive and non-evaluative attitude that may protect against negative psychological responses to challenging events (Neff, Kirkpatrick, & Rude, 2007a). Self-compassion is defined as being kind and understanding towards oneself in moments of failure or pain (Self-Kindness) instead of self-critical (Self-Judgment); viewing personal experiences as part of common human experiences (Common Humanity) rather than separate from others' experiences (Isolation); and being mindfully aware of painful thoughts and emotions (Mindfulness) rather than over-identifying with them (Overidentification: Neff et al., 2007a). The negative consequences associated with rumination, isolation, and self-judgment can be counteracted with self-compassion.

Self-compassion has been associated with positive psychological well-being, including less depression and anxiety and increased life satisfaction (Neff, 2003b). Individuals who report more self-compassion have been found to cope better with stressful events due to lower defensiveness and self-blame and, consequently, have more self-regulatory resources to put towards self-care (Terry & Leary, 2011).

Self-compassion and Psychological Well-Being

Numerous studies conclude self-compassion is linked to positive psychological health (Neff et al., 2007a; MacBeth & Gumley, 2012) and self-compassion predicts positive psychological health beyond personality attributes (Neff et al., 2007b). Wei, Liao, Ku, and Shaffer (2011) examined attachment anxiety and subjective well-being with self-compassion. The authors conducted two studies, one with 195 college students and the other with 136 community adult members, and surveyed attributes of attachment, self-compassion, empathy, subjective well-being, life satisfaction, and positive and negative affect. The results indicated that self-compassion mediated the relationship between anxiety and well-being.

Individuals higher in self-compassion cope better with stressful events. For example, Leary, Tate, Adams, Allen, and Hancock (2007) conducted several studies with college students that collectively focused on cognitive and emotional processes with which self-compassionate people deal with stressful life events. The hypothetical scenarios included getting a poor grade on important test, being responsible for athletic team loss, and forgetting part during performance on stage. The actual unpleasant scenarios included receiving ambivalent feedback from others; self-rating after awkward and mildly embarrassing task; and reactions to recalled previous failure, rejection, or loss. The collective results indicated that self-compassion moderated reactions to distressing events related to failure, rejection, and embarrassment. Self-compassion was also associated with lower negative emotions in the face of real, remembered, or imagined negative events.

Another example of the relationship between self-compassion and coping with stressful events was conceptualized by Terry and Leary (2011) who proposed, based on the body of existing research, that self-compassion facilitates healthy behavior by creating less defensiveness

and by regulating negative affect. People higher in self-compassion may cope better with health-related concerns since self-compassion may reduce self-blame and foster better compliance with medical recommendations, less depletion by illness, and more resources for self-care. The authors suggested that the management of medical problems may be improved by reframing challenges in ways that encourage self-compassion. Reframing the challenges associated with the bariatric surgery experience in self-compassionate language is important when working with obese pre-bariatric patients and processing their medical and psychological changes within them.

Correlates and Predictors of Self-compassion

Responding with kindness and non-evaluation towards oneself are distinct responses filtered through the belief that an individual has a common connection with others and shares similarities. On the other hand, self-esteem is based on evaluation and judgment of self and contingent on reaching goals (Neff & Vonk, 2009). Self-esteem is often higher when specific goals are met, whereas self-compassion kicks in when struggle appears. Self-compassion has been found to be more beneficial than self-esteem (Leary et al., 2007; Neff & Vonk, 2009). As discussed earlier, Leary and associates (2007) conducted a series of studies to investigate self-compassionate individuals and the cognitive and emotional processes they used to respond to unpleasant life events. Study 3 specifically investigated the possibility that self-compassion may moderate the relationship between self-esteem and reactions to interpersonal feedback. The 66 undergraduates were given the task of talking about themselves for 3 minutes while facing a video camera with the assumption others were watching in another room and rating the session. Neutral feedback was given and participants' reactions were scored and analyzing along with baseline self-compassion scores. Results indicated that self-compassion, not self-esteem, was associated with lower negative affect. Individuals lower in self-esteem benefited from higher

levels of self-compassion and scored lower negative affect compared to individuals with both lower self-esteem and lower self-compassion

In another study, Neff and Vonk (2009) investigated the relationship between self-compassion and self-esteem with feelings of self-worth. Study 1 data was collected from a community-based survey that consisted of 2,187 participants who were given 12 assessments consisting of a combination of measures focused on self-compassion, self-esteem, and self-worth over an eight-month period. Self-compassion predicted more stable feelings of self-worth than global self-esteem and the researchers suggested that self-worth associated with self-compassion may be less likely to fluctuate when distressing external events occur. These two examples demonstrated that self-compassion is related to, and distinctly different from, self-esteem. Understanding the relationship between self-esteem and self-compassion can benefit psychologists who work with pre-bariatric surgery patients as they journey through physical and psychological changes following their surgeries.

Current Research on Self-Compassion

Research on the relationship between self-compassion and other psychological well-being constructs are plentiful. College students were one of the first populations sampled in the mid 2000s by a number of researchers (Leary et al., 2007; Neff, 2003a; Neff, 2003b). College students continue to be a focused research group. Neely, Schallert, Mohammed, Roberts, and Chen (2009) found that self-compassion was a significant predictor of well-being with college students. Neely et al. (2009) investigated students' ability to redirect energies towards different outcomes (goal and emotion regulation) and the possible role self-compassion plays as students navigate through academic and social successes and disappointments. In study 1, 203 undergraduate college students completed measures assessing their well-being (i.e. purpose in

life, life satisfaction), goal engagement, stress, and self-compassion. Results confirmed the hypothesis that self-compassion was an important predictor of well-being beyond the model of well-being and goal engagement alone. Study 2 was designed to test previous study and added two predictors: need for support and availability of support. During the subsequent semester, 271 undergraduates completed online questionnaires. The same measures for well-being, goal engagement, and self-compassion were used and two support measures were added. As in the first study, the results indicated self-compassion significantly predicted well-being. Though Neely et al. (2009) research was conducted with college students, the results holds promise that self-compassion may influence well-being and goal engagement in other possible populations, such as pre-bariatric surgery patients.

Due to premise that self-compassion is having a healthy relationship to self, self-compassion holds promise in health management strategies and treatments. Researchers Magnus, Kowalski, and McHugh (2013) examined the association between self-compassion and self-esteem with exercise well-being. The construct *exercise well-being* encompassed several aspects of exercise including: motivation, physique anxiety, and exercise behavior and is based in self-determination theory. The Self-Compassion Scale, Rosenberg Self-Esteem Scale, and multiple exercise measures were used to assess a sample of 252 young adult female (mean age 21.9) exercisers recruited from Kinesiology and Psychology undergraduate classrooms and local fitness center. Self-compassion was found to be positively related to exercise well-being beyond what self-esteem and other variables, such as motivation, ego goal orientation, social physique anxiety, and obligatory exercise, can explain. Self-compassion's link with greater intrinsic motivation and lower external motivation in women exercisers may be way of promoting healthy conceptualizations of self outside the limited sample of female college students.

Patients are encouraged to implement an active lifestyle following bariatric surgery. The link between self-compassion and exercise well-being may be relevant with bariatric patients as well since bariatric patients are encouraged to and develop new exercise regimes following surgery. Recent research conducted by Terry, Leary, Mehta, and Henderson (2013) adds additional theoretical understanding of the link between self-compassion and health behaviors. In series of studies, Terry et al. (2013) investigated the relationship between self-compassion, health behaviors, and reactions to both actual and hypothetical illnesses in a sample recruited from a community subject pool. Collectively, the studies revealed important implications between the link of self-compassion and health behaviors. Specifically, self-compassion predicted reactions beyond illness severity; both healthy and unhealthy participants' health-related cognitions and affect were related to self-compassion; and their proactive approach to health and self-kindness was partially explained by relationship between self-compassion and health reactions. These results highlight self-compassion and positive outcomes even when people are not experiencing negative or events. A relevant underpinning of the finding that self-compassion was linked with positive outcomes is that individuals higher in self-compassion may believe they will cope successfully should difficult health issues arise. Individuals considering a change to healthier lifestyles, including bariatric surgery seeking individuals, may benefit from higher self-compassion levels. After surgery, post-bariatric surgery patients are given new strategies to achieve food and eating goals and adherence to these numerous changes may impact psychological well-being. Reframing new eating and behavior goals from a self-compassionate mindset may enhance their psychological well-being.

The components of self-compassion are a good fit for the restrictive nature of eating disorders, in particular, the negative self-judgment that may be part of restrictive eating. Adams

and Leary (2007) studied restrictive eaters and examined the possibility that self-compassion could diminish unhealthy eating. The participants were college women who had not been diagnosed or treated for an eating disorder in the last three years and who were enrolled in an undergraduate psychology course. The participants were surveyed for any behaviors tied to restrictive eating and eating guilt. Interestingly, the researchers did not use the Self-Compassion Scale (SCS) in their study, but instead introduced a self-compassionate manipulation in which the researchers, while using self-compassionate language, verbally instructed participants to eat donuts during part of the intervention. Participants completed a questionnaire that measured participants' positive and negative affect and another measurement that assessed restrictive eating (i.e., desire and effort to avoid eating forbidden foods) and eating guilt (i.e., feeling guilty when eating foods perceived as forbidden). One focus of the study was whether inducing self-compassion would influence restrictive eating patterns. The results indicated that introducing self-compassionate verbal intervention among highly restrictive eaters was helpful in preventing self-criticism and negative affect after eating unhealthy food. While this study lacks use of a standardized tool of self-compassion, the premise of building a relationship between self-compassion and eating patterns holds promise when working with bariatric patients who must change eating behaviors post surgery.

Self-compassion is a fairly new construct and has not been explored in many medical patient populations. Only a few researchers have explored the experiences of self-compassion in medical patient populations including patients diagnosed with cancer (Przedziecki, 2013; Pinto-Gouveia, 2014), patients with HIV (Brion, Leary, & Drabkin, 2013), and patients diagnosed with schizophrenia (Eicher, Davis, & Lysaker, 2013). Other researchers have explored self-compassion in chronic pain populations (Costa and Pinto-Gouveia, 2013; Wren et al., 2012).

Coping with chronic illnesses and physical pain impacts day to day functioning and psychological well-being. Self-compassion consists of possible attributes that may alleviate physical distress and improve functioning in individuals experiencing psychological and physical pain. Persistent pain is a common experience for people with many chronic illnesses. Wren et al. (2012) studied self-compassion and pain adjustment in a sample of patients who were obese and experiencing persistent musculoskeletal pain. Specifically, the researchers examined the relationship of self-compassion to pain, psychological functioning, pain coping and disability in a sample of 88 obese patients recruited from Duke Pain and Palliative Care Clinic. Adults qualified for the study if they had persistent musculoskeletal back, neck, or leg pain; pain on most days of the month for at least six months; and BMI \geq 30. The measurements used in the study assessed self-compassion, psychological functioning (positive and negative affect), and various pain instruments to evaluate pain intensity and unpleasantness, pain self-efficacy, pain catastrophizing, and pain disability. Self-compassion was found to be a significant predictor of psychological distress (positive and negative affect), pain catastrophizing, and pain disability in obese patients with persistent musculoskeletal pain. Even after controlling for demographics (i.e., age, financial compensation for pain, education), self-compassion accounted for a significant amount of variance in negative and positive affect. Individuals who are obese with musculoskeletal pain and higher in self-compassion were less likely to view pain in overly negative way than those who were lower in self-compassion. The perspective that pain is a common experience shared by others may reduce negative pain coping strategies and increase self-acceptance in all aspects of life, including moments of persistent pain.

Costa and Pinto-Gouveia (2013) examined the relationship between self-compassion and experiential avoidance (i.e. efforts not to come in contact with unpleasant thoughts, emotions, or

sensations) in a sample of 103 adult participants from primary care setting in Portugal who had nonmalignant chronic pain lasting for 6 months or longer. The measurements used assessed self-compassion, coping styles, depression and anxiety, and experiential avoidance. When participants did not attempt to control but remained in contact with their pain, they experienced less psychological distress compared to individuals who avoided pain cognitions and emotions. The results showed self-compassion and psychological distress (depression, anxiety, and stress) were negatively correlated and the results are in line with previous research (Neff et al., 2007) that suggested self-compassion, even after controlling for negative affect, is a robust negative predictor of anxiety. The outcomes from both of these studies, which investigated self-compassion's relationship to pain, may be relevant to pre-bariatric surgery patients' experiences with pain, particularly as they relate to their obesity. It is important for psychologists to understand the possible connections between pain and obesity in bariatric clients, both pre and post surgery, and the possible usefulness of self-compassionate responses to pain.

Researchers are studying self-compassion with specific and smaller represented groups of people. One study examined the association between self-compassion and emotional regulation in 81 transition-age youth seeking treatment of substance use and with a history of childhood maltreatment (Vettese, Dyeer, Li, & Wekerle, 2011). Self-compassion was found to be negatively associated with emotion regulation and childhood maltreatment (i.e. childhood history of physical abuse, physical neglect, emotional abuse, emotional neglect, and sexual abuse) and predicted emotion dysregulation beyond maltreatment, psychological distress, and substance use. This study was unique in that it focused on a limited and small sample of individuals who were abused or neglected. Maltreatment occurs in other forms, such as weight bias, as well as the results of this previous study encourage further research to investigate

whether or not self-compassionate responses of viewing oneself kindly in the face of distressing events would influence the experience of psychological distress for bariatric surgery patients.

As research has progressed in the area of self-compassion and psychological well-being, counseling and therapeutic strategies to help increase self-compassion have emerged. Mindful Self-Compassion (MSC) program is one such program (Germer & Neff, 2013). MSC program trains people to become more self-compassionate. Both Neff and Germer are pioneers in bringing self-compassion into psychological focus as a relevant construct for use with clients.

The eight-week program has been shown to enhance self-compassion, mindfulness, and well-being. The program is designed to help participants experience the kindness and connections often felt in therapy and bring it outside the therapy sessions and into everyday experience. The participants attend 2.5 hour weekly session, meditations, and experiential exercises. This new intervention shows promise in assisting individuals to develop and nurture self-compassion in the face of disappointment and distressing events (Germer & Neff, 2013). While MSC has been studied with the general population, increasing self-compassion through counseling and therapeutic interventions may benefit individuals prior to and following bariatric surgery and seeking psychological help through these physical and psychological transitions, particularly post-surgery.

Summary

In summary, no researchers to date have explored the relationship of self-compassion and psychological well-being with individuals who are obese and seeking pre-bariatric surgery.

Obesity is a worldwide concern and the number of overweight individuals continues to rise.

Individuals of larger size often experience weight stigmatization that may impact psychological functioning and self-perception. Self-compassion is an alternative way of looking at distressing

and disappointing events that happen to oneself in a positive and non-evaluative manner. Though self-compassion is linked to positive psychological outcomes, the construct embraces the awareness of both positive and negative psychological experiences.

Bariatric surgery significantly and favorably impacts psychological well-being of formerly obese individuals immediately following surgery and many years later. Pre-bariatric surgery patients routinely undergo psychological assessment to enhance post-surgery outcomes. However, more research is needed to explore additional facets of psychological health with this population.

Self-compassion is an alternative way of looking at distressing and disappointing events in a positive and non-evaluative manner. Though self-compassion is linked to positive psychological outcomes, the construct embraces the awareness of both positive and negative psychological experiences. The addition of self-compassion as an indicator or predictor of mental health status among pre-bariatric patients may further our understanding of their psychological well-being and resilience as they begin their journey toward physical health and wellness.

Appendix B

Tables

Table 1
Sample Demographics

		This Sample (N=123)
Age		<i>M</i> =45.63
Gender	Male	21(17.1%)
	Female	102(82.9%)
Education Level	Jr. High	1(1%)
	High School/GED	28((23%)
	Some College	43(35%)
	Undergraduate Degree	31(25%)
	Graduate School	13(10%)
	No Answer	7(6%)
Ethnicity*	Asian	2(1.6%)
	Black	5(4.1%)
	Hispanic	2(1.6%)
	Native American	24(19.5%)
	Pacific Islander	2(1.6%)
	White	102(82.9%)
Income	< 25,000	10(8%)
	25,000 – 49,000	31(25%)
	50,000 – 74,000	19(15%)
	75,000 – 99,000	24(20%)
	> 100,000	16(13%)
	No Answer	23(19%)

*Note: Due to patients identifying as more than one ethnicity, the number does not add up to 100%,

Table 2

Bivariate Correlations Between Depression, Anxiety, and Positive Dimensions of Self-Compassion

	1	2	3	4	5	6
1. Depression	--	.312**	-.281**	-.215*	-.363**	-.500**
2. Anxiety			-.080	.015	-.159	-.333**
3. Self-Kindness				.562**	.650**	.583**
4. Common Humanity					.608**	.589**
5. Mindfulness						.790**
6. SCS Total						--

*p<.05; **p<.01

Table 3

Bivariate Correlations Between Depression, Anxiety and Negative Self-Dimensions of Compassion

	1	2	3	4	5
1. Depression	--	.312**	.445**	.499**	.345**
2. Anxiety			.424**	.361**	.356**
3. Self-Judgment				.783**	.786**
4. Isolation					.786**
5.					--

*p<.05; **p<.01

Table 4

Summary of Multiple Regression Analysis for Six Dimensions of Self-Compassion as Predictors of Depression Levels

	B	SE(B)	β	t	Sig.
Self-Kindness	-4.051	3.305	-.133	-1.226	.223
Common Humanity	-.794	1.932	-.042	-.411	.682
Mindfulness	-1.472	2.638	-.069	-5.58	.578
Self-Judgment	4.423	2.890	.216	1.530	.129
Isolation	9.786	2.898	.471	3.376	.001
Overidentification	-5.360	3.006	-2.54	-1.783	.077

Note: $R^2=.315$; $F(6,116)=8.882$; $p<.001$

Table 5

Summary of Multiple Regression Analysis for Positive Dimensions of Self-Compassion as Predictors of Depression Levels

	B	SE(B)	β	t	Sig.
Self-Kindness	-2.696	3.562	-.088	-.757	.451
Common Humanity	.615	2.094	.033	-.294	.769
Mindfulness	-6.965	2.606	-.325	-2.672	.009

Note: $R^2=.136$; $F(3,119)=6.226$; $p=.001$

Table 6

Summary of Multiple Regression Analysis for Negative Dimensions of Self-Compassion as Predictors of Depression Levels

	B	SE(B)	β	t	Sig.
Self-Judgment	4.956	2.868	.242	1.728	.087
Isolation	10.203	2.914	.491	3.502	.001
Overidentification	-4.873	2.975	-.231	-1.638	.104

Note: $R^2=.273$; $F(3,119)=14.897$; $p<.001$

Table 7

Summary of Multiple Regression Analysis for Six Dimensions of Self-Compassion as Predictors of Anxiety Levels

	B	SE(B)	β	t	Sig.
Self-Kindness	-2.390	4.584	-.061	-5.21	.603
Common Humanity	2.852	2.680	.119	1.064	.289
Mindfulness	-.048	3.659	-.002	-.013	.989
Self-Judgment	8.340	4.008	.319	2.081	.040
Isolation	1.822	4.020	.069	.453	.651
Overidentification	1.834	4.170	.068	.440	.661

Note: $R^2=.191$; $F(6,116)=4.572$; $p<.001$

Table 8

Summary of Multiple Regression Analysis for Positive Dimensions of Self-Compassion as Predictors of Anxiety Levels

	B	SE(B)	β	t	Sig.
Self-Kindness	-.442	4.780	-.011	-.092	.927
Common Humanity	4.317	2.809	.180	1.5737	.127
Mindfulness	-7.154	3.497	-.262	-2.045	.043

Note: $R^2=.045$; $F(3,119)=$; $p=.137$

Table 9

Summary of Multiple Regression Analysis for Negative Dimensions of Self-Compassion as Predictors of Anxiety Levels

	B	SE(B)	β	t	Sig.
Self-Judgment	9.151	3.883	.350	2.357	.020
Isolation	1.621	3.945	.061	.411	.682
Overidentification	.889	4.029	.033	.221	.826

Note: $R^2=.182$; $F(3,119)=$; $p<.001$

Appendix C

Client Information Form

Jennifer S. Wood, Ph.D., Licensed Psychologist, HSP
A Healing Connection: Psychological Services
12906 E 106th St N, Owasso, OK 74055
918 376-4552

CLIENT INFORMATION FORM

Date: _____

Name: _____ Date of birth: _____ Age: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone:(____) _____ may we call Y/N Phone:(____) _____ may we call Y/N

Sex: Female Male Other Education/Degree: _____ Religion: _____

Sexual Orientation: Heterosexual, Lesbian, Gay, Bisexual, Transgender, Questioning, Other

Relationship Status: Single, Partnered, Married, Remarried, Separated, Divorced, Widowed

Years in current relationship: _____ Number of Previous Significant Relationships/Marriages: _____

Do you have children: Yes No How many: _____ Biological _____ Step _____ Adopted _____ Foster _____ Other

What are their ages: _____

Do you have custody of your children: Yes No Explain: _____ Total number of pregnancies _____

Did you have complications during pregnancy, delivery or adoption: _____

Race/Ethnicity: African American/Black, Native American, Asian American, Hispanic/Latino/a,
 Caucasian/White, Pacific Islander, Other: _____

Where were you born: _____ What is your native language _____

Emergency contact: _____

Name	Address	Phone	Relation to you
_____	_____	_____	_____

Your Occupation: _____

Title	Company	City
_____	_____	_____

How long have you worked there: _____ How would you describe your job: _____

Spouse/Partner's Occupation: _____

Title	Company	City
_____	_____	_____

How long has she/he worked there: _____ Do they like their job: _____

Gross Annual Family Income: _____ Number of dependents: _____

OVER

Do you have insurance Coverage you want to use: ___ Yes ___ No; Copy of card: ___ yes

Person responsible for payment: _____
Relation to you Address if different

Please list the names, gender, ages, and relation of all individuals living with you:

Name	Gender	Age	Relation

What is the reason for seeking counseling at this time?

Have you ever consulted a professional in the mental health field previously? ___Yes/___No
Where?_____ When?_____ For what reason?_____
May I contact this person for information? ___Yes/___No Release form ___Yes/___No

Have you ever been hospitalized for mental health reasons? ___Yes/___No
Where?_____ When?_____ For what reason?_____
May I contact this person for information? ___Yes/___No Release form ___Yes/___No

How would you describe your overall physical health:_____ Name of primary care physician:_____

Please describe any serious physical health problems:_____

Please check all of the following concerns which presently apply:

- | | | |
|---|---|---|
| <input type="checkbox"/> severe headaches | <input type="checkbox"/> weight (loss or gain) | <input type="checkbox"/> frequent tiredness |
| <input type="checkbox"/> frequent trouble sleeping | <input type="checkbox"/> severe back pain | <input type="checkbox"/> asthma/respiratory problem |
| <input type="checkbox"/> unrealistic fears | <input type="checkbox"/> depression | <input type="checkbox"/> digestive problems |
| <input type="checkbox"/> anxiety/panic attacks | <input type="checkbox"/> dizziness | <input type="checkbox"/> suicidal feelings |
| <input type="checkbox"/> eating problems | <input type="checkbox"/> premenstrual syndrome | <input type="checkbox"/> fainting |
| <input type="checkbox"/> difficulty concentrating | <input type="checkbox"/> memory problems | <input type="checkbox"/> seizures |
| <input type="checkbox"/> Financial problems | <input type="checkbox"/> difficulty with daily tasks/work | <input type="checkbox"/> sexual problems |
| <input type="checkbox"/> increased anger/irritability | <input type="checkbox"/> loss of interest/pleasure | <input type="checkbox"/> grief/loss |
| <input type="checkbox"/> drug/alcohol use | <input type="checkbox"/> sexual identity | <input type="checkbox"/> parenting |
| <input type="checkbox"/> religion | <input type="checkbox"/> work | <input type="checkbox"/> school |
| <input type="checkbox"/> legal | <input type="checkbox"/> abuse: _____ | <input type="checkbox"/> Health |
| <input type="checkbox"/> Family | <input type="checkbox"/> relationship | <input type="checkbox"/> Other _____ |

Please add any information you feel may be useful or additional concerns you might have:_____

List all medications taken within the last 6 months (prescription and non prescription)

Name and dosage	Reason taken	Check if taking now

Do you use any other substances (i.e. alcohol, drugs, nicotine, caffeine, diet pills etc)

Name of substance	Frequency	Are you concerned about your use

What do you hope to gain from counseling:_____

Appendix D

Consent for Utilization of Psychological Services

Jennifer S. Wood, Ph.D., Licensed Psychologist, HSP
A Healing Connection: Psychological Services
12906 E 106th St N Owasso, OK 74055
918 376-4552

CONSENT FOR UTILIZATION OF PSYCHOLOGICAL SERVICES

Client Name(s): _____ Date: _____

I hereby voluntarily consent to utilizing **PSYCHOLOGICAL SERVICES** provided by Dr. Jennifer S. Wood. Possible services include: individual counseling/psychotherapy, marital therapy, family therapy, psychological evaluation/assessment and psychological consultation.

I am aware that Dr. Wood is licensed as a psychologist and certified as a health service psychologist in the state of Oklahoma, and that her specialty is counseling psychology.

As a client utilizing the services of a psychologist, I understand that I have the right to ask any questions I may have about the process, methods, duration, and goals of therapy; the right to discuss any concerns I may have about my progress in therapy; and the right to terminate therapy if I feel I am not making progress.

I understand that one of my most important rights involves confidentiality. Within certain limits, information revealed by me during counseling will be kept strictly confidential, and will not be revealed to any other person or agency without my written permission. If I give my written permission to release information to my health insurance company, employee assistance program, or other health benefits program, I understand that psychologists may disclose the nature of services provided, the diagnosis, the dates of services, the fees charged, and other relevant information specifically requested by the insurance company or program.

I understand that there are certain **limits to confidentiality**, in which it is required by law and/or professional ethics that a psychologist reveals information to other persons or agencies, without the client's permission. These limits to confidentiality are as follows:

- a) if a client threatens grave bodily harm or death to a reasonably identified person, a psychologist may be required (1) to inform appropriate legal authorities and intended victims; (2) to arrange for the client to be hospitalized voluntarily; or, (3) to take appropriate steps to initiate proceedings for involuntary hospitalization pursuant to law;
- b) if a client expresses a serious intent to grievously harm him/herself, it may be necessary for a psychologist (1) to reveal information to family members and/or persons authorized to respond to such emergencies, in order to protect the client from harm; (2) to arrange for the client to be hospitalized voluntarily; or, (3) to take appropriate steps to initiate proceedings for involuntary hospitalization pursuant to law;

OVER

In the case of such an emergency the following person(s) may be notified in order to get me the best help possible:

Name	Address	Phone	Relation to you
1.			
2.			
3.			

- c) If a court of law issues a subpoena, a psychologist may be required to provide information that is specifically described in the subpoena;
- d) if a client is being evaluated or treated by order of a court of law, the results of the evaluation or treatment ordered must be revealed to the court;
- e) if a client takes legal action against a psychologist, the psychologist may provide information disclosed in treatment to support his/her own defense; and
- f) if a psychologist has good reason to suspect that a child/elder/or incapacitated adult is a victim of physical abuse, sexual abuse, or neglect, he/she is required to report the abuse or neglect to the Department of Human Services and/or law enforcement authorities.
- g) If you are under the age of 18 years, your parent/guardian has a right to request information about what is discussed in sessions

_____ (initials) I understand these limitations to confidentiality as outlined above.

_____ (initials) I understand that my medical doctor may wish to know the results of my psychological intake evaluation and/or the progress I am making in counseling. However, I understand that this information will remain strictly confidential and will not be released to him or her without my written consent.

_____ (initials) I understand (a) that I am responsible for paying a fee of _____ for psychological services provided by Jennifer Sheader Wood, Ph.D., Licensed Psychologist at the time of service, AND that I am responsible for paying for any service/fee not covered by my insurance. Payment is accepted in the form of check, cash, visa, master card, debit/credit; (b) that the sessions are forty-five to fifty minutes in duration(unless otherwise specified); (c) that I must give twenty-four hours notice if I wish to cancel an appointment, or the full per session fee may be charged.

_____ (initials) Information and assistance regarding scheduling of appointments, payment of fees, and insurance coverage for psychological services are provided by Dr. Wood, authorized staff at A Healing Connection: Psychological Services, and Advanced Billing Solutions.

_____ (initials) Tests obtained during my contacts with Dr. Wood may be used for research purposes. I give my consent for my individual data to be presented anonymously at professional meetings and/or published in scientific journals.

I certify that I understand the contents of this document, and I give my consent for psychological services.

Client

Psychologist

Parent/Legal Guardian

Appendix E

MILLON BEHAVIORAL MEDICINE DIAGNOSTIC.

Directions and Explanations. Instructions for completing the MBMD are printed on the test form or presented on the computer screen and are largely self-explanatory. The MBMD is designed to be nonthreatening to most patients and can be presented as a brief inventory that helps clinicians assess the strengths and problems of medical patients.

The patient should be asked to read the directions carefully and to fill in his/her birth date, gender, education level, etc. Clinicians are urged to use identification numbers to maintain confidentiality for their patients. If there is any doubt about whether the examinee understands the directions, the examiner should read them aloud and attend to any questions that arise. Questions raised by examinees concerning procedures or word clarifications should be answered to ensure accuracy and a proper test-taking attitude. Examinees should be encouraged to respond to every test item with little or no assistance. Although some patients may need to be assured that it is common to have trouble responding to some items, they must make their own decisions about which response to choose.

MBMD ANXIETY-TENSION (SCALE AA)

TRUE/FALSE

1. I feel very tense when I think about the day's events.
3. I get extremely anxious when I don't know what the doctors are going to do to me.
14. I feel jumpy and under strain, but I don't know why.
28. I get very anxious when I think about my medical problems.
41. If I have to go through another medical procedure, I think I'll just go crazy.
46. I feel so jittery and restless that I'm worn out at night.
60. I'm very erratic, changing my feelings all the time.
62. I've had nightmares about medical procedures I may have to endure.
65. I sometimes exaggerate how poorly I am feeling.
66. For some unknown reason, I suddenly get very panicky.
98. I'm on edge a lot lately.
119. I spend much of my time brooding about things.
147. My future looks like it will be full of problems and pain.
155. I often feel overwhelmed by minor responsibilities.

MBMD DEPRESSION (SCALE BB)

TRUE/FALSE

- 8. I've felt sad most of my life.
- 13. My best years are behind me.
- 16. I begin to cry when the smallest things go wrong.
- 30. I think things will get much worse in the coming months.
- 34. I have a lot of confidence in myself.
- 43. Life will never be the same again for me.
- 49. I have been having serious thoughts about suicide.
- 51. There's little emotional support within my family.
- 58. The pain I'm in has made my life feel very hopeless.
- 83. I am quickly losing hope that I will ever regain my health.
- 86. I have found very few things in life to be pleasurable.
- 96. I am mistreated most by close friends and relatives.
- 102. A lot of my answers on this test have been affected by my current bad mood.
- 105. I feel guilty most of the time.

109. I don't think I'll live as long as I should.
117. In the past year, I've really gone downhill mentally.
119. I spend much of my time brooding about things.
130. I often feel sad and unloved.
137. I rarely feel a sense of joy these days.
141. This is a very lonely world.
147. My future looks like it will be full of problems and pain.
156. I've lost interest in things that I used to find pleasurable.
161. I feel very depressed.

Appendix F

SELF-COMPASSION SCALE (SCS)

The SCS is appropriate for individuals 14 years and older with at least an eight grade reading level. The instructions for SCS are printed on the assessment form. The participants are asked to read and answer the question as it relates to their own behavior using a scale of 1 (Almost never) to 5 (Almost always).

SELF-COMPASSION SCALE (SCS)

Almost
never
1 2 3 4 5
Almost
always

1. I'm disapproving and judgmental about my own flaws and inadequacies.
2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I'm feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

11. I'm intolerant and impatient towards those aspects of my personality I don't like.
12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don't like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.
19. I'm kind to myself when I'm experiencing suffering.
20. When something upsets me I get carried away with my feelings.
21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
22. When I'm feeling down I try to approach my feelings with curiosity and openness.
23. I'm tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion.

25. When I fail at something that's important to me, I tend to feel alone in my failure.
26. I try to be understanding and patient towards those aspects of my personality I don't like.

Appendix G

Institutional Review Board

Oklahoma State University Institutional Review Board
Request for Determination of Non-Research or Non-Human Subject

Federal regulations and OSU policy require IRB review of all research involving human subjects. Some categories of research are difficult to discern as to whether they qualify as human subject research. Therefore, the IRB has established policies and procedures to assist in this determination.

1. Principal Investigator Information

First Name: Kathleen	Middle Initial: m	Last Name: Verba
Department/Division: CPSU	College: Education	
Campus Address:	Zip+4:	
Campus Phone:	Fax:	Email:
Complete if PI does not have campus address:		
Address: 2448 1/2 E 56th Pl		City: Tulsa
State: OK	Zip: 74105	Phone: 918 284-1140

2. Faculty Advisor (complete if PI is a student, resident, or fellow) NA

Faculty Advisor's name: Tonya Hammer	Title: Ph.D Assistant Professor
Department/Division: CPSU	College: Education
Campus Address: m# 2437 Tulsa OK	Zip+4: 74106
Campus Phone: (918) 594-8304	Fax: Email: tonya.hammer@okstate.edu

3. Study Information:

A. Title: The Relationship of Self-Compassion With Psychological Well-Being in a Sample of Obese Pre-Bariatric Surgery Patients

B. Give a brief summary of the project. (See instructions for guidance)
 Existing archival data will be used to examine relationship of self-compassion and well-being. Multiple regression and correlational analysis will determine relationship. No intervention or interaction with living subjects will occur.

C. Describe the subject population/type of data/specimens to be studied. (See instructions for guidance)
 Pre-bariatric data patients who have been referred for psychological evaluations are given a battery of tests. No identifiable data will be used. Data collected will be age (18yo plus) ethnicity, income, and gender and the results of psychological self-report tests. Information on spreadsheet is de-identified and will be securely held during study.

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Oklahoma State University Institutional Review Board
Request for Determination of Non-Research or Non-Human Subject

4. Determination of "Research".

One of the following must be "no" to qualify as "non-research":

- A. Will the data/specimen(s) be obtained in a systematic manner?
 No Yes
- B. Will the intent of the data/specimen collection be for the purpose of contributing to generalizable knowledge (the results (or conclusions) of the activity are intended to be extended beyond a single individual or an internal program, i.e. widely or universally applicable)?
 No Yes

5. Determination of "Human Subject".

- A. Does the research involve obtaining information about living individuals?
 No Yes
If no, then research does not involve human subjects, no other information is required.
If yes, proceed to the following questions.

All of the following must be "no" to qualify as "non-human subject":

- B. Does the study involve intervention or interaction with a "human subject"?
 No Yes
- C. Does the study involve access to identifiable private information?
 No Yes
- D. Are data/specimens received by the investigator with identifiable private information?
 No Yes
- E. Are the data/specimen(s) coded such that a link exists that could allow the data/specimen(s) to be re-identified?
 No Yes
If "Yes," is there a written agreement that prohibits the PI and his/her staff access to the link?
 No Yes

6. Signatures

Signature of PI [Signature] Date 4-30-15

Signature of Faculty Advisor [Signature] Date 4-30-15
(If PI is a student)

Based on the information provided, the OSU-SStillwater IRB has determined that this project **does not** qualify as human subject research as defined in 45 CFR 46.102(d) and (f) and **is not subject to oversight by the OSU IRB.**

Based on the information provided, the OSU-SStillwater IRB has determined that this research **does** qualify as human subject research and **submission of an application for review by the IRB is required.**

[Signature]
Dr. Hugh Crethar, IRB Chair

4-30-15
Date

VITA

Kathleen Mary Verba

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE RELATIONSHIP OF SELF-COMPASSION WITH PSYCHOLOGICAL WELL-BEING IN PRE-BARIATRIC SURGERY PATIENTS WITH OBESITY

Major Field: Educational Psychology

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in August, 2017.

Completed the requirements for the Master of Science/Arts in Community Counseling at Texas A&M-Commerce, Commerce, Texas in 1993.

Completed the requirements for the Bachelor of Science in Psychology at Texas A&M-Commerce, Commerce, Texas in 1991.

Experience:

Completed the requirements for Psychology Internship Program at Cincinnati VAMC, Cincinnati, Ohio in 2017.

Professional Memberships: American Psychological Association