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Self-Compassion and Emotion Regulation as Predictors of Disordered Eating

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Abstract

Disordered eating attitudes and behaviors are becoming widespread, with individuals employing maladaptive compensatory strategies to cope with the distress and dissatisfaction with themselves that they face. Emotion regulation and self-compassion, both are well-researched areas, with their relationships with disordered eating also being an emerging area of interest. However, there is limited literature that has examined the relationships among the three constructs, wherein it has been reported that self-compassion and emotion regulation serve as predictors of disordered eating in individuals. The goal of this study was to look at the connections between emotion regulation and disordered eating, self-compassion and disordered eating, and emotion regulation and self-compassion. The study found emotion regulation to be a predictor for disordered eating, although self-compassion was not.

Self-Compassion and Emotion Regulation as Predictors of Disordered Eating

Disordered eating attitudes and behaviors have become increasingly common among individuals, with both men and women using maladaptive compensatory methods (Haynos et al., 2018). There is a significant amount of research studying the relationship between emotion regulation and disordered eating, while the relationship between self-compassion and disordered eating is an emerging area of interest among researchers. There is limited literature that has examined the relationships among the three constructs, wherein it has been reported that self-compassion skills enhance an individual's emotion regulation capacity, thereby decreasing their disordered eating behaviors (Gouveia, 2018). This study aims to examine whether emotion regulation and self-compassion are linked negatively with disordered eating, emotion regulation and self-compassion are related positively to each other, and that the relationship between emotion regulation and disordered eating is moderated by self-compassion.

Disordered Eating

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition - *DSM 5* (2013), describes eating disorders as a persistent disturbance in an individual's attitude and behaviors related to eating which lead to maladaptive consumption of food and dysfunction in one's physiological and psychological state. The individuals who do not meet the diagnostic criteria for one of the eating disorders in the *DSM 5*, may still exhibit disordered eating attitudes and behaviors, including distorted cognitions about their body and weight, restrictive eating, binge eating, emotional eating, and engaging in inappropriate compensatory acts such as excessive exercising or using diuretics/laxatives (Fairburn & Brownell, 2013; Quick & Byrd-Bredbenner, 2013). Such a pattern of non-disordered eating problems will be the focus of this study.

Disordered eating has been found to be extremely common in nonclinical populations, with roughly 50% of women and 30% of men having been shown to engage in maladaptive weight controlling behaviors (Haynos et al., 2018). The prevalence of disordered eating among college-aged students ranges from 8% to 20.5% (Eisenberg et. al, 2011; Tavolacci et. al, 2015). Disordered eating typically begins in adolescence and young adulthood and can have lifelong physical, psychological, and social consequences (Hudson et. al, 2007). Individuals who experience disordered eating have a higher mortality rate and a poor quality of life. These attitudes and behaviors are affected by neurobiological and social factors. However, , there is also evidence that suggests that psychological factors such as one's self-compassion and emotion regulation skills can also affect body image and disordered eating (Gilbert, 2009; Aldao & Nolen-Hoeksema, 2010).

Emotion Regulation

Early conceptualizations of emotion regulation focused on the ability of an individual to control the experience and expression of their emotions, especially negative expression, while also minimizing their arousal due to the emotions (Garner & Spears, 2000; Zeman & Garber, 1996). Later approaches in the field suggest that minimization is not the goal of emotion regulation; rather, it is defined by having the ability to monitor and assess one's experience of different emotions and modulate it using flexible emotion regulation strategies, depending on the situation (Thompson, 1994; Thompson & Calkins, 1996). Researchers also conceptualize that an important component of emotion regulation is the capacity to stop oneself from engaging in undesirable and impulsive actions when facing a negative emotional state (Linehan, 1993).

Derived from the above mentioned works, Gratz and Roemer (2004) proposed that emotion regulation is the willingness and the ability to (1) be aware and understand one's

emotions, (2) accept one's emotional experiences, (3) modulate expression to minimize impulsive behaviors when experiencing negative emotions and act in accordance with one's goals in the situation, and (4) flexibly and appropriately use emotion regulation strategies to achieve the desired goals in the situation. The inability to display or engage in any of the stated abilities would reflect that the individual faces difficulty in regulating their emotions (Gratz & Roemer, 2004).

It should be noted that some studies on emotion regulation instead assess and examine emotion dysregulation, which generally can be conceptualized as a lack of emotion regulation skills. Thus, individuals high on emotion dysregulation are not aware of their emotions, have difficulties accepting their emotions, are unable to modulate their emotional expression, and are unable to use effective emotion regulation strategies (Gratz & Roemer, 2004). This study used a measure of emotion dysregulation – Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) – to examine the difficulties one might face when regulating emotions. DERS was selected because the study focuses on disordered eating behavior, and there is research evidence for emotion dysregulation (or difficulties with emotion regulation) being present in individuals who struggle with disordered eating (Fairburn et al. 2003; Ruscitti, 2016). The DERS was also selected as a measure of emotion dysregulation because of its wide use in research, especially when studying disordered eating.

Self-Compassion

Compassion towards others is defined as acknowledging the experiences and suffering of others, a sense of empathy and kindness towards them, a desire to make their condition better, and understanding the universality of the human condition (Neff, 2003). Compassion also involves feelings of warmth and a non-judgmental understanding of the pain and inadequacies of

others (Neff & Germer, 2017). This concept has its origins in Buddhist philosophies that teach people to care for others and empathize with them while being tolerant and accepting (Gilbert, 2010).

Self-compassion is simply compassion that is directed towards oneself (Neff, 2003). Similar to how one feels empathy and kindness for others, self-compassion involves the same warmth and non-judgement towards one's own suffering. Self-compassion neither includes pushing away or disconnecting from one's emotions nor berating or criticizing oneself. It rather is about feeling a desire to make one's own condition better through forgiveness and kindness (Neff & Germer, 2017). Recognizing the shared experiences of all humans and understanding that there is a sense of universality when it comes to inadequacies and failures are also important components of self-compassion. No individual is free of flaws, and pardoning others, as well as ourselves is essential for alleviating pain and growing from our experiences.

Components of Self-Compassion

Based on the works of Buddhist writers (e.g., Salzberg, 1997), Neff (2003) has proposed that self-compassion has three components: Self-Kindness versus Self-Judgement, Common Humanity versus Isolation, and Mindfulness versus Over-Identification. These components are interlinked and together result in one being compassionate towards themselves.

Self-Kindness versus Self-Judgement. Just as self-compassion is compassion directed towards oneself, self-kindness is kindness that one shows towards oneself when faced with failures or personal inadequacies. It refers to showing support and sympathy as opposed to judging or self-criticizing. Self-kindness is often reflected in how one speaks to themselves or about themselves, where an individual who experiences a higher level of self-kindness would be gentle, understanding and encouraging, and one who is rather judgmental would be harsh and

hateful. Although solving our problems is an important task, an individual who displays self-kindness would also be considerate enough to comfort and soothe themselves in painful times.

Common Humanity versus Isolation. Common Humanity involves taking a broader perspective of things when one encounters challenging situations. It includes an acceptance of the fact that failures and inadequacies are simply a part of the human condition. Individuals who are unable to undertake this perspective feel isolated and disconnected in painful situations. They may feel that others are happier and have it easier. Having a sense of common humanity helps us remember that we are not alone in our suffering and thus eases our pain.

Mindfulness versus Over-Identification. Mindfulness refers to the ability to pay attention to the present moment, thoughts, and emotions, without any criticism or judgement. Being aware of one's painful thoughts and emotions is the first step towards being compassionate towards oneself and eventually ease that pain. Being mindful does not mean that we over-identify with distressing emotions, dwell on them, or think that the suffering is permanent. Mindfulness is an acknowledgement of the existence of the painful emotions and an observation of them in a neutral, non-judgmental manner.

Emotion Regulation and Disordered Eating

A defining feature of disordered eating is that individuals who exhibit such attitudes and behaviors also have some difficulty in regulating their emotions **(**Ruscitti, 2016). Emotion regulation theorists have proposed that disordered eating can be viewed as an attempt to regulate the experience of overwhelming and/or dysfunctional emotional states (Gratz & Roemer, 2004). Research has suggested that people with disordered eating lack the required skills to deal with negative emotional states, and instead they engage in maladaptive eating and compensatory measures (Fairburn et al. 2003; Leon et al., 1999; Smyth et al. 2007).

Gratz and Roemer's (2004) definition of emotion regulation includes an individual having the awareness and understanding of their emotions, acceptance of these emotions, the ability to modulate their emotional expression, and a flexibility and appropriateness in the use of emotion regulation strategies. It has been found that, regardless of the specificities, those who display disordered eating attitudes and engage in related maladaptive and compensatory behaviors tend to report a lack of emotional awareness, acceptance, and the ability to act in a desirable way (Harrison et al., 2010). It has been shown that the deficits in emotion regulation can lead to disordered eating.

A review conducted by Haedt-Matt and Keel (2011) reported that the experience of a negative affective state by women was frequently followed by an episode of binge eating that served as a maladaptive method of regulating emotions. In college-aged men and women, binge eating has also been associated with a deficit in awareness and comprehension of one's feelings, and difficulty in engaging in goal-directed behavior when overwhelmed (Han & Pistole, 2014). Whereas binge eating behaviors depict emotional reactivity and impulsivity, restrictive eating has been associated with emotional avoidance (Wildes & Marcus, 2011). Research indicates that restrictive eating attitudes and behaviors are used as a mechanism to avoid experiencing and expressing negative emotions (Harrison, et al., 2009; Wildes & Marcus, 2011). Alexithymia, which is difficulty in identifying and describing emotions, is also commonly found in those who engage in restrictive eating (Rastam et al., 1997; Nowakowski et al., 2013). Similar to binge eating, difficulty in recognizing and understanding one's emotions has been linked to restrictive eating behaviors (Bydlowski et al., 2005; Pollatos et al., 2008).

When compared to healthy controls, individuals with disordered eating depict more irritability, an unstable mood, and deficits in emotion regulation strategies (Gilboa-Schechtman

et al., 2006; Harrison et al., 2010). Those who exhibit restrictive eating and/or bingeing/purging behaviors have difficulty in restraining from impulsive behavior, and using appropriate and effective coping strategies (Ruscitti, 2016). They have trouble with experiencing and differentiating between various emotions and modulating expression of these emotions. Fairburn and colleagues (2003) have stated that emotion dysregulation is a common maintaining factor of disordered eating and can even serve as a barrier to treatment (Brockmeyer, 2012).

Self-Compassion and Disordered Eating

Self-compassion also has been related with disordered eating. According to Neff (2003), self-compassion involves being kind to oneself and taking a non-judgmental stance towards self. It also includes accepting one's perceived imperfections as a part of human nature and embracing the concept of common humanity; thus, decreasing the suffering caused by one's failure to meet the prescribed standards set by the social and environmental factors.

Although, research that explores the relationship between disordered eating and self-compassion is still in its early stages, several studies indicate that individuals who are unsatisfied with their bodies and engage in disordered eating, usually tend to score lower on self-compassion scales (Ferreira et al. 2013; Kelly et al., 2014, Pullmer et al., 2019). Disordered eating behaviors may be used as coping mechanisms when one faces criticism, disapproval, or nonacceptance. This criticism and judgement may be inflicted on an individual either by their social environment or by themselves (Germer, 2009). In simpler words, the inability to take a compassionate stance towards self, that is, the inability to be kind to oneself, identify perceived flaws as a part of human existence, and have mindful awareness of one's emotions, can lead to one engaging in disordered eating and maladaptive compensatory measures to deal with the criticism and rejection.

Self-compassion is a way to navigate a potentially threatful or overwhelming situation, by looking at one's thoughts, feelings, and experiences with empathy, shared humanity, and mindfulness (Neff, 2003; Neff, 2016). When an individual is able to take an adaptive stance towards their body, they are able to accept and validate themselves rather than attempting to change themselves according to the imposed standards (Berry et al., 2010). For example, when a person feels negatively about their body or appearance, a self-compassionate perspective would entail them remembering that no one is perfect, and they are okay just the way they are.

The three components of self-compassion - self-kindness, common humanity, mindfulness - act together and mutually affect each other. Pullmer, Zaitsoff, and Coelho (2019) describe this dynamic system using an example of an individual who is seeking treatment for their disordered eating, which includes body dissatisfaction, restrained eating, fear of gaining weight, and frequent binging/purging behavior. When they have an incident of binging/purging, they could feel that they have "failed" in making a change. Being mindful in this situation, which means, having the awareness of one's emotions, and acceptance of the fact that "failure" is a part of being human and shared by all individuals, will decrease the feelings of isolation, and promote common humanity. The feelings of common humanity, wherein the individual identifies that all humans are struggling, can lead to them feeling and practicing kindness towards themselves.

A considerable amount of research has shown evidence of a relationship between self-compassion and disordered eating attitudes and behaviors. Breines et al. (2014), reported that when individuals respond to a perceived body flaw with compassion, they experience lower levels of shame and disordered eating. Higher self-compassion is associated with less emotional distress, weight-related concerns, disapproval for one's body, and restrained or binge diets (Adams & Leary, 2007; Ferreira et al., 2014; Kelly et al., 2014; Maraldo et al., 2016). The

presence of self-compassion has also been linked to lower appearance-dependent self-esteem, lesser guilt associated with eating in college women, and lower physique-related anxiety in female athletes (Neff & Vonk, 2009; Mosewich et al., 2011; Wasylkiw et al., 2012).

Adam and Leary (2007) demonstrated that female restrictive eaters who were instructed to induce self-compassionate thinking after eating junk food, experienced a lower amount of emotional distress associated with eating and were less likely to engage in following compensatory measures of binging or purging compared to the controls. A systematic review of 28 studies that support the role of self-compassion as a buffer against body-image concerns and disordered eating, revealed that dispositional self-compassion decreases disordered eating and related outcomes, and self-compassion prevented the occurrence of risk factors that can cause maladaptive eating behaviors, and promoted protective factors such as body appreciation (Braun et al., 2016).

Emotion Regulation and Self-Compassion

Emotion regulation and self-compassion are both constructive and adaptive attitudes that help individuals cope with overwhelming situations and reduce their distress. Research has suggested that individuals who have the ability to be compassionate towards themselves, also demonstrate emotion regulation skills and the use of effective strategies to deal with difficult experiences (Diedrich et al., 2016).

Emotion regulation includes the ability to identify and understand one's emotions, maintain goal-directed behavior, and use effective and appropriate coping strategies to deal with an emotionally difficult situation. This ability to regulate emotions enables individuals to be self-compassionate, that is, be kind to themselves, embrace the concept of common humanity, and be

mindful of their experiences. Self-compassion has also been proposed to enhance the impact of effective emotion regulation strategies.

Emotion regulation and self-compassion have been shown to be independently negatively correlated to various mental health concerns and disorders. Researchers are now examining how the two constructs mutually influence each other and work together to act as preventative and alleviating factors. Self-compassion has been conceptualized as a mechanism through which individuals experiencing depressive symptoms are able to cope with their distressing experiences and enhance their ability to regulate depressive emotions, leading to a reduction in their symptoms (Bakker et al., 2019; Diedrich et al., 2016). When individuals who have generalized anxiety or social anxiety practice self-compassion, they experience a significant reduction in their emotion dysregulation (Bates et al., 2021; Helm, 2016). Similarly, among people who are experiencing long-term effects of a traumatic experience, self-compassion has been negatively associated with emotion dysregulation (Vettese et al., 2011).

Interplay of Self-Compassion, Emotion Regulation, and Disordered Eating

Although the relationships between disordered eating and emotion regulation, and disordered eating and self-compassion have been investigated, there is limited literature available studying the interaction of the three mentioned constructs.

Emotion regulation has been found to predict disordered eating by adding a unique variance above demographic variables, depression, and anxiety (Kenny et. al, 2017). Whiteside and colleagues (2007) connected the presence of emotion regulation skills to less engagement in restrictive eating and binging/purging behaviors. Literature has also shown that the specific skills related to acceptance of emotions, using effective strategies, impulse control, and engaging in

goal-directed behavior provide a protective layer and predict disordered eating (Cooper et al., 2014; Han & Pistole, 2014; Harrison et al., 2009; Ruscitti, 2016).

Research has found self-compassion to prevent the initial occurrence of disordered eating and decrease the intensity and severity of symptoms if they are present (Tylka & Kroon Van Diest (2015). Self-compassion has been found to serve as a buffer for pressure that is put on individuals through family and media, thus indirectly predicting the likelihood of disordered eating developing in them (Tylka et. al, 2015).

Aim of the Current Study

The present study examined the relationships between emotion regulation and disordered eating, self-compassion and disordered eating, emotion regulation and self-compassion, and finally, tested to see if self-compassion serves as a predictor for disordered eating over and above emotion regulation.

Hypotheses

The first research question examined whether there is a relationship between emotion regulation and disordered eating. There is a significant body of research that suggests that the constructs are negatively linked, which suggests that the higher the capacity to regulate one's emotions, the lower their levels of disordered eating attitudes and behaviors (Fairburn et al. 2003; Harrison, et al., 2009; Harrison et al., 2010; Ruscitti, 2016; Wildes & Marcus, 2011). The first hypothesis predicted that emotion dysregulation scores on the DERS would be correlated positively with scores on disordered eating on the EAT-26. Specifically, the total score on the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) were used to measure emotion regulation; whereas the total score on Part B of The Eating Attitudes Test (EAT-26; Garner et al., 1982) were used to measure disordered eating in the participants.

The second research question examined whether there is a relationship between self-compassion and disordered eating. Although there is limited research exploring the link between the two constructs, the existing body of literature suggests that there is a negative relationship between self-compassion and disordered eating (Adams & Leary, 2007; Ferreira et al. 2013; Ferreira et al., 2014; Kelly et al., 2014; Maraldo et al., 2016; Pullmer et al., 2019). This suggests that, if an individual possesses a higher level of compassion towards themselves, they will also exhibit lower levels of disordered eating attitudes and behaviors. The second hypothesis predicted that self-compassion and disordered eating would be correlated negatively. The total score on the Self-Compassion Scale (SCS; Neff, 2003) was used to measure the level of self-compassion experienced by participants; whereas the total score on Part B of The Eating Attitudes Test (EAT-26; Garner et al., 1982) was used to measure disordered eating.

The third research question examined whether there is a relationship between emotion regulation and self-compassion. Research has suggested that individuals who have the ability to be compassionate towards themselves, also demonstrate emotion regulation skills and the use of effective strategies to deal with difficult experiences (Diedrich et al., 2016). Furthermore, emotion regulation and self-compassion have been shown to be independently negatively correlated to various mental health concerns and disorders (Bates et al., 2021; Bakker et al., 2019; Diedrich et al., 2016; Helm, 2016; Vettese et al., 2011). The third hypothesis predicted that emotion regulation and self-compassion would be correlated positively. The total score on the DERS (Gratz & Roemer, 2004) was used to measure the capacity for emotion regulation; whereas the total score on the Self-Compassion Scale (SCS; Neff, 2003) was used to measure the level of self-compassion.

The fourth research question examined whether self-compassion and emotion regulation serve as predictors for disordered eating. The relationship between these three constructs has not been studied extensively; however, the available research has found that both self-compassion and emotion regulation share a negative correlation with disordered eating, and also serve as predictors of disordered eating. The fourth hypothesis predicted that self-compassion and emotion regulation would both serve as predictors for disordered eating when entered into a multiple regression equation.

Method

Participants

Participants were recruited through Amazon Mechanical Turk (MTurk). The sample included 166 participants, which exceeded the estimated sample size of 115 derived from an a priori power analyses to achieve a power $(1 - \beta)$ of .95, with $\alpha = .05$, and expecting a moderate effect size of .30. On MTurk, the inclusion criterion was set requiring that potential subjects reside in the United States in order to be allowed to participate in the study. The participants ranged from 18 to 65 years of age, with the majority being ages 25 to 34 years. The sample neared even distribution in terms of gender, with 53% (N = 88) female identifying participants and 47% (N = 68) male identifying participants. Participant-reported race included White/Caucasian (70.5%), Black/African American (16.8%), Hispanic/Latinx (6.6%), Native American/American Indian (3.6%), and Asian American/Pacific Islander (1.8%).

Measures

Demographics

Participants were asked to provide basic demographic details about themselves, which included their sex, age, and racial background.

Self-Compassion Scale (SCS)

The Self-Compassion Scale (SCS; Neff, 2003) is a 26-item tool that measures the level of compassion that an individual directs towards themselves by assessing 6 traits of self-compassion. These traits also form the 6 subscales of the SCS, namely, Self-Kindness (5 items; e.g., "I try to be loving towards myself when I'm feeling emotional pain"), Self-Judgement (5 items; e.g., "When times are really difficult, I tend to be tough on myself."), Common Humanity (4 items; e.g., "When I'm down, I remind myself that there are lots of other people in the world feeling like I am."), Isolation (4 items; e.g., "When I fail at something that's important to me, I tend to feel alone in my failure."), Mindfulness (4 items; e.g., "When I'm feeling down I try to approach my feelings with curiosity and openness."), and Over-Identification (4 items; e.g., "When I'm feeling down I tend to obsess and fixate on everything that's wrong.").

The items are rated on a 5-point Likert-type scale, where an individual who scores on the higher end of the scale would depict higher levels of Self-Kindness, Common Humanity, and Mindfulness, while scoring lower on Self-Judgement, Isolation, and Over-Identification. The subscales of Self-Judgement, Isolation, and Over-Identification are reverse scored when calculating subscale scores, as well as the overall self-compassion score. It is important to note that there are no norms that one could use to conclude that they are high or low on self-compassion, and the scores are simply used to compare outcomes for individuals with a higher score in relation to those with a lower score.

The SCS has been reported to have good test-retest reliability over a 3-week interval, where the Cronbach's α for the overall scale was .93, and for ranged from .80 to .88 for the 6 subscales (Neff, 2003). The instrument also depicts good internal reliability, with Cronbach's α = .92 for the overall score, and Cronbach's α ranging from .75 to .81 for the 6 subscales (Neff,

2003). Research has also shown that the SCS has a high construct validity, which is evidenced by the higher scores on the SCS being linked to greater levels of life satisfaction, happiness, optimism, and body appreciation (Hollis-Walker & Colosimo, 2011; Neff et al., 2007; Neff et al., 2008; Neff et al., 2018), along with lower levels of self-criticism, depression, anxiety, and body shame (Breines et al., 2014; Neff, 2003; Neff et al., 2005; Neff et al., 2018; Raes, 2010

The total scores on the SCS were used for primary analysis as a marker of self-compassion; the subscales of the SCS were used for exploratory analyses.

The Eating Attitudes Test (EAT-26)

The Eating Attitudes Test (EAT-26; Garner et al., 1982) is a self-report measure that is commonly used as a screening tool for individuals at risk for disordered eating behaviors and attitudes toward food. EAT-26 is a refined version of the original 40-item scale that was rated on a 6-point Likert scale (Garner & Garfinkel, 1979). The instrument can be used with adolescents and adults, in clinical as well as non-clinical settings.

EAT-26 consists of 3 parts - Part A, Part B, and Part C. Part A comprises demographic information such as an individual's date of birth, gender, height, current weight, highest weight, lowest adult weight and ideal weight. Part B of the instrument consists of 26 statements (e.g., "Have gone on eating binges where I feel that I may not be able to stop." and "Feel that food controls my life.") that need to be rated on a 6-point Likert scale ranging from "Never" to "Always" based on the degree to which an individual agrees with or relates to the statements. Part C of the instrument includes 4 behavioral questions (e.g., Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?) that are to be answered on the basis of one's eating-related behavior in the last 6 months. This section of the EAT-26 is rated on a 6-point scale ranging from "Never" to "Once a Day or More".

The internal consistency of the EAT-26 has been reported to be high ($\alpha = .90$), particularly with individuals displaying symptoms of Anorexia Nervosa (Garner et al., 1982). The instrument's test-retest reliability ranged from .84 to .89 (Banasiak et al., 2001). EAT-26 also correlates highly with the original EAT-40 scale ($r = .98$) (Garner et al., 1982). The instrument was revealed to have a Cronbach's alpha of .86, with the internal consistency of the subscales was .80 for Dieting, .67 for Bulimia and Food Preoccupation, and .56 for Oral Control (Gleaves et al., 2014). The EAT-26 also correlates highly with the eight subscales of the Eating Disorders Inventory and with the Restrained Eating Inventory, suggesting concurrent validity (Berland et al., 1986).

For the purpose of this study, only Part B of the scale was used. The total score on Part B of the EAT-26 was used to the level of disordered eating experienced by participants, with higher scores indicating more disordered eating tendencies in them.

Difficulties in Emotion Regulation Scale (DERS)

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item measure that is used to assess the difficulties one might face in regulating their emotions, or emotion dysregulation. The items are rated on a 5-point Likert-type scale that ranges from 1 (Almost Never; 0-10%) to 5 (Almost Always; 91-100%). The scale consists of 6 subscales, that measure: non-acceptance of emotional responses (Non-Acceptance - 6 items; e.g., "When I'm upset, I feel guilty for feeling that way."), difficulties engaging in goal directed behavior in the presence of negative emotions (Goals - 5 items; e.g., "When I'm upset, I have difficulty concentrating."), impulse control difficulties (Impulsivity - 6 items; e.g., "When I'm upset, I lose control over my behaviors."), lack of emotional awareness (Awareness - 6 items; e.g., "I pay attention to how I feel."), limited access to emotion regulation strategies (Strategies - 8 items,

e.g., “When I’m upset, I believe that wallowing in it is all I can do.”), and lack of emotional clarity (Clarity - 5 items, e.g., “I have difficulty making sense out of my feelings.”).

DERS has been found to have a good test-retest reliability for over a period ranging from 4 to 8 weeks, with the overall scale being .88, and the subscales ranging from .57 to .89 (Gratz & Roemer, 2004). The internal consistency of DERS was .93 for the overall scale and >.80 for all the subscales (Gratz & Roemer, 2004). A relatively recent study found the Cronbach’s alpha for the total scale to be $\alpha = .96$ (Rowsell et. al, 2016). The instrument has also been found to have a good construct validity, with the correlation coefficients between DERS and Negative Mood Regulation Scale being significant at -.69, and that between DERS and measure of experiential avoidance being significant at .60 (Gratz & Roemer, 2004). Total scores on the DERS were used in primary analyses as a marker of emotion dysregulation It is to be noted that higher scores on DERS indicate lower emotion regulation skills, whereas lower scores on the scale indicate higher emotion regulation skills. The subscales of DERS were used for an exploratory analysis.

Procedure

Participants completed the study online via Amazon MTurk; they first were provided an informed consent statement and had to select whether to participate. If the participants did not consent, then they were taken to the end of the survey. If they did consent, then they were directed to the demographic information section, followed by the previously described measures, which were counter-balanced to control for possible order effects. After the participants were through with the survey, they were guided to a page with information about the nature of the study and some national mental health resources/helplines. Participants were compensated with 50 cents for their time and effort.

Results

Preliminary Analyses

Internal consistency of each measure was obtained using Cronbach's Alpha analyses. The α's for the three measures were greater than .90, with the Cronbach's α for Self-Compassion Scale being .96, for Difficulties in Emotion Regulation Scale being .96, and for Eating Attitudes Test being .95 (see Table 1).

To examine the relationships between the main study variables, a series of Pearson correlations was conducted (see Table 3). Specifically, to examine the first hypothesis, a Pearsons correlation was calculated for emotion dysregulation and disordered eating. At an alpha level of .05, emotion dysregulation was correlated positively with disordered eating, $r(166) = .28$, $p = <.001$ (one-tailed).

The second hypothesis was examined by conducting a Pearsons correlation between self-compassion and disordered eating, which was not significant, $r(166) = -.09$, $p = .11$ (one-tailed), but in the expected direction. Thus, the second hypothesis was rejected.

The third hypothesis was tested by conducting a Pearsons correlation between self-compassion and emotion dysregulation. There was a negative correlation between self-compassion and emotion dysregulation, $r(166) = -.61$, $p = <.001$ (one-tailed).

Hierarchical Multiple Regression

To test the fourth hypothesis, hierarchical multiple regression was conducted examine the predictors of disordered eating. The first step included demographic variables, i.e. age and sex, as predictors of disordered eating. The results indicated that demographic variables did not provide predictive value, $R^2 = .02$, $F(3, 159) = .89$, $p = .45$. If demographic variables were significant predictors, they would account for 2% of variance in social anxiety (see Table 4).

In the second step, we added emotion regulation as a predictor variable to see if it has an additive predictive value above and over the demographic variables. The results indicated that emotion regulation provided additive predictive value, $\Delta R^2 = .07$, $F(4, 158) = 3.82$, $p = <.001$. Emotion regulation accounted for 9% variance in disordered eating, p <.001 (see Table 4).

In the third step, self-compassion was added as a predictor to see if it predicted disordered eating over and above the demographic variables and emotion regulation. The results indicated that self-compassion did not provide additive value to disordered eating, $\Delta R^2 = .01$, $F(5, 157) = 3.35$, $p = .23$. If self-compassion was a significant predictor of disordered eating, it would account for 1% of the variance in disordered eating (see Table 4).

Because this hypothesis was not upheld, we conducted additional exploratory analyses to examine the relationship of disordered eating to the subscales of the self-compassion scale. Although there were no a priori hypotheses regarding these subscales, the zero-order correlations indicated that several of the self-compassion subscales were significantly correlated with disordered eating (see Table 3). Thus, we tested a hierarchical multiple regression to test whether these subscales were significant predictors while also considering emotion regulation. First step of the model included demographic variables, second included emotion regulation, and third included the subscales of self-compassion. Results indicated that none of the 6 subscales were significant predictors of disordered eating; however, emotion regulation was still had predictive value above and beyond the demographic variables and the subscales.

Discussion

The aim of this study was to explore the relationship between self-compassion, emotion regulation, and disordered eating, and to examine whether self-compassion and emotion regulation serve as significant predictors of disordered eating. Emotion regulation shared a

negative relationship with disordered eating and a positive relationship with self-compassion. Self-compassion did not have a significant association with disordered eating. Further, emotion regulation served as a predictor of disordered eating over and above demographic variables of sex and age. Adding self-compassion to the model did not prove to be a significant additive factor.

Summary and Discussion of Findings

Emotion Regulation and Disordered Eating

The first hypothesis stated that there would be a negative correlation between emotion regulation and disordered eating. Emotion regulation was measured via the DERS, wherein lower scores on the scale (Emotion Dysregulation) indicated the presence of higher emotion regulation skills in individuals. When the scores on the two scores were correlated, they were found to share a significant positive correlation. This lends support to the first hypothesis and confirms that emotion regulation and disordered eating share a negative correlation.

These findings align with the bulk of existing literature. Pioneers of emotion regulation theories have proposed that disordered eating can be viewed as individuals regulating their overwhelming and dysfunctional emotions (Gratz & Roemer, 2004). It has been suggested that individuals might turn to maladaptive eating and negative compensatory measures when they do not possess the adequate skills to deal with their negative emotions (Fairburn et al. 2003; Smyth et al. 2007). More specifically, emotion regulation skills related to awareness and comprehension of emotional responses, engaging in goal-directed behavior, restraining from impulsive behavior, and using appropriate coping mechanisms have been shown to be lacking in individuals who engage in disordered eating behavior, when overwhelmed have been shown to be associated with binge-eating behavior (Han & Pistole, 2014; Ruscitti, 2016).

Self-Compassion and Disordered Eating

The second hypothesis was that there would be a negative correlation between self-compassion and disordered eating, which was not upheld. This finding is surprising as it does not align with the existing literature and also goes against theoretical conceptualizations.

Research and theories suggest that one's ability to be compassionate towards self and to identify one's perceived flaws as a part of human existence can lead to less engagement in disordered eating and using maladaptive compensatory strategies (Berry et al., 2010; Neff, 2016). The difference in findings of the current study could be explained by the fact that the majority of the existing literature used clinical samples in their study designs, whereas the current study used a sample that displayed a full spectrum of variables (Braun et al., 2016).

Another possible reason for the discrepant findings could be that the current study did not take the specificities of individual's presentation of disordered eating into account. This means that disordered eating could include an array of attitudes and behaviors, such as, distorted cognitions about their body and weight, restrictive eating, emotional eating, binge eating, purging, excessive exercising, using diuretics/laxatives, and/or a combination of those (Fairburn & Brownell, 2013; Quick & Byrd-Bredbenner, 2013). In addition, research has suggested that individuals with binge eating and purging behaviors tend to display higher rates of self-compassion than those with a restrictive pattern of eating (Gale et al., 2014; Kelly and Carter, 2014). As the study did not take the nuances of disordered eating into account, it is possible that the sample may have contained individuals who depicted certain types of attitudes and behaviors more than others; that is, there may have been more participants who depicted restriction that binge eating/purging, thus impacting the results.

An exploratory analysis was further conducted to examine the relationship between the subtypes of self-compassion and disordered eating. It is interesting to note that the results suggested a significant positive correlation between disordered eating and self-kindness, common humanity, and mindfulness, whereas there was a significant negative correlation between disordered eating and self-judgement, isolation, and over-identification. It is surprising to see that all the subtypes of self-compassion share a significant association with disordered eating while the overall score for the variable does not. It is possible that these subtypes are individually a more reliable and accurate representation of the construct. This perhaps should be explored in future studies.

Emotion Regulation and Self-Compassion

The third hypothesis stated that there would a positive relationship between emotion regulation and self-compassion, which was supported by the findings of this study. Emotion regulation and self-compassion have both been conceptualized as adaptive skill sets that help individuals handle and cope with overwhelming and distressing situations. Although the literature on the interactive nature of these variables is in its nascent stage, the findings have consistently suggested that frequent use of self-compassion facilitates emotion regulation strategies to be used in negative emotional states (Diedrich et al., 2017; Findlay-Jones, 2015).

Further, the components of the two constructs seem to affect each other as well. Mindfulness as a component of self-compassion promotes awareness of one's emotions, which is an essential component of emotion regulation (Subic-Wrana et al., 2014). Self-kindness has been shown to cause emotions to be perceived as less threatening, which leads to less engagement in suppression of emotions (Allen & Leary, 2010; Bluth et al., 2016). Additionally, if individuals can connect their personal distress to the common suffering of humanity, they may feel less

isolated, express their emotions more freely, and seek support/help when necessary (Allen & Leary, 2010).

Predictors of Disordered Eating

The final aim of the study was to explore whether self-compassion and emotion regulation serve as predictors of disordered eating, when controlling for one another. To test this hypothesis, a hierarchical regression model was created to test the predictive value of demographic variables, emotion regulation, and self-compassion. The demographic variables did not have significant predictive value for disordered eating. Adding emotion regulation had a significant additive predictive value over and above demographic variables, whereas, introducing self-compassion did not lead to an addition in prediction. Emotion regulation was the only significant predictor for disordered eating here.

Although it is surprising that self-compassion did not serve as a significant predictor, these findings align with the results of the correlation analysis, wherein emotion regulation shared a negative correlation with disordered eating, and self-compassion did not have a significant relationship with disordered eating.

As found in the current study, existing research has also shown that emotion regulation contributes unique variance to disordered eating attitudes and behaviors. In a study conducted by Kenny and colleagues (2017), emotion regulation provided a greater predictive value than age and controlled variables of depression and anxiety. Specifically, deficits in emotion regulation skills have been connected to frequent restrictive and binge eating behaviors in nonclinical samples (Whiteside et al., 2007). EAT-26 covered both restrictive and binging behaviors, which were overall predicted by emotion regulation; however, we do not know if there is a difference

between the two when correlating them with emotion regulation. This could be a future endeavor, wherein the nuances between the various disordered eating behaviors can be explored.

Exploratory analysis in the current study revealed that non-acceptance of emotions and using effective strategies to cope with distressing situations were specifically significant components of emotional regulation in predicting disordered eating. This is corroborated by research conducted in the field, wherein the two mentioned components have had significant correlations and served as predictors for disordered eating in nonclinical samples (Han & Pistole, 2014; Harrison et al., 2009; Ruscitti, 2016). Contradictory to literature, the current study did not find impulse control and difficulties in engaging in goal-directed behavior to be significant predictors of disordered eating (Cooper et al., 2014; Han & Pistole, 2014). This can be possibly explained by the use of clinical vs nonclinical samples in research, as well as the unique and acute presentation of emotion regulation and disordered eating in the diverse sample in the current study. Perhaps, using a more focused sample in a clinical setting, controlling for demographic variables and comorbidities, and using measures that give a better picture of impulse control and goal-directed behavior might yield results that are congruent with existing findings in the area.

The research on self-compassion and disordered eating is still a growing field, hence there is not a wide body of studies available. The findings of the current study do not align with most of the existing research that has found self-compassion and its components to be predictors of disordered eating or eating pathology. There is however, some evidence of self-compassion not being a strong predictor of disordered eating when assessing specific aspects of disordered eating behavior, particularly restrictive eating and over-exercising (Berry et al., 2010; Linardon,

2021; Neff, 2016). Few longitudinal studies have also failed to demonstrate self-compassion as predictor of disordered eating (Fresnics et al., 2019; Stutts & Blomquist, 2018).

Limitations

This study has a few limitations that should be noted. First, the study used self-report measures to assess for emotion regulation, self-compassion, and disordered eating. Research indicates that using self-report measures tends to yield less reliable results than interview-based measures (Carter et al., 2001). Future research in the area might benefit from using interview-based techniques to get a more accurate picture of individuals' disposition. Second, the population assessed for the study was wide and heterogenous in nature when it comes to their age, race, socioeconomic background, level of education, all of which can play a role in how disordered eating can affect individuals. The only requirement was that the participants reside in the United States. Further, it can also be beneficial to assess clinical versus nonclinical populations to explore the true impact of emotion regulation and/self-compassion on disordered eating. Third, the Self-Compassion Scale (Neff, 2003) has been the most widely used scale for measuring the construct, and there is not enough data based on other measurement tools. Exploring these tools in addition to SCS might be useful to gain a more comprehensive understanding on self-compassion, especially considering the lack of significant results for SCS total scores in this study. It is to be noted that as SCS is a self-report measure, the items on the SCS are based more on the participants' perceptions about their abilities and behaviors instead of an actual measure of their ability or actual behaviors, which would require an observational study or at least a second reporter.

Finally, a possible limitation could be the use of MTurk for recruiting participants for the current study. However, although MTurk is a recent development in the field of research, there is

research showing that its reliability does not differ from other means of data collection, and that it yields participants pools that are demographically similar to traditional pools of data collection, such as undergraduate students (Buhrmester et. al, 2011; Lutz, 2016; Shapiro et. al, 2013). Paolacci and colleagues (2010) found through their research that the samples collected through MTurk have similar demographics as the population they are drawn from. In addition, several personality assessments and mental health measures (such has BDI, BAI, DASS-21, PID-5) have sufficient internal consistency and test-retest reliability scores (Buhrmester et. al, 2011; Miller et al., 2017; Shapiro et. al, 2013). On the other hand, research has also shown that MTurk might yield low quality data due to acquiescence, carelessness, and lack of effort on part of the participants when answering questionnaires (Kim & Oh, 2022). However, scores on measures for our study were similar to those found in studies using non-MTurk samples.

Clinical Implications

The findings of the current study reveal that emotion regulation serves as a predictor of disordered eating attitudes and behaviors in individuals. Some researchers have argued that the treatment for disordered eating, specifically restrictive eating, has not paid adequate attention to difficulties related to emotion regulation (Haynos, 2011; Lynch, 2013). They have assigned the cause of ineffective treatments for adults with restrictive eating to failure to inculcate tolerance of distressing emotions and use of effective regulation strategies in them. Based on the current findings, it could be beneficial to incorporate learning and practice of emotion regulation skills in individuals who experience disordered eating, specifically for those who engage in restrictive eating behaviors.

Additionally, based on the current results, the introduction of self-compassion skills in the treatment for individuals with disordered eating could also be helpful. There is some

evidence that teaching and fostering self-compassion skills is directly beneficial for individuals with disordered eating (Adams & Leary, 2007; Albertson et al., 2014; Kirschner et al., 2019) even after 3–6-month follow-ups. Further, inculcation and practice of self-compassion skills has also been found to be more effective in treating disordered eating behaviors through randomized-control trials, when compared to behavioral interventions (Kelly & Carter, 2015).

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Table 1

Descriptive Statistics and Internal Consistency for Total Scores for Each Measure

Measure	Possible Range	Study Range	Standard Deviation	Cronbach's Alpha
Self-Compassion Scale (SCS)	26-130	60-115	7.79	0.96
Difficulty in Emotion Regulation Scale (DERS)	36-180	42-135	18.23	0.96
Eating Attitudes Test – 26 (EAT-26)	26-156	30-135	15.97	0.95

Table 2

Descriptive Statistics for Subscales of the SCS and the DERS

Measure	Possible Range	Sample Range	Mean	Standard Deviation
Self-Compassion Scale				
Self-Kindness	5 – 25	9 – 25	18.55	3.32
Self-Judgement	5 – 25	5 – 25	12.87	4.07
Common Humanity	4 – 20	4 – 20	14.52	3.20
Isolation	4 – 20	4 – 20	10.07	3.19
Mindfulness	4 – 20	8 – 20	14.76	3.66
Over-Identification	4 – 20	4 – 20	9.76	3.36
Difficulties in Emotion Regulation Scale				
Non-Acceptance	6 – 30	6 – 30	20.51	5.49
Goals	5 – 25	6 – 21	16.26	3.10
Impulse	6 – 30	6 – 27	19.68	4.42
Awareness	6 – 30	6 – 24	13.57	4.10
Strategies	8 – 40	8 – 36	26.56	5.84
Clarity	5 – 25	5 – 21	14.75	3.01

Table 3

Pearsons Correlations among All Scales and Subscales

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. SCS	-														
2. DERS	-.61**	-													
3. EAT-26	-.09	.28**	-												
4. Self-Kindness	.25**	.38**	.26**	-											
5. Self-Judge	.54**	.78**	.30**	.52**	-										
6. Com Hum	.15*	.46**	.25**	.64**	.57**	-									
7. Isolation	.49**	.78**	.26**	.51**	.74**	.57**	-								
8. Mindful	.31**	.26**	.18**	.68**	.46**	.67**	-.48	--							
9. Over-Ident	.55**	.76**	.23**	.45**	.73**	.54**	.69	.39**	-						
10. Non-Acc	-.41**	.89**	.31**	.55**	.82**	.65**	.79**	.48**	.76**	-					
11. Goals	-.47**	.85**	.26**	.41**	.74**	.43**	.68**	.38**	.65**	.74**	-				
12. Impulse	-.47**	.90**	.31**	.46**	-.72**	.52**	-.71**	.31**	-.72**	.81**	.75**	-			
13. Aware	-.16	-.21**	-.23**	-.64**	.44**	-.61**	.45**	-.66**	.39**	-.48**	-.34**	-.35**	-		
14. Strat	-.48**	.90**	.28**	.46**	-75**	.54**	-.79**	.41**	-.73**	.85**	.75**	.81**	.42**	-	
15. Clarity	-.63**	.76**	.19*	.08	-.55**	.23**	-.53**	.01	-.61**	.57**	.59**	.62**	-.06	.57**	-

*Note. *p < .05 **p < .01*

Table 4

Hierarchical Multiple Regression Predicting Disordered Eating

Variable	*B*	*SE B*	*β*	*t*	*p*
Step 1					
Age	-1.29	1.26	-.08	-1.03	.30
Male	10.25	9.53	.32	1.07	.28
Female	7.78	9.53	.24	.82	.42
Step 2					
Age	-.53	1.23	-.03	-.43	.69
Male	9.38	9.21	.29	1.01	.31
Female	7.61	9.20	.24	.83	.41
Emotion Regulation	.24	.07	.27	3.52	<.001
Step 3					
Age	-.56	1.23	-.04	-.46	.65
Male	7.97	9.27	.25	.86	.39
Female	6.22	9.26	.19	.67	.50
Emotion Regulation	.30	.09	.34	3.53	<.001
Self-Compassion	.24	.19	.12	1.20	.23

Appendices

Appendix A: Self-Compassion Scale

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

_____ 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 B: Difficulties in Emotion Regulation Scale

Difficulties in Emotion Regulation Scale (DERS)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1----------2----------3----------4----------5

almost never (0-10%)	sometimes (11-35%)	about half the time (36-65%)	most of the time (66-90%)	almost always (91-100%)

_____ 1) I am clear about my feelings.
_____ 2) I pay attention to how I feel.
_____ 3) I experience my emotions as overwhelming and out of control.
_____ 4) I have no idea how I am feeling.
_____ 5) I have difficulty making sense out of my feelings.
_____ 6) I am attentive to my feelings.
_____ 7) I know exactly how I am feeling.
_____ 8) I care about what I am feeling.
_____ 9) I am confused about how I feel.
_____ 10) When I'm upset, I acknowledge my emotions.
_____ 11) When I'm upset, I become angry with myself for feeling that way.
_____ 12) When I'm upset, I become embarrassed for feeling that way.
_____ 13) When I'm upset, I have difficulty getting work done.
_____ 14) When I'm upset, I become out of control.
_____ 15) When I'm upset, I believe that I will remain that way for a long time.
_____ 16) When I'm upset, I believe that I will end up feeling very depressed.
_____ 17) When I'm upset, I believe that my feelings are valid and important.
_____ 18) When I'm upset, I have difficulty focusing on other things.
_____ 19) When I'm upset, I feel out of control.
_____ 20) When I'm upset, I can still get things done.
_____ 21) When I'm upset, I feel ashamed at myself for feeling that way.
_____ 22) When I'm upset, I know that I can find a way to eventually feel better.
_____ 23) When I'm upset, I feel like I am weak.
_____ 24) When I'm upset, I feel like I can remain in control of my behaviors.
_____ 25) When I'm upset, I feel guilty for feeling that way.
_____ 26) When I'm upset, I have difficulty concentrating.
_____ 27) When I'm upset, I have difficulty controlling my behaviors.
_____ 28) When I'm upset, I believe there is nothing I can do to make myself feel better.
_____ 29) When I'm upset, I become irritated at myself for feeling that way.
_____ 30) When I'm upset, I start to feel very bad about myself.
_____ 31) When I'm upset, I believe that wallowing in it is all I can do.
_____ 32) When I'm upset, I lose control over my behavior.
_____ 33) When I'm upset, I have difficulty thinking about anything else.
_____ 34) When I'm upset I take time to figure out what I'm really feeling.
_____ 35) When I'm upset, it takes me a long time to feel better.
_____ 36) When I'm upset, my emotions feel overwhelming.

Appendix C: Eating Attitudes Test – 26

Part B: Check a response for each of the following statements:		Always	Usually	Often	Some times	Rarely	Never
1.	Am terrified about being overweight.	□	□	□	□	□	□
2.	Avoid eating when I am hungry.	□	□	□	□	□	□
3.	Find myself preoccupied with food.	□	□	□	□	□	□
4.	Have gone on eating binges where I feel that I may not be able to stop.	□	□	□	□	□	□
5.	Cut my food into small pieces.	□	□	□	□	□	□
6.	Aware of the calorie content of foods that I eat.	□	□	□	□	□	□
7.	Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)	□	□	□	□	□	□
8.	Feel that others would prefer if I ate more.	□	□	□	□	□	□
9.	Vomit after I have eaten.	□	□	□	□	□	□
10.	Feel extremely guilty after eating.	□	□	□	□	□	□
11.	Am preoccupied with a desire to be thinner.	□	□	□	□	□	□
12.	Think about burning up calories when I exercise.	□	□	□	□	□	□
13.	Other people think that I am too thin.	□	□	□	□	□	□
14.	Am preoccupied with the thought of having fat on my body.	□	□	□	□	□	□
15.	Take longer than others to eat my meals.	□	□	□	□	□	□
16.	Avoid foods with sugar in them.	□	□	□	□	□	□
17.	Eat diet foods.	□	□	□	□	□	□
18.	Feel that food controls my life.	□	□	□	□	□	□
19.	Display self-control around food.	□	□	□	□	□	□
20.	Feel that others pressure me to eat.	□	□	□	□	□	□
21.	Give too much time and thought to food.	□	□	□	□	□	□
22.	Feel uncomfortable after eating sweets.	□	□	□	□	□	□
23.	Engage in dieting behavior.	□	□	□	□	□	□
24.	Like my stomach to be empty.	□	□	□	□	□	□
25.	Have the impulse to vomit after meals.	□	□	□	□	□	□
26.	Enjoy trying new rich foods.	□	□	□	□	□	□