Are Disgust Sensitivity, Self-Disgust and Negative Affect Related to Disordered Eating?

by

Batoul Berri

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science
(Psychology)
in the University of Michigan-Dearborn
2016

Master's Thesis Committee:

Professor Susana Peciña, Co-Chair

Professor Jane Sheldon, Co-Chair

Table of Contents

List of Tables

List of Appendices

Abstract

Disordered eating behaviors are non-pathological forms of abnormal eating that may develop into physical and mental health disorders. More specifically, disordered eating has been shown to precede eating pathology. Disordered eating is frequently associated with negative affect, such as fear and anxiety. One form of negative affect that has received special attention is disgust, a multifaceted emotion that seems to maintain and intensify disorder eating. While the majority of studies that have examined the interaction between disgust and abnormal eating patterns have focused on clinical samples (i.e., individuals with eating disorders), the interaction between disgust and disordered eating is less understood. We assessed the unique contributions of disgust sensitivity, self-disgust, and negative affect on disordered eating. One hundred and sixteen undergraduate women and men completed self-report measures of negative affect, disgust sensitivity, self-disgust, and disordered eating. Results demonstrated that disgust sensitivity's animal-reminder subscale was a significant predictor of external and emotional eating. No significant associations were found between disordered eating and both core and contamination disgust. In addition, physical and behavioral self-disgust predicted restrained eating. Our results suggest that self-disgust and disgust sensitivity are associated with disordered eating.

Chapter I

Introduction

Disordered eating behaviors may potentially lead to adverse effects on health and quality of life (Zysberg & Rubanov, 2010). Specifically, disordered eating behaviors are non-pathological forms of abnormal eating that could develop into physical and mental health conditions including, but not limited to, eating disorders (Forman-Hoffman, 2004). Currently, disordered eating encompasses a wide range of maladaptive eating behaviors such as: chronic dieting, unhealthy weight control methods, food restriction, bingeing, and purging (Torstveit, Rosenvinge, & Sundgot-Borgen, 2008). Although both disordered eating and eating disorders involve an abnormal relationship with food, disordered eating behaviors are subclinical, or atypical, symptoms that do not manifest the full range of eating disorder diagnoses. One concern for those that engage in disordered eating, with the intent to control body weight or shape, is that it can lead to an eating disorder diagnosis. Understanding factors that contribute to disordered eating is important because preclinical patterns are increasing significantly, especially among females and males in mid to late adolescence (Bonci et al., 2008; Herpertz-Dahlmann, Buhren, & Remschmidt, 2013). Approximately 25.9% of females (Mond, Hay, Rodgers, Owen, & Beumont, 2004) and 20% of males (Domine, Berchtold, Akre, Michaud, & Suris, 2008) have engaged in at least one form of maladaptive eating behavior. In addition, the high prevalence of disordered eating during adolescence has been associated with weight concerns, depressive symptoms, and body dissatisfaction (Neumark-Sztainer, Wall, Larson, Eisenberg, & Loth, 2011). Furthermore, if

disordered eating is not addressed, it could remain constant or increase in prevalence over the span of 10 years (Neumark-Sztainer et al., 2011).

Currently, there are three types of disordered eating behaviors that serve as risk and maintenance factors for eating disorder symptomatology: restrained eating, emotional eating, and external eating (van Strien, Frijters, Bergers, & Defares, 1986). Restrained eating is characterized by overconsumption of food following a period of food restraint. Thus, individuals who habitually suppress feelings of hunger through dietary means eventually break their restrictive diets, and eat past the point of satiation (Heatherton, Polivy, & Herman, 1989). Among restrained eaters, dietary restraint may refer to eating a lesser quantity of food or less dense food in the endeavor to lose weight. Emotional eating can be defined as eating in response to emotional states, such as anxiety or stress. Emotional eaters have been found to overeat in response to emotional arousal, rather than in response to hunger cues. For example, individuals may engage in overeating in times of stress (Oliver, Wardle, & Gibson, 2000), as a means to seek comfort and, as a result, become accustomed to eating in response to any emotional state. Lastly, external eating is characterized by food consumption in response to food-related cues (sight, smell, taste) in the immediate environment. External eaters increase their food consumption as a result of external cues, rather than in response to an internal physiological cue (e.g. hunger). For example, when walking past a snack bar or café, external eaters have a strong desire to buy something delicious. Ultimately, disordered eating is marked by non-pathological, abnormal eating patterns that could involve episodes of excessive food-intake or significantly insufficient food-intake.

As previously mentioned, the emergence of disordered eating in late adolescence may have long-lasting consequences. In fact, a longitudinal study has found that college women

initially classified as 'intensive dieters' and 'dieters at-risk' became bulimic at a six-month follow-up (Drewnowski, Yee, Kurth, & Krahn, 1994). It is important to note that disordered eating can become problematic, regardless of whether or not it develops into a full-blown eating disorder diagnosis. For example, subclinical disordered eating is frequently comorbid with anxiety, depression, and substance abuse (Killen, Taylor, Telch, Robinson, Maron, & Saylor, 1987; Santos, Richards, & Bleckley, 2007). In addition, disordered eating is significantly associated with thin-ideal internalization and body dissatisfaction (Evans, Tovee, Boothryd, & Drewett, 2013).

Many college students who engage in disordered eating do not believe their symptoms are severe enough to warrant treatment (Becker, Franko, Nussbaum, & Herzog, 2004). Thus, early detection and prevention of disordered eating is crucial for the overall well-being of individuals. When disordered eating is diagnosed early, it can significantly reduce negative health outcomes (Steinhausen, 2009). On average, early intervention and longer duration of follow-up have improved overall health in 33% of individuals exhibiting disordered eating (Steinhausen, 2009). It is paramount to identify factors that predict disordered eating, in order to limit the risk of developing eating disorders. Although early determinates of disordered eating remain uncertain, several studies have shown negative emotions, such as fear and anger, to be positively associated with disordered eating (Fox & Froom, 2009; Fulton, Lavender, Tull, Klein, Muehlenkamp, & Gratz, 2012; Stice & Agras, 1998).

Negative Affect: Its Relation to Disordered Eating

Negative affect, unpleasant feelings or negative emotions, encompass a broad range of emotional states, such as anxiety, anger, sadness, guilt, shame, and disgust (Watson & Clark, 1994). Research suggests that high levels of negative affect are associated with the onset and

maintenance of disordered eating (Stice & Agras, 1998). Furthermore, symptoms of eating disorders (e.g., purging, bingeing) are often maintained by dysfunctional attempts to cope with elevated negative emotions. Individuals who struggle with excess weight gain or subthreshold eating disorders may engage in maladaptive eating (Ricca, Castellini, et al., 2009; Masheb & Grilo, 2006) in the effort to provide comfort and distractions from negative affect. For example, in the effort to alleviate stress, women diagnosed with bulimia engaged in bingeing episodes (Smyth, Wonderlich et al., 2007; Yager, Rorty, & Rossotto, 1995), whereas women diagnosed with anorexia engaged in dietary restraint (Troop, Holbrey, & Treasure, 1998). Furthermore, individuals who struggle to implement adaptive affect regulation strategies constantly ruminate over the unpleasantness of the emotion (Selby, Anestis, & Joiner, 2008). A study conducted on college students (both females and males), found that individuals with difficulty regulating emotions engaged in elevated levels of binge-eating behaviors (Whiteside, Chen, Neighbors, Hunter, Lo, & Larimer, 2007). Consequently, several theories, such as the affect regulation model, restraint theory, and sociocultural theory, have aimed to explain how negative affect might be related to disordered eating and emotion regulation.

Affect regulation model. According to the affect regulation model (Heatherton & Baumeister, 1991; Hawkins & Clement, 1984), individuals engage in over-eating behavior as a means to provide short-term relief from negative emotions. Individuals with affect regulation difficulties often eat in order to down-regulate their negative emotions. For example, individuals who engaged in bingeing and purging episodes reported decreased anxiety levels following a maladaptive eating episode (Hetherington, Altemus, Nelson, Bernat, & Gold, 1994). Thus, relief from negative affect could be achieved, at least in the short term, by binge eating and purging (Kaye, Gwirtsman, George, Weiss, & Jimerson, 1986). It seems that disordered eating,

associated with an immediate decrease in negative affect, becomes a conditioned response that is maintained through negative reinforcement. For example, a study found 66% of individuals temporarily decreased their negative affect (e.g., anxiety) after each binge episode (Abraham & Beumont, 1982). This suggests that individuals engage in disordered eating in the effort to alleviate unpleasant emotions, particularly in individuals with affect dysregulation.

Restraint theory. A theory that addresses the impact of mood on eating is restraint theory (Herman & Polivy, 1980). Restraint theory suggests that negative affect may obstruct cognitive control over eating, thereby disinhibiting food restraint. For example, female restrained eaters consume more food following cognitive distractions and elevated anxiety levels compared to unrestrained eaters (Lattimore & Maxwell, 2004). Experimental studies that have exposed female restrained-eaters to a sad film found that they consumed significantly more chocolate than non-restrained eaters (Chua, Touyz, & Hill, 2004). Similarly, female restrained eaters increased food intake compared to non-restrained eaters in response to fear (Cools, Schotte, & McNally, 1992) and self-criticism (Heatherton, Polivy, Herman, & Baumeister, 1993). In contrast, non-restrained eaters consumed less food than restrained ears following failure at a seemingly easy task. This suggests that unpleasant emotions tend to disinhibit food restraint, particularly in individuals who attempt to control their eating (e.g., restrained eaters).

Sociocultural model. According to the sociocultural model, internalization of thin-body ideals and body dissatisfaction places individuals at risk for elevated negative affect (Stice & Agras, 1998) and disordered eating behavior (Rodgers & Chabrol, 2009). For instance, women who internalize and accept body image ideals tend to practice dietary restraint (Griffiths, Mallia-Blanco, et al., 2000). Accordingly, perceived socio-cultural pressure regarding body-shape may lead to extreme maladaptive forms of weight loss (Smolak, Levine, & Thompson, 2001; McCabe

& Ricciardelli, 2005). The sociocultural model argues that societal standards for physical appearance are so unrealistic that the vast majority of individuals do not meet these standards. Individuals may experience dissatisfaction with their appearance and, as a result, engage in disordered eating behaviors designed to address their weight and shape concerns. Although men tend to show less body dissatisfaction than women, it is important to note that men may be just as likely to desire to be thinner and leaner as they are to desire to be larger and more muscular (McCabe & Ricciardelli, 2004). Research has found disordered eating in men to occur in the absence of significant weight problems, particularly in restrained eaters (Keel, Klump, Leon, & Fulkerson, 1998). Thus, both men and women appear to express body dissatisfaction and engage in disordered eating.

Negative Affect: Disgust and Its Three Subscales

One form of negative affect that has received attention in recent times is disgust. Disgust is a basic emotion that operates as an instinctive response to stop us from smelling, ingesting, or touching a potentially harmful substance (Rozin & Fallon, 1987). In addition, it can take form as repulsion toward eating something revolting (Ekman & Friesen, 1975). Most commonly, individuals experiencing disgust will have a strong tendency to keep a physical and psychological distance from the object (Fox & Froom, 2009). For example, moral vegetarians have been found to associate meat consumption with animal cruelty; thereby, fostering the notion that meat is inherently disgusting (Fessler, Arguello, Mekdara, & Macias, 2003).

In addition, some scholars (Rozin, Haidt, & McCauley, 2008) believe that disgust can be further defined through its three main subscales: core, contamination, and animal-reminder. The core domain constitutes a defense against consumption of harmful or distasting substances, including disgust toward rotting foods. Contamination disgust is based on the perceived threat of

possible toxicity of a stimulus, such as food that seems tainted. This form of disgust requires an exposure to the stimuli that have been contaminated by another source (e.g., touching a book that had been previously used by someone who had the flu). Lastly, the animal-reminder domain is a defense against the fear of death and body envelope violations (e.g., gaping wounds or amputated limbs in which the body is breached or altered). For example, animal-reminder disgust is a defense against touching or encountering dead animals or human bodies.

Studies have provided support for a relationship between disordered eating and specific subscales of disgust. Drawing from a sample of college students, studies have found a positive correlation between disgust sensitivity and eating disorder symptoms in women (Davey, Buckland, Tantow, & Dallos, 1998). Although the authors did not assess causal relations between disgust sensitivity and eating pathology, their findings presented some of the first empirical evidence in the role disgust could play in eating disorders. The authors also found higher disgust sensitivity in women with eating disorder diagnoses compared to controls, particularly in the domains of foodstuff of animal origin and human body products (Davey et al., 1998). However, another study, using a different measure of disgust sensitivity, failed to find any significant difference between individual with eating disorder and controls on their disgust sensitivity scores (Troop, Murphy, Bramon, & Treasure, 2000). Nonetheless, Troop, Murphy, et al. (2000) found that the bulimia subscale was significantly correlated with disgust sensitivity for animals, death, and body envelope violations (Troop et al., 2000); thus, concluding that disgust plays a role in eating disorders. It is also worth noting that a few studies did not find significant correlations between disgust sensitivity and maladaptive eating (Muris et al., 2000). Nonetheless, several studies have found results consistent with those of Davey, Buckland, et al. (1998) that suggest there is a significant relation between disgust sensitivity and levels of eating pathology.

Negative Affect: Disgust and its Relation to Disordered Eating

As previously mentioned, research has shown that disgust, a multifaceted emotion associated with distaste, seems to maintain or intensify disordered eating (Griffiths & Troop, 2006). For instance, women who are in remission (subclinical) for eating disorders, reported higher levels of disgust towards food of animal origin (e.g., eating raw fish) and to the human body (Troop, Treasure, & Serpell, 2002). Disgust sensitivity toward high-caloric food and overweight body shapes seems to be elevated in women with strict dietary practices (Griffiths & Troop, 2006; Harvey, Troop, Treasure, & Murphy, 2002). It seems that many individuals who engage in strict dietary practices qualitatively label overeating behaviors as repulsive. In addition, studies have found that women who exhibited high core and contamination disgust also demonstrated severe food restraint (Houben & Havermans, 2012; Kim, 2013). Women with elevated core disgust scores had a reduced desire to eat high-caloric food, which served as a strategy to restrict food intake (Houben & Havermans, 2012). Positive relationships between disgust and disordered eating were also found in men, whereby restrained eating behavior was correlated with overall disgust sensitivity (Mayer, Muris, Bos, & Suijkerbuijk, 2008).

In addition to core disgust, studies have found a significant association between contamination disgust and bulimic behavior (Kim, 2013). The bulimia and food preoccupation measures have been found to be significantly associated with high contamination disgust in women (Kim, 2013). Thus, disgust may be a strategy to uphold various forms of disordered eating. While these studies have been very important in understanding the relation between disgust and disordered eating, there are many questions that remain unknown with relation to disgust and disordered eating. In fact, one particular form of disgust that has not been addressed in relation to disordered eating is self-disgust.

Negative Affect: Self-Disgust and Its Relation to Disordered Eating

In contrast with general disgust, where individuals are repulsed by smell, taste, and touch of external stimuli, self-disgust is characterized by the experience of repulsion toward the self. It is a maladaptive and persistent, self-focused form of disgust; in which, the object of the repulsion is the self. Some studies have posited that self-disgust may also motivate the use of maladaptive eating behaviors, such as purging (Burney & Irwin, 2000). According to recent findings, perceiving certain attributes of the self as repulsive can contribute to body dissatisfaction, self-harm, and problematic eating behaviors (Powell, Overton, & Simpson, 2014). Previous studies have found women who believe their bodies violate cultural fitness ideals exhibited a heightened sense of shame, which seems to set the context for disordered eating behaviors (Noll & Fredrickson, 1998). For example, body shame has been positively correlated with dietary restraint in women (Noll & Fredrickson, 1998). It has been argued that self -disgust is related to internal shame (Gilbert, 2000; Troop & Redshaw, 2012), an emotion elicited when the self is considered at fault (Simpson, Hillman, Crawford, & Overton, 2010).

Shame, a facet related to self-disgust, occurs in the context of self-reflection and involves an internalized set of moral standards (Goss & Allan, 2009). A number of studies have found positive relationships between general shame and maladaptive eating (Murray, Waller & Legg, 2000; Troop, Allan, Serpell, & Treasure, 2008). In women with a history of eating disorders an internalized feeling of shame was predictive of bulimic symptoms (Troop et al., 2008). Shame and self-disgust are both self-conscious emotions that could potentially result in eating disorder symptoms as a means for down-regulating elevated negative affect (Hayes et al., 2004; Gupta et al., 2008). For example, women with eating disorder diagnoses reported elevated self-disgust compared to healthy controls (Ille, Schoggl, Kapfhammer, Aendasy, & Sommer, 2014). Indeed,

it seems individuals that show evidence of self-disgust may feel a heightened sense of disgust toward their physical appearance (Powell, Overton, & Simpson, 2014).

Surprisingly, self-disgust has hardly been investigated thus far in relation to gender, although it has been suggested that individuals may experience disgust toward their bodies and behaviors (Powell, Overton, & Simpson, 2014). The unrealistic body shape ideal that many strive for creates a discrepancy between the perception of the actual self and the ideal self. As a response to negative emotions elicited by body-dissatisfaction, the individual may in turn engage in unhealthy eating patterns (Fitzsimmons-Craft, Bardone-Cone, & Kelly, 2011). To date, there still exists little research into the role of self-disgust in disordered eating, especially on men. However, a recently developed self-disgust measure posits two subscales: physical (perceiving one's physical appearance as flawed) and behavioral (perceiving one's behavior as inadequate and wrong) that could shed light on the specific nature of the relationship between self-disgust and eating.

Gender Differences in Relation to Affect Regulation

The majority of studies that assess emotion regulation strategies in relation to disordered eating are comprised of predominantly female samples, making it difficult to compare with male samples. Studies have only just begun to examine the influence of affect regulation in men with disordered eating. The few studies that did focus on male subjects found there are significant associations between depressive symptoms, emotion regulation strategies, and body dissatisfaction (Bergeron & Tylka, 2007; Lavender & Anderson, 2010). Some studies have found men and women to differ only slightly in their propensity to overeat in response to negative emotions (Masheb & Grilo, 2006). Other studies suggest that women are more likely to exhibit emotional eating in response to negative emotions (Tanofsky, Wilfley, Spurrell, Welch, &

Brownell, 1997). Ultimately, both women and men seem to internalize sociocultural ideals of physical attractiveness (Greenberg & Schoen, 2008). While studies have found that women engaged in bingeing and purging episodes to escape from stressors, such as shame, guilt, and sadness (Jeppson, Richards, Hardman, & Granely, 2003; Serpell, Treasure, Teasdale, & Sullivan, 1999), less is known about disordered eating and negative affect in men. Thus, it is important to assess how negative affect might play in the development of disordered eating in men and women.

Purpose of Study

Although interest in the role of disgust in relation to disordered eating has grown significantly, the majority of studies have focused on clinical samples with diagnosed eating disorders (Espeset et al., 2012; McNamar, Hay, Katsikitis, & Chur-Hansen, 2008). Hence, the results of these studies cannot be generalized to a non-clinical population. Patients diagnosed with eating disorders (e.g., anorexia, bulimia) seem to present a stronger feeling of disgust in relation to food consumption and the self (Espeset et al., 2012). Other findings have reported that eating helps the self to dissociate from negative affect. For instance, women with binge eating disorders seem to demonstrate an increase in food consumption following a negative mood induction process (Chua, Toyz, & Hill, 2004); whereas, individuals with anorexia exhibit severe dietary restraint (Brooks et al., 2011).

In addition, stress, depression, and anxiety seem to be equally salient emotions in relation to eating disorders. For example, individuals experiencing stress tend to report feeling hungry more frequently (Groesz et al., 2012). Subclinical levels of disordered eating are also commonly comorbid with depressive symptoms. However, there is much disagreement about causal relationship between depressive and disordered eating. Graber and Brooks-Gunn's (2001)

longitudinal study showed that depressive symptoms may decline over time, whereas disordered eating remains constant. Some studies have found body dissatisfaction and maladaptive eating to subsequently increase depressive symptomology (Stice & Bearman, 2001). Moreover, symptoms of anxiety seem to manifest in eating disorders (Anestis, Holm-Denoma, Gordon, Schmidt, & Joiner, 2008) and disgust experiences (Olatunji & Sawchuk, 2005). Hence, disordered eating can manifest to reduce the immediate state of anxiety and disgust (Espeset, 2012; Waller 2008).

Nonetheless, more research on disordered eating and disgust in non-clinical populations is needed. By studying a non-clinical sample of college students, we will be able to assess predictor variables in individuals who may be at risk for developing eating disorders. Although previous studies have found that dietary restraint is associated with core and contamination disgust (Houben & Havermans, 2012), less is known about the role of disgust in relation to emotional and external eating. It is, therefore, important to investigate if various domains of disgust can present differently in relation to emotional and external eating. In line with previous findings, it was expected that restrained eating would be associated with increased core and contamination disgust. In addition, (1) we hypothesized that emotional and external eating will relate to decreased core and contamination disgust. Further, it was expected that self-disgust might be particularly relevant to different forms of disordered eating behaviors. Thus, we hypothesized that (2) individuals with high self-disgust will demonstrate higher restrained, external, and emotional eating. This position is consistent with the results of studies linking maladaptive beliefs to attaining a slender appearance (Cash, 2005; Lamarche & Gammage, 2012). In addition, the current study evaluated the role of self-disgust in relation to psychological concerns about eating, shape, and weight. We hypothesized that (3) high self-disgust scores would relate to higher restraint, eating concern, shape concern, and weight concern. Due to the

fact that so few studies have looked at male samples, we did not have a prediction concerning gender differences. However, it was important to examine gender in the effort to try to understand possible differences in relation to disordered eating.

Chapter II

Methodology

Participants and Procedure

The sample included 116 undergraduate students (see Table 1), 51 females and 65 males, whose ages ranged from 18 to 32 years (M = 19.51, SD = 2.16). Participants were recruited from the introductory psychology subject pool at the University of Michigan-Dearborn. The recruitment process followed the standard departmental procedures approved by the university's Institutional Review Board (IRB). Participants gave their informed consent after being fully informed about the voluntary nature of their cooperation and the confidentially of the data collection.

All data collection sessions were run in the same location, with the same female, graduate student research assistant in attendance. The number of participants per session ranged from 1 to 10, and the questionnaire took an average of 45 minutes to complete. After participants completed the survey they were given research credit for their participation. To facilitate privacy, participants were seated at a desk, but not directly next to another person.

Participants were given two measures pertaining to disgust (DS-R, SDS) and two measures pertaining to eating (DEBS, EDEQ) followed by the emotional distress measure (DASS). The order of the two sets of surveys was counterbalanced to avoid order effects. A randomly chosen half the participants were given the disgust sensitivity measures first and the other half were given the disordered eating measures first. The two measures within each set of

surveys were given in random sequence. All participants were given the demographic measure last. Participants were fully debriefed after each session.

Measures

Demographic questionnaire. Participants were asked to self-report 12 demographic characteristics: gender, age, race/ethnicity, year in college, height, weight, religion, income level, residence, college major, political affiliation, and relationship status. Age, height, weight, and university major were the only items implemented with open-ended fields, while all other items were implemented with set response choices. Weight (lbs.) and height (feet, inches) were used to calculate participants' self-reported body mass index (BMI). For the remaining characteristics, participants were asked to circle one response from a list of set response choices. Participants chose from a list of five choices to answer questions regarding their relationship status (Single, Married, In a Relationship, Divorced, Other) and current residence (Home with Parents, With Roommate, College Dorm, Own Home, Other). With respect to race/ethnicity, participants chose from a list of nine response choices (African American, Arab American, Asian American, Caucasian/White, Hispanic/Latino, Multiethnic/Multiracial, Native American, Pacific Islander, Other). Eight response choices were provided for political affiliation (Constitution Party, Democrat, Green Party, Independent, Libertarian, Republican, No Affiliation, Other) and religion (Buddhism, Christianity, Hinduism, Islam, Judaism, Spiritualism, Atheism/Agnosticism, Other). Annual household income consisted of six set response choices ($81,000 or more, $61,000-$80,999, $41,000-$60,999, $21,000-$40,999, $20,999 or less, Decline to Answer).

Disgust sensitivity. We assessed participants' level of disgust sensitivity using the 27-item Disgust Scale-Revised (DS-R; Haidt, McCauley & Rozin, 1994, modified by Olatunji et al. 2007). Participants responded using a 5-point Likert scale ranging from 0 (*Strongly Disagree*) to

4 (*Strongly Agree*). The DS-R assesses disgust sensitivity across three domains: Core (12 items pertaining to foods or body products), Animal-Reminder (8 items pertaining to death or body envelope violations), and Contamination (5 items pertaining to perceived threat of contagion). One item was reverse-coded for Animal-Reminder Disgust and two items were reverse-coded for Core Disgust. Two filler items are used to identify poor responders and are therefore not included in the scoring of the items. A mean score was computed for each subscale, with higher scores indicating higher disgust sensitivity in that domain.

Self-disgust. Participants' self-oriented disgust was measured using the 22-item Self-Disgust Scale-Revised (SD-R; Powell, Overton, & Simpson, 2014). The SD-R assesses self-disgust across three domains: Physical (5 items pertaining to the lack of physical attractiveness; e.g., "I avoid looking at my reflection"), Behavioral (5 items pertaining to one's behaviors that are viewed as disgusting; e.g., "My behavior repels people"), and General (5 items pertaining to general self-negativity; e.g., "I find myself repulsive"). Participants responded using a 7-point Likert scale ranging from 1 (*Strongly Disagree)* to 7 *(Strongly Agree),* with seven additional filler items. Four items were reverse-coded in the measure: two for Behavioral Self-Disgust, one for Physical Self-Disgust, and one for General Self-Disgust. Mean scores were computed for each subscale. Higher scores indicate higher self-oriented disgust in that domain.

Disordered eating. We assessed participants' disordered eating behaviors using the 33-item Dutch Eating Behavior Questionnaire (DEBQ; Van Strien, Frijters, Bergers, & Defares, 1986). Participants responded on how often they engage in the eating-related behavior using a 5-point scale, ranging from 1 (*Never)* to 5 *(Very Often)*. The measure assesses behaviors across three subscales: Restrained Eating (10 items), Emotional Eating (13 items), and External Eating (10 items). The Restrained Eating subscale measures the restriction of food consumption (e.g.,

"If you have put on weight, do you eat less than usual"). Emotional Eating measures overconsumption of food in response to emotional cues (e.g., "Do you have a desire to eat when you are upset"). External Eating measures eating behavior in response to external stimuli (e.g., "If you see others eating do you have a desire to eat"). One item was reverse coded for the External Eating subscale. The mean score for each subscale was computed, with higher scores indicating higher disordered eating behaviors.

Eating disorder symptomatology. Participants' eating disorder symptoms, over the past four weeks (28 days), were assessed using the 28-item Eating Disorder Examination Questionnaire (EDEQ; Fairburn & Beglin, 1994). The measure assesses symptoms across four subscales: Restraint (5 items; e.g., "Have you been deliberately trying to limit the amount of food you eat"), Eating concern (5 items; e.g., "Have you had a definite fear of losing control over eating"), Shape concern (8 items; e.g., "How dissatisfied have you been with your shape"), and Weight concern (5 items; e.g., "How dissatisfied have you been with your weight"). Most of the items are rated on a 7-point Likert scale ranging from 0 (*No Days/Not At All)* to 6 (*Everyday/Markedly)*. Six items are open-ended requiring participants to indicate how many times per week they engage in the behavior; however, these items were not used in the analyses. To score the subscales, no items were reverse-coded. A mean score was derived for each subscale, with higher scores indicating a higher degree of eating behavior concerns.

Negative emotional states. We assessed participants' severity of negative emotional states (depression, anxiety, stress) using the 21-item Depression Anxiety and Stress Scale *(*DASS-21; Lovibond &Lovibond, 1995), with 7 items measuring each subscale. The measure assesses the experience of emotional states over the past week. Participants responded on a 4-point scale ranging from 0 (*Did Not Apply to Me at All)* to 3 (*Applied to Me Very Much, or Most*

of the Time). The Depression subscale measures symptoms associated with hopelessness (e.g., "I felt that life was meaningless"). The Anxiety subscale included items related to autonomic arousal and fear (e.g., "I was aware of the action of my heart in the absence of physical exertion"). The Stress subscale measures symptoms associated with irritability and tension (e.g., "I felt I was rather touchy"). To score the subscales, no items were reverse-coded. A mean score was computed for each subscale, with higher scores indicating a higher negative emotional state.

Chapter III

Results

Sample Demographics

Table 1 displays percentages for the variables of gender, age, ethnicity, religious affiliation, political affiliation, and annual household income. With regards to body mass index (BMI), a score was computed using participants' self-reported height (M = 67.6, SD = 4.3) and weight (M = 161.5, SD = 40.3). Participants had an average BMI of 24.7 (SD = 5.1).

Internal Reliabilities of Subscales

Using SPSS-22, we computed Cronbach's alpha coefficients to assess the internal consistency of each subscale (see Table 2, column 1). Subscales had adequate to strong internal reliability.

Intercorrelations Between Variables

Table 3 displays the correlation matrix for all the variables. Restrained, emotional, and external eating behaviors were not correlated with core and contamination disgust; however, external eating and emotional eating significantly positively correlated with animal-reminder disgust. Restrained eating was not significantly correlated with any disgust sensitivity (DS-R) subscales; however, it was positively correlated with physical, behavioral, and general self-disgust. All three self-disgust (SD-R) subscales had significant positive correlations with the EDEQ's subscales of restraint, eating concern, shape concern, and weight concern. Physical self-disgust was positively correlated with DEBQ's restrained eating subscale. In addition, behavioral

self-disgust was positively correlated with restrained eating, as well as anxiety and depression.

Gender Comparisons

To explore the possible gender differences in abnormal eating behaviors, disgust, self-disgust and negative affects, independent-samples t-tests were conducted (see Table 4). Results revealed that women scored significantly higher than men on the EDEQ's shape concern and weight concern subscales. Women also scored higher on emotional and restrained eating. In addition, mean scores for female participants on DS-R's core and animal-reminder subscales were significantly higher compared to males. An examination of DASS's subscales found females had significantly higher Stress scores. There also was a significant difference between male and female participants in self-disgust, with males having significantly higher behavioral self-disgust scores.

Linear Regression Analyses

A series of multiple linear regression analyses were conducted to examine the unique contributions of the predictor variables on eating disorder symptomology and disordered eating behaviors. For all analyses, the predictor variables were age, gender, BMI, Core Disgust, Animal-Reminder Disgust, Contamination Disgust, Physical Self-Disgust, General Self-Disgust, Stress, Anxiety, and Depression.

Predictors of eating disorder symptoms. Four multiple linear regression analyses were conducted to the significant predictors of eating disorder symptoms. Each EDEQ subscale was used as a separate dependent variable.

The regression analysis predicting the shape concern component of the EDEQ was significant and explained 55.2% of the variance, $F(12, 103) = 10.56$, $p = .001$. Table 5 demonstrates that the greater participants' stress [$t(116) = 2.62$, $p = .010$] and BMI [$t(116) = 2.85$,

$p = .005$], the higher their shape concern score. In addition, the higher participants' physical self-disgust score, the greater their shape concern, $t(116) = 3.19$, $p = .002$.

The regression model predicting Weight Concern was also significant, $F(12, 103) = 12.08$, $p = .001$, explaining 58.5% of the variance. As Table 6 shows, the greater participants' physical self-disgust, the higher their concern about their weight, $t(116) = 3.34$, $p = .001$. In addition, stress [$t(116) = 3.08$, $p = .003$] and BMI [$t(116) = 3.5$, $p = .001$] were positive predictors of Weight Concern. Gender [$t(116) = -2.7$, $p = .008$)] also significantly predicted concerns about weight, with women displaying significantly higher scores than men.

In terms of predicting the restraint eating component of the EDEQ, the overall regression model was significant and explained 18.9% of the variance, $F(12, 103) = 2.00$, $p = .031$. Table 7 demonstrates that the DASS's anxiety subscale approached significance, $t(116) = 1.96$, $p = .053$. The higher participants' anxiety scores, the slightly stronger their restraint.

For the regression analysis predicting Eating Concern, the model was significant and explained 59.1% of the variance, $F(12, 103) = 4.60$, $p = .001$. As can be seen in Table 8, the greater participants' anxiety, the higher their concern about their eating behaviors, $t(116) = 3.09$, $p = .001$.

Predictors of disordered eating behaviors. Three multiple linear regression analyses were conducted to measure the effects of the predictor variables on the three forms of disordered eating measured by the DEBQ: External Eating, Emotional Eating, and Restrained Eating.

The overall regression model predicting the External Eating was significant and explained 20.5% of the variance, $F(12, 103) = 2.207$, $p = .016$. As Table 9 demonstrates, stress was a significant predictor of participants eating due to external cues, $t(116) = 2.60$, $p = .009$. In addition, the greater participants' animal-reminder disgust score, the higher their external eating

score, $t(116) = 2.53$, $p = .013$.

For the regression analysis predicting eating for emotional reasons, the model explained 17.4% of the variance and approached significance, $F(12,103) = 1.80$, $p = .057$. As shown in Table 10, animal-reminder disgust was a positive predictor of Emotional Eating, $t(116) = 2.14$, $p = .034$.

In terms of Restrained Eating, the regression model was significant and explained 21.2% of the variance, $F(12, 103) = 2.30$, $p = .01$. However, as Table 11 demonstrates there were no significant predictors.

Chapter IV

Discussion

The current study sought to examine the unique contributions of disgust sensitivity, self-disgust, and negative affect on disordered eating behaviors.

Animal-Reminder Disgust as a Predictor of Some Forms of Disordered Eating

Our study found a significant association between one of the three disgust-sensitivity subscales and disordered eating. Specifically, animal-reminder disgust was predictive of disordered eating; however, core and contamination disgust were not significant predictors. Therefore, our hypothesis that disgust sensitivity would predict disordered eating was partially supported. Our findings revealed that animal-reminder disgust positively predicted two types of disordered eating (i.e., external eating and emotional eating). These findings are consistent with Mayer, Muris, Bos, and Suijerbuijk's (2008) study of female participants, which showed a positive relation between external eating and animal-reminder (e.g., death) disgust. However, Mayer, Muris et al. (2008) also found that core disgust (e.g., body products) predicted external eating (i.e., eating in response to food-related stimuli), which is not consistent with our findings. In addition, Griffiths and Troop (2006) found disordered eating (i.e., external eating) to be significantly correlated with core disgust. However, upon looking more closely at the three stimuli used to elicit disgust in their study (severed hand, soiled seat, and injured/disfigured face), it seems that disordered eaters may be more emotionally responsive to animal-reminder stimuli. For example, the envelope violations used in the study can be viewed as a subcategory of

animal-reminder disgust, rather than core disgust, because they incorporated mutilation, dead bodies, and organic decay stimuli. Thus, in Griffiths and Troop's (2006) study, it seems that disordered eating (i.e., external eating) may have been associated with animal-reminder disgust more so than core disgust (which tends to be related to soiled foods, mucus, and feces). Therefore, Griffiths and Troop's results may actually be consistent with our findings that animal-reminder disgust, but not core disgust, is associated with disordered eating.

Furthermore, while our findings revealed that core and contamination disgust were not predictive of disordered eating behaviors, these results may be due to the differences in the methodology used to assess disgust in the literature. For example, studies generally differ between the use of Disgust Sensitivity Questionnaire (DSQ; Rozin, Fallon, & Mandell, 1984), the Disgust Scale (DS; Haidt, McCauley, & Rozin, 1994), the Disgust Scale Revised (DS-R; Haidt, McCauley & Rozin, 1994, modified by Olatunji et al. 2007), the Questionnaire for the Assessment of Disgust Sensitivity (QADS; Schienle et al., 2002), and the Disgust Questionnaire (DQ; Barker & Davey, 1994). Significant associations between disgust and eating pathology have been more often found in studies that use the Disgust Questionnaire (e.g., Davey, Buckland, Tantow, & Dallos, 1998; Griffiths & Troop, 2006; Harvey, Troop, Treasure, & Murphy, 2002) and Disgust Sensitivity Questionnaire (e.g., Aharoni & Hertz, 2012; Troop, Murphy, Bramon, & Treasure, 2000; Troop, Treasure, & Serpell, 2002) than those that use the Disgust Scale (e.g., Houben & Havermans, 2012; Kim, 2013). This may be because items on both the DQ (e.g., "*eating cooked kidney*", "*eating raw fish*") and DSQ (e.g., "*How disgusting would you find soup that has been stirred with a washed fly swatter*") specifically measure disgust in the domain of food, whereas Disgust Scale (DS) assesses individual differences in disgust sensitivity across numerous domains (e.g., "*I never let any part of my body touch the toilet seat in public*

restrooms").

Although there is ample evidence for increased levels of disgust sensitivity in eating pathology (Aharoni & Hertz, 2012; Davey, Buckland, Tantow, & Dallos, 1998; Harvey, Troop, Treasure, & Murphy, 2002; Hay & Katsikitis, 2014; Troop, Treasure, & Serpell, 2002), most studies have not controlled for other types of negative affect (e.g., fear, stress, anxiety). However, several studies have found that depression (Santos, Richards, & Bleckley, 2007; Ward & Hay, 2014), stress (King, Vidourek, & Schwiebert, 2009; Ward & Hay, 2014), and anxiety (Anestis, Holm-Denoma, Gordon, Schmidt, & Joiner, 2008; Davis & Fischer, 2013; Vardar, Vardar, & Kurt, 2006) are related to disordered eating. In addition, these forms of negative affect are related to disgust sensitivity (Olatunji, Cisler, McKay, & Phillips, 2009; Surguladze, El-Hage et al., 2010). Therefore, it is uncertain whether positive associations between disordered eating and disgust sensitivity may be due to the fact that both variables are related to negative affect. Our study addressed this possibility by controlling for different forms of negative affect (stress, depression, anxiety) in our regression analyses. Perhaps controlling for negative affect that has been positively associated with disordered eating and disgust-sensitivity could explain why we only found a significant association between disordered eating and animal-reminder disgust. Our results suggest that while the relationship between disgust and some forms of disordered eating exists, it may be linked to other relevant negative affect. Future research is needed to further examine the strength of the relationship between disgust and disordered eating when controlling for confounding factors.

Our study did not find that any of the disgust sensitivity subscales predicted restrained eating. In line with our findings, Muris et al. (2000) found no relationship between dietary restraint and disgust. This is in contrast, though, to studies that found restrained eaters show

elevated levels of disgust (Houben & Havermans, 2012). However, it may be that disgust sensitivity fails to predict restrained eating when additional negative affect is controlled for. For example, when previous studies have taken into account trait anxiety and anxiety sensitivity, the correlations between disgust sensitivity and eating disorder symptomatology were no longer significant (Davey & Chapman, 2009). While our study did not measure these two types of anxiety (e.g., trait anxiety, anxiety sensitivity), controlling for negative affect seems to shed some light on why our findings are different from what previous studies have found.

Self-Disgust as a Predictor of Some Forms of Disordered Eating

In line with our hypothesis, results demonstrated that all three self-disgust (SD-R) subscales positively predicted some forms of psychological concerns pertaining to eating, shape, and weight (EDEQ). Though our study did not specifically investigate eating disorders, our findings are consistent with previous studies that suggested self-disgust has a central role in the maintenance of eating disorders (Fox & Power, 2009). Our findings revealed that high physical self-disgust, pertaining to the lack of physical attractiveness, was related to elevated shape concern and weight concern in a non-clinical sample. In accordance with our findings, Powell et al. (2013) stated that internalizing a negative physical self-image could be far more detrimental to mental health than internalizing disgust toward one's behavior. Although research into self-disgust in eating disorders and disordered eating is very much in its infancy, there is evidence that suggests disgust toward the self is elevated in individuals with eating disorders (Ille, Schoggl, Kapfhammer, Ardendasy, Sommer, & Schienle, 2014). For example, individuals with anorexia nervosa experienced high levels of disgust and anger towards their bodies; as a result, they aim to suppress the fear of becoming fat and the anger towards themselves through maladaptive means, such as restrictive eating (Espeset et al., 2012). However, when assessing a non-clinical

sample, our study did not find self-disgust to be a predictor for EDEQ subscales of restraint and eating concerns. Perhaps self-disgust that has been positively associated with restrained eating is far more easily triggered in individuals with eating disorders (e.g. anorexia nervosa). Our results suggest that while the relationship between self-disgust and some forms of disordered eating exists in a non-clinical population, the relationship may be far more complex in individuals with eating disorders.

Ille and colleagues (2014) found that individuals afflicted with anorexia nervosa and bulimia reported more behavioral self-disgust and physical self-disgust than those with other disorders (e.g. depression, borderline personality, spider phobia). Although our study did not specifically investigate eating disorders, we found that after controlling for the negative affect of stress, physical self-disgust was a significant predictor of shape and weight concern in a non-clinical population. To our knowledge, no other studies that investigated self-disgust and disordered eating controlled for stress. However, more research will be required to replicate these findings.

Gender Differences in Relation to Disordered Eating, Self-Disgust, and Disgust Sensitivity

In the present study, we also explored gender differences in disordered eating behaviors, self-disgust, and disgust sensitivity. Epidemiological data show that prevalence rates and patterns of clinical and sub-clinical eating disorder are consistently higher for women than men (Anderson & Bulik, 2004; Hudson, Pope, & Kessler, 2007; Lewinsohn, Seeley, Moerk, & Striegel-Moore, 2002). Consistent with these findings, the current study's gender comparisons revealed that women scored significantly higher than men on emotional and restrained eating, as well as shape concern and weight concern. Similarly, studies that have investigated gender-based differences in eating symptomology have found that women tend to report more shape concern

and weight concern compared to men (Quick & Byrd-Bredbenner, 2013). In addition, our findings suggest that females had significantly higher stress scores than males. Our findings are in accordance with previous studies that found women scored significantly higher than the men on daily stressors (Matud, 2004; McDonough & Walters, 2001) and psychosocial stressors (Avero & Calvo, 1999).

Interestingly, we also found a significant difference between men and women in self-disgust, with men having significantly higher behavioral self-disgust scores. Perhaps self-disgust is tied to the differences in societal expectations of gender roles between men and women. According to the Social Role Theory (Eagly, Wood, & Diekman, 2000), society tends to foster certain emotions, traits, and behaviors for each gender. For example, societal expectations for women include being nurturing, empathetic, and social, whereas expectations for men include being competitive, courageous, and aggressive (Eagly, 1987). Males learn at a very young age to avoid displaying behaviors that show weakness, as part of developing a stereotypical masculine role. Perhaps stereotyping men as the aggressive and courageous gender promotes an avoidance, or repulsion, towards self-behaviors that are considered at odds with that stereotype. Thus, males may exhibit self-disgust when perceiving their own behavior as lacking in relation to how other men behave ("*I behave as well as everyone else"*). However, currently self-disgust is a relatively novel concept and only recently has a reliable self-report measure (i.e., the Self-Disgust Scale) been developed to examine the construct. Considering that we did not have a prediction about what the gender difference may look like, replication will be required to further explain the unique role of gender in behavioral self-disgust.

Our findings additionally showed that women scored significantly higher than men on disgust sensitivity, particularly on the core and animal-reminder subscales. This is in agreement

with Haidt et al.'s (1994) research that found women scored at least 10 points higher than men in the disgust domains of animals, death, and body-products. Upon revision of the original eight subscales in the Disgust Scale (DS-R; Haidt, McCauley & Rozin, 1994; modified by Olatunji et al., 2007), core disgust now includes the animal and body product domains and animal-reminder includes the death domain. This is consistent with our finding that women in our study scored significantly higher on both core and animal-reminder domains. In addition, Olatunji et al. (2007) found that women scored significantly higher than men on disgust domains of the revised Disgust Scale. In relation to gender roles, studies suggest that disgust is an evolutionary advantage that protects women, and fetuses, from potential toxins. For example, Fessler, Pillsworth, and Flamson (2004) found that disgust tends to decrease risk taking in women. Historically, men have benefited from an indifference to the risk of contamination; thus, allowing them to be formidable protectors and opponents (Fesller, Pillsworth, & Flamson 2004). Perhaps men feel discouraged to express disgust, a seemingly vulnerable emotion that is associated with immediate withdrawal.

Limitations and Future Directions

This study has several limitations that need to be recognized. Our sample was relatively small and consisted of a predominantly Caucasian undergraduate sample, between 18 to 32 years of age. There is evidence to suggest that age and gender may play key roles in maladaptive eating. For example, Halliwell and Harvey (2006) found that as boys got older, dieting and risk of eating disorders decreased, whereas girls continued to report higher levels for body dissatisfaction and dieting scores. Therefore, additional studies are needed to explore disordered eating across a broader age range. Another limitation of our study is the retrospective nature of the eating disorder measure (i.e., the EDEQ) and emotional state measure (i.e., the DASS). The

participants were asked to recall behaviors and mood from the past week to the past four weeks. Recall and cognitive biases are major concerns in retrospective designs. According to Shiffman, Stone, and Hufford (2008), retrospective measures are limited to one's ability to recall information over extended periods of time. In addition, we administered self-report measures that may have been subject to social desirability biases. Participants may have provided responses that are socially desirable, in order to appear more favorable. Finally, BMI scores were also attained through self-report data. While this is a method often used in eating disorders research, future research would benefit from actual measurements so as to ensure accuracy.

The present study extends previous research in three main ways. First, we extended prior work by investigating the roles of disgust and self-disgust in disordered eating within a non-clinical population. Thus, by studying a non-clinical sample of college students, rather than a clinical sample of eating disorder patients, we were able to assess predictor variables in individuals who may be at risk for developing eating disorders. Second, unlike most previous research on self-disgust and disordered eating, our study included both males and females; therefore, we were able to investigate gender differences. However, there is a need for future research to further examine non-clinical populations. Third, we made certain to control for negative affect in our analyses investigating how disgust and self-disgust predictor disordered eating.

In terms of future research, while the Disgust Scale-Revised is a widely used measure, it would be worthwhile to examine disordered eating and eating disorder symptomatology in relation to a variety of other disgust sensitivity measures. As mentioned previously, researchers have found different findings depending on the measure that was administered. Second, the findings of this study suggest that self-disgust may be one mechanism that predicts eating

disorder symptomology; however, it remains unclear whether self-disgust precedes disordered eating or vice versa. Therefore, future research is needed to determine if there is a direction of causality. Finally, future research is needed to assess possible forms of negative affect (e.g. anger, shame) that may moderate or mediate self-disgust.

Tables

Table 1
Characteristics of Sample.

Characteristics	Percentage
Gender	
Female	44
Male	56
Age	
18-19	68
20-21	22
22-32	10
Race/Ethnicity	
Caucasian/White	49
Arab American	18
Asian American	10
African American	10
Hispanic	6
Multiracial/Other	6
Religious affiliation	
Christian	47
Atheist	22
Muslim	21
Jewish/Spiritual/Other	9
Political affiliation	
Democrat	36
No affiliation	33
Republican	19
Independent or Libertarian	11
Annual household income (US $)	
$20,999 or less	10
$21,000- $40,999	9
$41,000- $60,999	17
$61,000- $80,999	11
$81,000 or more	41
Decline to Answer	11

Marital Status	
Single	62
Married	1
In a relationship	36
Divorced	1

Note. $N = 116$

Table 2

Means, and Standard Deviations of Variables, and Internal Reliabilities for Subscales of Disgust Sensitivity, Self-Disgust, DEBQ, EDEQ, and DASS

	M	*SD*
BMI	24.7	5.10
Age	19.5	2.1
Disgust Sensitivity (DSR)		
Core (α = .76)	29.0	7.7
Animal-Reminder (α = .77)	16.7	6.6
Contamination (α = .61)	8.6	4.1
Self-Disgust (SD-R)		
Physical (α = .80)	12.3	5.5
Behavioral (α = .76)	12.6	4.9
General (α = .88)	11.9	4.9
DEBQ		
Emotional (α = .92)	2.2	.87
Restrained (α = .87)	2.3	.76
External (α = .84)	3.0	.66
EDEQ		
Restraint (α = .75)	1.28	1.22
Eating Concern (α = .71)	.74	.91
Shape Concern (α = .87)	2.1	1.4
Weight Concern (α = .76)	1.7	1.3
DASS		
Stress (α = .79)	6.8	4.1
Anxiety (α = .70)	4.0	3.5
Depression (α = .90)	5.1	4.8

Note. *N* = 116. *M* = Mean; SD = Standard Deviation; α = Cronbach's α coefficient (used to assess internal reliabilities; DEBQ = Dutch Eating Behavior Questionnaire; EDEQ = Eating Disorder Examination Questionnaire; DASS = Depression Anxiety Stress Scale.

Table 3

Intercorrelations Between BMI, Age, Disgust Sensitivity, Self-Disgust, DEBQ, EDEQ, and DASS

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. BMI	--																
2. Age (years)	.17	--															
Disgust Sensitivity																	
3. Core	-.00	-.08	--														
4. Animal-Reminder	-.14	-.15	.62**	--													
5. Contamination	.02	-.05	.56**	.39**	--												
Self-Disgust (SD-R)																	
6. Physical	.25**	.11	-.06	-.06	.00	--											
7. Behavioral	.03	.45	-.15	-.12	-.05	.45**	--										
8. General	.30**	.16	-.12	-.08	-.08	.68**	.66**	--									
DEBQ																	
9. Emotional	.09	.09	-.10	.20*	.08	.13	.10	.05	--								
10. Restrained	.04	-.01	.12	-.02	.07	.33**	.25**	.25**	.15	--							
11. External	-.07	-.01	-.05	.21*	-.06	-.14	.02	-.08	.59**	.07	--						
EDEQ																	
12. Restraint	.00	-.01	.08	.05	.04	.27**	.28**	.26**	.13	.72**	.06	--					
13. Eating Concern	.10	.15	.16	.09	.10	.36**	.26**	.30**	.43**	.38**	.30**	.48**	--				
14. Shape Concern	.34**	.15	.16	.06	.10	.55**	.24**	.46**	.32**	.48**	.16	.41**	.63**	--			
15. Weight Concern	.39**	.15	.15	.06	.12	.57**	.22**	.48**	.23**	.49**	.07	.42**	.56**	.92**	--		
DASS																	
16. Stress	.07	.11	.12	.09	-.04	.23*	.14	.20*	.25**	.20*	.28**	.23*	.40**	.46**	.47**	--	
17. Anxiety	.04	.00	.06	.08	-.03	.28**	.20*	.27**	.16	.18	.13	.32**	.48**	.35**	.37**	.71**	--
18. Depression	.19*	.03	-.04	.03	-.20*	.38**	.30**	.47**	.18	.12	.15	.19*	.34**	.37**	.38**	.62**	.62*

Note. $N = 116$. * $p < .05$, ** $p < .01$. BMI = Body Mass Index (kg/ m^2); DEBQ = Dutch Eating Behavior Questionnaire; EDEQ = Eating Disorder Examination Questionnaire; DASS = Depression Anxiety Stress Scale.

Table 4

Independent-Samples T-tests Investigating Gender Differences in Predictor and Outcome Variables

Variables	Female (N = 51)		Male (N = 65)		
	M	*SD*	*M*	*SD*	*t*
Age	19.7	2.5	19.3	1.7	1.0
BMI	24.3	5.1	25.0	5.0	-.89
Self-Disgust					
Physical	2.5	1.2	2.3	1.0	.97
Behavioral	2.3	.93	2.7	1.0	-2.2*
General	2.2	.93	2.4	1.0	-.98
Disgust Sensitivity					
Core	2.6	.57	2.2	.64	3.6**
Animal-Reminder	2.3	.75	1.9	.86	2.4*
Contamination	1.85	.79	1.6	.83	1.6
DASS					
Stress	1.1	.62	.83	.52	3.1**
Anxiety	.63	.49	.52	.50	1.1
Depression	.75	.68	.72	.70	.22
DEBQ					
Emotional	2.5	.85	2.1	.85	2.4*
Restrained	2.4	.71	2.1	.78	2.2*
External	3.0	.52	3.0	.75	.42
EDEQ					
Restraint	1.25	1.20	1.30	1.25	-.21
Eating Concern	.91	1.02	.61	.80	1.7
Shape Concern	2.69	1.45	1.67	1.26	4.0**
Weight Concern	2.2	1.4	1.3	1.1	3.5**

Note. N = 116. * p < .05, ** p < .01. M = Mean; SD = Standard Deviation. BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale; DEBQ = Dutch Eating Behavior Questionnaire; EDEQ = Eating Disorder Examination Questionnaire.

Table 5

Linear Regression Analysis Predicting Shape Concern

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	.00	.04	.00	[-.08, .09]	.93
Gender (male = 0, female = 1)	-.73	.22	-.25	[-1.1, -.28]	.00
BMI	.06	.02	.21	[.01, .10]	.00
Self-Disgust					
Physical	.39	.12	.30	[.15, .63]	.00
Behavioral	.03	.13	.02	[-.23, .30]	.80
General	.24	.17	.17	[-.09, .59]	.15
Disgust Sensitivity					
Core	.01	.01	.07	[-.02, .05]	.42
Animal-Reminder	-.00	.01	-.01	[-.04, .03]	.89
Contamination	.01	.02	.04	[-.04, .07]	.62
DASS					
Stress	.09	.03	.28	[.02, .17]	.01
Anxiety	.00	.04	-.00	[-.08, .08]	.99
Depression	-.01	.03	-.04	[-.07, .04]	.68

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

Table 6

Linear Regression Analysis Predicting Weight Concern

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	.00	.04	.00	[-.08, .08]	.97
Gender (male = 0, female = 1)	-.55	.20	-.20	[-.96, -.15]	.00
BMI	.06	.01	.25	[.03, .10]	.00
Self-Disgust					
Physical	.37	.11	.30	[.15, .60]	.00
Behavioral	-.05	.12	.04	[-.30, .18]	.63
General	.30	.15	.22	[-.01, .61]	.06
Disgust Sensitivity					
Core	.00	.01	.03	[-.02, .03]	.74
Animal-Reminder	.00	.01	.00	[-.03, .03]	.96
Contamination	.02	.02	.08	[-.02, .08]	.27
DASS					
Stress	.10	.03	.32	[.03, .17]	.00
Anxiety	.00	.03	.01	[-.07, .08]	.90
Depression	-.02	.02	-.07	[-.02, .03]	.47

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

Table 7

Linear Regression Analysis Predicting Restraint

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	-.01	.05	-.02	[-.12, .09]	.77
Gender (male = 0, female = 1)	-.19	.25	. 07	[-.31, .45]	.45
BMI	-.01	.02	-.04	[-.05, .03]	.64
Self-Disgust					
Physical	.16	.14	.14	[-.12, .44]	.26
Behavioral	.20	.15	.16	[-.11, .51]	.20
General	.07	.19	.06	[-.32, .46]	.71
Disgust Sensitivity					
Core	.02	.02	.12	[-.02, .06]	.35
Animal-Reminder	.00	.02	.00	[-.04, .04]	.98
Contamination	-.00	.03	-.01	[-.07, .06]	.91
DASS					
Stress	.02	.04	.06	[-.06, .10]	.63
Anxiety	.09	.04	.26	[-.00, .18]	.05
Depression	-.03	.03	-.13	[-.10, .03]	.33

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

Table 8

Linear Regression Analysis Predicting Eating Concern

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	.05	.03	.12	[-.01, .12]	.13
Gender (male = 0, female = 1)	-.11	.17	-.06	[-.45, .22]	.50
BMI	.00	.02	-.04	[-.05, .03]	.64
Self-Disgust					
Physical	.16	.09	.19	[-.02, .34]	.09
Behavioral	.13	.10	.15	[-.07, .34]	.19
General	-.03	.13	-.03	[-.29, .22]	.79
Disgust Sensitivity					
Core	.01	.01	.13	[.24, -.01]	.24
Animal-Reminder	.00	.01	.00	[.99, -.02]	.99
Contamination	.00	.02	.03	[.72, -.03]	.72
DASS					
Stress	.00	.02	.02	[-.05, .06]	.82
Anxiety	.09	.03	.38	[.03, .16]	.00
Depression	-.00	.02	-.01	[-.05, .04]	.89

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

Table 9

Linear Regression Analysis Predicting External Disordered Eating

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	.00	.02	-.00	[-.01, .12]	.99
Gender (male = 0, female = 1)	.04	.13	.03	[-.45, .22]	.72
BMI	.00	.01	.01	[-.05, .03]	.87
Self-Disgust					
Physical	-.11	.07	-.18	[-.02, .34]	.14
Behavioral	.10	.08	.16	[-.07, .34]	.20
General	-.08	.10	-.12	[-.29, .22]	.42
Disgust Sensitivity					
Core	-.00	.01	-.10	[.24, -.01]	.43
Animal-Reminder	.02	.01	.29	[.99, -.02]	.01
Contamination	-.01	.01	-.10	[.72, -.03]	.37
DASS					
Stress	.06	.02	.38	[-.05, .06]	.00
Anxiety	-.02	.02	-.13	[.03, .16]	.31
Depression	.00	.01	.04	[-.05, .04]	.73

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

Table 10

Linear Regression Analysis Predicting Emotional Disordered Eating

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	.03	.03	.08	[-.01, .12]	.39
Gender (male = 0, female = 1)	-.32	.18	-.18	[-.45, .22]	.08
BMI	.02	.01	.14	[-.05, .03]	.15
Self-Disgust					
Physical	.06	.10	.08	[-.02, .34]	.52
Behavioral	.19	.11	.22	[-.07, .34]	.08
General	-.21	.14	-.24	[-.29, .22]	.14
Disgust Sensitivity					
Core	-.01	.01	-.14	[.24, -.01]	.29
Animal-Reminder	.03	.01	.25	[.99, -.02]	.03
Contamination	.01	.02	.05	[.72, -.03]	.62
DASS					
Stress	.03	.03	.15	[-.05, .06]	.30
Anxiety	-.01	.03	-.04	[.03, .16]	.77
Depression	-.01	.02	.08	[-.05, .04]	.55

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

Table 11

Linear Regression Analysis Predicting Restrained Disordered Eating

Variables	B	SE	β	95% Confidence Interval	*p* value
Age	-.02	.78	-.07	[-.01, .12]	.42
Gender (male = 0, female = 1)	-.26	.03	-.17	[-.45, .22]	.09
BMI	-.02	.15	-.01	[-.05, .03]	.87
Self-Disgust					
Physical	.15	.01	.22	[-.02, .34]	.08
Behavioral	.15	.08	.19	[-.07, .34]	.12
General	.02	.09	.03	[-.29, .22]	.82
Disgust Sensitivity					
Core	.01	.12	.18	[.24, -.01]	.15
Animal-Reminder	-.01	.01	-.16	[.99, -.02]	.15
Contamination	.00	.01	-.00	[.72, -.03]	.98
DASS					
Stress	.02	.02	.10	[-.05, .06]	.45
Anxiety	.01	.02	.05	[.03, .16]	.71
Depression	-.01	.02	-.11	[-.05, .04]	.39

Note. $N = 116$. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; BMI = Body Mass Index (kg/ m^2); DASS = Depression Anxiety Stress Scale.

References

Aharoni, R., & Hertz, M. M. (2012). Disgust sensitivity and anorexia nervosa. *European Eating Disorders Review, 20*(2), 106-110. doi:10.1002/erv.1124

Anderson, C. B., & Bulik, C. M. (2004). Gender differences in compensatory behaviors, weight and shape salience, and drive for thinness. *Eating Behaviors, 5*(1), 1-11. doi:10.1016/j.eatbeh.2003.07.001

Anestis, M. D., Holm-Denoma, J. M., Gordon, K. H., Schmidt, N. B., & Joiner, T. E. (2008). The role of anxiety sensitivity in eating pathology. *Cognitive Therapy and Research, 32*(3), 370-385. doi:10.1007/s10608-006-9085-y

Auerbach, R. P., Abela, J. R. Z., & Ringo Ho, M. (2007). Responding to symptoms of depression and anxiety: Emotion regulation, neuroticism, and engagement in risky behaviors. *Behaviour Research and Therapy, 45*(9), 2182-2191. doi:10.1016/j.brat.2006.11.002

Becker, A. E., Franko, D. L., Nussbaum, K., & Herzog, D. B. (2004). Secondary prevention for eating disorders: The impact of education, screening, and referral in a college-based screening program. *International Journal of Eating Disorders, 36*(2), 157-162. doi:10.1002/eat.20023

Berg, K. C., Frazier, P., & Sherr, L. (2009). Change in eating disorder attitudes and behavior in college women: Prevalence and predictors. *Eating Behaviors, 10*(3), 137-142. doi:10.1016/j.eatbeh.2009.03.003

Bergeron, D., & Tylka, T. L. (2007). Support for the uniqueness of body dissatisfaction from drive for muscularity among men. *Body Image, 4*(3), 288-295. doi:10.1016/j.bodyim.2007.05.002

Bonci, C. M., Bonci, L. J., Granger, L. R., Johnson, C. L., Malina, R. M., Milne, L. W.. . Vanderbunt, E. M. (2008). National athletic trainers' association position statement: Preventing, detecting, and managing disordered eating in athletes. *Journal of Athletic Training, 43*(1), 80-108. doi:10.4085/1062-6050-43.1.80

Burney, J., & Irwin, H. J. (2000). Shame and guilt in women with eating-disorder symptomatology. *Journal of Clinical Psychology, 56*(1), 51-61. doi:10.1002/(SICI)1097-4679(200001)56:1<51::AID-JCLP5>3.0.CO;2-W

Cafri, G., & Thompson, J. K. (2004). Measuring male body image: A review of the current methodology. *Psychology of Men & Masculinity, 5*(1), 18-29. doi:10.1037/1524-9220.5.1.18

Cafri, G., Thompson, J. K., Ricciardelli, L., McCabe, M., Smolak, L., & Yesalis, C. (2005). Pursuit of the muscular ideal: Physical and psychological consequences and putative risk factors. *Clinical Psychology Review, 25*(2), 215-239. doi:10.1016/j.cpr.2004.09.003

Chua, J. L., Touyz, S., & Hill, A. J. (2004). Negative mood-induced overeating in obese binge eaters: An experimental study. *International Journal of Obesity, 28*(4), 606-610. doi:10.1038/sj.ijo.0802595

Chu, C., Bodell, L. P., Ribeiro, J. D., & Joiner, T. E. (2015). Eating disorder symptoms and suicidal ideation: The moderating role of disgust. *European Eating Disorders Review, 23*(6), 545-552. doi:10.1002/erv.2373

Cools, J., Schotte, D. E., & McNally, R. J. (1992). Emotional arousal and overeating in restrained eaters. *Journal of Abnormal Psychology, 101*(2), 348-351. doi:10.1037//0021-843X.101.2.348

Cooper, M. J., Wells, A., & Todd, G. (2004). A cognitive model of bulimia nervosa. *British Journal of Clinical Psychology, 43*(1), 1-16. doi:10.1348/014466504772812931

Davey, G. C. L., & Chapman, L. (2009). Disgust and eating disorder symptomatology in a non-clinical population: The role of trait anxiety and anxiety sensitivity. *Clinical Psychology and Psychotherapy, 16*(4), 268-275. doi:10.1002/cpp.623

Davey, G. C. L., Buckland, G., Tantow, B., & Dallos, R. (1998). Disgust and eating disorders. *European Eating Disorders Review, 6*(3), 201-211. doi:10.1002/(SICI)1099-0968(199809)6:3<201::AID-ERV224>3.0.CO;2-E

Davis, K. R., & Fischer, S. (2013). The influence of trait anger, trait anxiety and negative urgency on disordered eating. *Personality and Individual Differences, 54*(2), 307-310. doi:10.1016/j.paid.2012.08.036

Dominé, F., Berchtold, A., Akré, C., Michaud, P., & Suris, J. (2009). Disordered eating behaviors: What about boys? *Journal of Adolescent Health, 44*(2), 111-117. doi:10.1016/j.jadohealth.2008.07.019

Drewnowski, A., Yee, D. K., Kurth, C. L., & Krahn, D. D. (1994). Eating pathology and DSM-III-R bulimia nervosa: A continuum of behavior. *American Journal of Psychiatry, 151*(8), 1217-1219. doi:10.1176/ajp.151.8.1217

Epel, E., Lapidus, R., McEwen, B., & Brownell, K. (2001). Stress may add bite to appetite in women: A laboratory study of stress-induced cortisol and eating behavior.

Psychoneuroendocrinology, 26(1), 37-49. doi:10.1016/S0306-4530(00)00035-4

Espeset, E. M. S., Gulliksen, K. S., Nordbø, R. H. S., Skårderud, F., & Holte, A. (2012). The link between negative emotions and eating disorder behaviour in patients with anorexia nervosa. *European Eating Disorders Review, 20*(6), 451-460. doi:10.1002/erv.2183

Evans, E. H., Tovée, M. J., Boothroyd, L. G., & Drewett, R. F. (2013). Body dissatisfaction and disordered eating attitudes in 7- to 11-year-old girls: Testing a sociocultural model. *Body Image, 10*(1), 8-15. doi:10.1016/j.bodyim.2012.10.001

Ferriter, C., & Ray, L. A. (2011). Binge eating and binge drinking: An integrative review. *Eating Behaviors, 12*(2), 99-107. doi:10.1016/j.eatbeh.2011.01.001

Fessler, D. M. T., Pillsworth, E. G., & Flamson, T. J. (2004). Angry men and disgusted women: An evolutionary approach to the influence of emotions on risk taking. *Organizational Behavior and Human Decision Processes*, *95*, 107–123.doi:10.1016/j.obhdp.2004.06.006.

Forman-Hoffman, V. (2004). High prevalence of abnormal eating and weight control practices among U.S. high-school students. *Eating Behaviors, 5*(4), 325-336. doi:10.1016/j.eatbeh.2004.04.003

Fox, J. R. E., & Froom, K. (2009). Eating disorders: A basic emotion perspective. *Clinical Psychology and Psychotherapy, 16*(4), 328-335. doi:10.1002/cpp.622

Fox J., Grange, N., & Power, M. (2014). Self-disgust in eating disorders: A review of the literature and clinical implications. In P. Powell, P. Overton, & J. Simpson (Eds.), *The Revolting Self: Perspectives on the Psychological and Clinical Implications of Self-directed Disgust* (pp. 167-186). London: Karnac Publishers.

Fox, J. R. E., Smithson, E., Baillie, S., Ferreira, N., Mayr, I., & Power, M. J. (2013). Emotion coupling and regulation in anorexia nervosa. *Clinical Psychology & Psychotherapy, 20*(4), 319-333. doi:10.1002/cpp.1823

Fredrickson, B. L., Roberts, T., Noll, S. M., Quinn, D. M., & Twenge, J. M. (1998). That swimsuit becomes you: Sex differences in self-objectification, restrained eating, and math performance. *Journal of Personality and Social Psychology, 75*(1), 269-284. doi:10.1037/0022-3514.75.1.269

Fitzsimmons-Craft, E. E., Bardone-Cone, A. M., & Kelly, K. A. (2011). Objectified body consciousness in relation to recovery from an eating disorder. *Eating Behaviors, 12*(4), 302-308. doi:10.1016/j.eatbeh.2011.09.001

Fulton, J. J., Lavender, J. M., Tull, M. T., Klein, A. S., Muehlenkamp, J. J., & Gratz, K. L. (2012). The relationship between anxiety sensitivity and disordered eating: The mediating role of experiential avoidance. *Eating Behaviors, 13*(2), 166-169. doi:10.1016/j.eatbeh.2011.12.003

Furnham, A., & Calnan, A. (1998). Eating disturbance, self-esteem, reasons for exercising and body weight dissatisfaction in adolescent males. *European Eating Disorders Review, 6*(1), 58-72. doi:10.1002/(SICI)1099-0968(199803)6:1<58::AID-ERV184>3.0.CO;2-V

Gilbert, P. (2000). The relationship of shame, social anxiety and depression: The role of the evaluation of social rank. *Clinical Psychology & Psychotherapy, 7*(3), 174-189. doi:10.1002/1099-0879(200007)7:3<174::AID-CPP236>3.0.CO;2-U

Gillen, M. M., Markey, C. N., & Markey, P. M. (2012). An examination of dieting behaviors among adults: Links with depression. *Eating Behaviors, 13*(2), 88-93. doi:10.1016/j.eatbeh.2011.11.014

Goldschmidt, A. B., Aspen, V. P., Sinton, M. M., Tanofsky-Kraff, M., & Wilfley, D. E. (2008). Disordered eating attitudes and behaviors in overweight youth. *Obesity, 16*(2), 257-264. doi:10.1038/oby.2007.48

Godart, N. T., Flament, M. F., Perdereau, F., & Jeammet, P. (2002). Comorbidity between eating disorders and anxiety disorders: A review. *International Journal of Eating Disorders, 32*(3), 253-270. doi:10.1002/eat.10096

Goossens, L., Braet, C., Van Vlierberghe, L., & Mels, S. (2009). Loss of control over eating in overweight youngsters: The role of anxiety, depression and emotional eating. *European Eating Disorders Review, 17*(1), 68-78. doi:10.1002/erv.892

Greenberg, S. T., & Schoen, E. G. (2008). Males and eating disorders: Gender-based therapy for eating disorder recovery. *Professional Psychology: Research and Practice, 39*(4), 464-471. doi:10.1037/0735-7028.39.4.464

Greeno, C. G., & Wing, R. R. (1994). Stress-induced eating. *Psychological Bulletin, 115*(3), 444-464. doi:10.1037/0033-2909.115.3.444

Griffiths, J., & Troop, N. A. (2006). Disgust and fear ratings of eating disorder-relevant stimuli: Associations with dieting concerns and fat intake. *Anxiety, Stress & Coping, 19*(4), 421-433. doi:10.1080/10615800601066771

Griffiths, R. A., Mallia-Blanco, R., Boesenberg, E., Ellis, C., Fischer, K., Taylor, M., & Wyndham, J. (2000). Restrained eating and sociocultural attitudes to appearance and general dissatisfaction. *European Eating Disorders Review, 8*(5), 394-402. doi:10.1002/1099-0968(200010)8:5<394::AID-ERV358>3.0.CO;2-B

Groesz, L. M., McCoy, S., Carl, J., Saslow, L., Stewart, J., Adler, N., & Epel, E. (2012). What is eating you? Stress and the drive to eat. *Appetite, 58*(2), 717-721. doi:10.1016/j.appet.2011.11.028

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of*

General Psychology, 2(3), 271-299. doi:10.1037/1089-2680.2.3.271

Gupta, S., Zachary Rosenthal, M., Mancini, A. D., Cheavens, J. S., & Lynch, T. R. (2008). Emotion regulation skills mediate the effects of shame on eating disorder symptoms in women. *Eating Disorders, 16*(5), 405-417. doi:10.1080/10640260802370572

Haedt-Matt, A., & Keel, P. K. (2011). Revisiting the affect regulation model of binge eating: A meta-analysis of studies using ecological momentary assessment. *Psychological Bulletin*, 137, 660–681.

Haidt, J., McCauley, C., & Rozin, P. (1994). Individual differences in sensitivity to disgust: A scale sampling seven domains of disgust elicitors. *Personality and Individual Differences, 16*(5), 701-713. doi:10.1016/0191-8869(94)90212-7

Halliwell, E., & Harvey, M. (2006). Examination of a sociocultural model of disordered eating among male and female adolescents. *British Journal of Health Psychology, 11*(2), 235-248. doi:10.1348/135910705X39214

Harvey, T., Troop, N. A., Treasure, J. L., & Murphy, T. (2002). Fear, disgust, and abnormal eating attitudes: A preliminary study. *International Journal of Eating Disorders, 32*(2), 213-218. doi:10.1002/eat.10069

Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., & Mccurry, S. M. (2004). Measuring experiential avoidance: A preliminary test of a working model. *Psychological Record, 54*(4), 553-578.

Hay, P., & Katsikitis, M. (2014). Emotional responses to images of food in adults with an eating disorder: A comparative study with healthy and clinical controls. *Eating Behaviors, 15*(3), 371-374. doi:10.1016/j.eatbeh.2014.04.016

Hawks, S. R., Madanat, H. N., & Christley, H. S. (2008). Psychosocial associations of dietary restraint: Implications for healthy weight promotion. *Ecology of Food and Nutrition, 47*(5), 450-483. doi:10.1080/03670240701821527

Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin, 110*(1), 86-108. doi:10.1037/0033-2909.110.1.86

Heatherton, T. F., Polivy, J., Herman, C. P., & Baumeister, R. F. (1993). Self-awareness, task failure, and disinhibition: How attentional focus affects eating. *Journal of Personality, 61*(1), 49-61. doi:10.1111/j.1467-6494.1993.tb00278.x

Hetherington, M. M., Altemus, M., Nelson, M. L., Bernat, A. S., & Gold, P. W. (1994). Eating behavior in bulimia nervosa: Multiple meal analyses. *The American Journal of Clinical Nutrition, 60*(6), 864.

Herpertz-Dahlmann, B., Buhren, K., & Remschmidt, H. (2013). Growing up is hard Mental

disorders in adolescence. *Deutsches Arzteblatt International, 110*(25), 432-U22. doi:10.3238/arztebl.2013.0432

Houben, K., & Havermans, R. C. (2012). A delicious fly in the soup. The relationship between disgust, obesity, and restraint. *Appetite, 58*(3), 827-830. doi:10.1016/j.appet.2012.01.018

Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biological Psychiatry, 61*(3), 348-358. doi:10.1016/j.biopsych.2006.03.040

Ille, R., Schoeggl, H., Kapfhammer, H., Arendasy, M., Sommer, M., & Schienle, A. (2014). Self-disgust in mental disorders - symptom-related or disorder-specific? *Comprehensive Psychiatry, 55*(4), 938-943. doi:10.1016/j.comppsych.2013.12.020

Jeppson, J. E., Richards, P. S., Hardman, R. K., & Granley, H. M. (2003). Binge and purge processes in bulimia nervosa: A qualitative investigation. *Eating Disorders, 11*(2), 115-128. doi:10.1080/10640260390199307

Johnson, J. G., Cohen, P., Kasen, S., & Brook, J. S. (2002). Childhood adversities associated with risk for eating disorders or weight problems during adolescence or early adulthood. *American Journal of Psychiatry, 159*(3), 394-400. doi:10.1176/appi.ajp.159.3.394

Keel, P. K., Klump, K. L., Leon, G. R., & Fulkerson, J. A. (1998). Disordered eating in adolescent males from a school-based sample. *International Journal of Eating Disorders, 23*(2), 125-132. doi:10.1002/(SICI)1098-108X(199803)23:2<125::AID-EAT2>3.0.CO;2-M

Killen, J. D., Taylor, C. B., Telch, M. J., Robinson, T. N., Maron, D. J., & Saylor, K. E. (1987). Depressive symptoms and substance use among adolescent binge eaters and purgers: A defined population study. *American Journal of Public Health, 77*(12), 1539-1541. doi:10.2105/AJPH.77.12.1539

King, K. A., Vidourek, R., & Schwiebert, M. (2009). Disordered eating and job stress among nurses. *Journal of Nursing Management, 17*(7), 861-869. doi:10.1111/j.1365-2834.2009.00969.x

Kitsantas, A., Gilligan, T. D., & Kamata, A. (2003). College women with eating disorders: Self-regulation, life satisfaction, and Positive/Negative affect. *The Journal of Psychology, 137*(4), 381-395. doi:10.1080/00223980309600622

Lamarche, L., & Gammage, K. (2012). Predicting exercise and eating behaviors from appearance evaluation and two types of investment. *Sport Exercise and Performance Psychology, 1*(3), 145-157. doi:10.1037/a0026892

Larson, N., Neumark-Sztainer D., & Story, M. (2009). Weight control behaviors and dietary intake among adolescents and young adults: Longitudinal findings from project EAT.

Journal of the American Dietetic Association*, 109*(11), 1869-1877. doi:10.1016/j.jada.2009.08.016

Lattimore, P., & Maxwell, L. (2004). Cognitive load, stress, and disinhibited eating. *Eating Behaviors, 5*(4), 315-324. doi:10.1016/j.eatbeh.2004.04.009

Lavender, J. M., & Anderson, D. A. (2010). Contribution of emotion regulation difficulties to disordered eating and body dissatisfaction in college men. *International Journal of Eating Disorders, 43*(4), 352-357. doi:10.1002/eat.20705

Leit, R. A., Gray, J. J., & Pope, H. G. (2002). The media's representation of the ideal male body: A cause for muscle dysmorphia? *International Journal of Eating Disorders, 31*(3), 334-338. doi:10.1002/eat.10019

Le Grange, D., O'Connor, M., Hughes, E. K., Macdonald, J., Little, K., & Olsson, C. A. (2014). Developmental antecedents of abnormal eating attitudes and behaviors in adolescence. *International Journal of Eating Disorders, 47*(7), 813-824. doi:10.1002/eat.22331

Lewinsohn, P. M., Seeley, J. R., Moerk, K. C., & Striegel-Moore, R. H. (2002). Gender differences in eating disorder symptoms in young adults. *International Journal of Eating Disorders, 32*(4), 426-440. doi:10.1002/eat.10103

Macht, M. (2008). How emotions affect eating: A five-way model. *Appetite, 50*(1), 1-11. doi:10.1016/j.appet.2007.07.002

Masheb, R. M., & Grilo, C. M. (2006). Emotional overeating and its associations with eating disorder psychopathology among overweight patients with binge eating disorder. *International Journal of Eating Disorders, 39*(2), 141-146. doi:10.1002/eat.20221

Matud, M. P. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences, 37*(7), 1401-1415. doi:10.1016/j.paid.2004.01.010

Mayer, B., Muris, P., Busser, K., & Bergamin, J. (2009). A disgust mood state causes a negative interpretation bias, but not in the specific domain of body-related concerns. *Behaviour Research and Therapy, 47*(10), 876-881. doi:10.1016/j.brat.2009.07.001

Mayer, B., Bos, A. E. R., Muris, P., Huijding, J., & Vlielander, M. (2008). Does disgust enhance eating disorder symptoms? *Eating Behaviors, 9*(1), 124-127. doi:10.1016/j.eatbeh.2007.07.00

McCabe, M. P., & Ricciardelli, L. A. (2004). Body image dissatisfaction among males across the lifespan. *Journal of Psychosomatic Research, 56*(6), 675-685. doi:10.1016/S0022-3999(03)00129-6

McCabe, M. P., & Ricciardelli, L. A. (2005). A prospective study of pressures from parents, peers, and the media on extreme weight change behaviors among adolescent boys and

girls. *Behaviour Research and Therapy, 43*(5), 653-668. doi:10.1016/j.brat.2004.05.004

McNamara, C., Hay, P., Katsikitis, M., & Chur-Hansen, A. (2008). Emotional responses to food, body dissatisfaction and other eating disorder features in children, adolescents and young adults. *Appetite, 50*(1), 102-109. doi:10.1016/j.appet.2007.06.004

Mond, J. M., Hay, P. J., Rodgers, B., Owen, C., & Beumont, P. J. V. (2004). Validity of the Eating Disorder Examination Questionnaire (EDE-Q) in screening for eating disorders in community samples. *Behaviour Research and Therapy, 42*(5), 551-567. doi:10.1016/S0005-7967(03)00161-X

Muris, P., Merckelbach, H., Nederkoorn, S., Rassin, E., Candel, I., & Horselenberg, R. (2000). Disgust and psychopathological symptoms in a nonclinical sample. *Personality and Individual Differences, 29*(6), 1163-1167. doi:10.1016/S0191-8869(99)00263-9

Neumark-Sztainer, D., Wall, M., Guo, J., Story, M., Haines, J., & Eisenberg, M. (2006). Obesity, disordered eating, and eating disorders in a longitudinal study of adolescents: How do dieters fare 5 years later? *Journal of the American Dietetic Association, 106*(4), 559-568. doi:10.1016/j.jada.2006.01.003

Neumark-Sztainer, D., Wall, M., Larson, N. I., Eisenberg, M. E., & Loth, K. (2011). Dieting and disordered eating behaviors from adolescence to young adulthood: Findings from a 10-year longitudinal study. *Journal of the American Dietetic Association, 111*(7), 1004-1011. doi:10.1016/j.jada.2011.04.012

Olatunji, B. O., & Sawchuk, C. N. (2005). Disgust: Characteristic features, social manifestations, and clinical implications. *Journal of Social and Clinical Psychology, 24*(7), 932-962. doi:10.1521/jscp.2005.24.7.932

Olatunji, B. O., Haidt, J., McKay, D., & David, B. (2008). Core, animal reminder, and contamination disgust: Three kinds of disgust with distinct personality, behavioral, physiological, and clinical correlates. *Journal of Research in Personality, 42*(5), 1243-1259. doi:10.1016/j.jrp.2008.03.009

Olatunji, B. O., Adams, T., Ciesielski, B., David, B., Sarawgi, S., & Broman-Fulks, J. (2012). The three domains of disgust scale: Factor structure, psychometric properties, and conceptual limitations. *Assessment, 19*(2), 205-225. doi:10.1177/1073191111432881

Olatunji, B., Cox, R., & Kim, E. (2015). self-disgust mediates the associations between shame and symptoms of bulimia and obsessive-compulsive disorder. *Journal of Social and Clinical Psychology, 34*(3), 239-258.

Oliver, G., Wardle, J., & Gibson, E. L. (2000). Stress and food choice: A laboratory study. *Psychosomatic Medicine, 62*(6), 853-865.

Otten, R., Engels, R. C. M. E., Strien, T. v., & Snoek, H. M. (2013). Emotional, external and

restrained eating behaviour and BMI trajectories in adolescence. *Appetite, 67*, 81-87. doi:10.1016/j.appet.2013.03.014

Ouwens, M. A., van Strien, T., & van Leeuwe, J. F. J. (2009). Possible pathways between depression, emotional and external eating. A structural equation model. *Appetite, 53*(2), 245-248. doi:10.1016/j.appet.2009.06.001

Plant, E. A., Hyde, J. S., Keltner, D., & Devine, P. G. (2000). the gender stereotyping of emotions. *Psychology of Women Quarterly, 24*(1), 81-92. doi:10.1111/j.1471-6402.2000.tb01024.x

Powell, P. A., Overton, P. G., & Simpson, J. (2014). The revolting self: An interpretative phenomenological analysis of the experience of self-disgust in females with depressive symptoms: The revolting self. *Journal of Clinical Psychology, 70*(6), 562-578. doi:10.1002/jclp.22049

Quick, V. M. & Byrd-Bredbenner, C. (2013). Eating Disorders Examination Questionnaire (EDE-Q): Norms for US college students. *Eating and Weight Disorder*,*18*(1), 29-35. doi:10.1007/s40519-013-0015-1

Ricca, V., Castellini, G., Lo Sauro, C., Ravaldi, C., Lapi, F., Mannucci, E.. . Faravelli, C. (2009). Correlations between binge eating and emotional eating in a sample of overweight subjects. *Appetite, 53*(3), 418-421. doi:10.1016/j.appet.2009.07.008

Rodgers, R., & Chabrol, H. (2009). Parental attitudes, body image disturbance and disordered eating amongst adolescents and young adults: A review. *European Eating Disorders Review, 17*(2), 137-151. doi:10.1002/erv.907

Root, M. P. P., & Fallon, P. (1989). Treating the victimized bulimic: The functions of binge-purge behavior. *Journal of Interpersonal Violence, 4*(1), 90-100. doi:10.1177/088626089004001006

Santos, M., Steven Richards, C., & Kathryn Bleckley, M. (2007). Comorbidity between depression and disordered eating in adolescents. *Eating Behaviors, 8*(4), 440-449. doi:10.1016/j.eatbeh.2007.03.005

Sawaoka, T., Barnes, R. D., Blomquist, K. K., Masheb, R. M., & Grilo, C. M. (2012). Social anxiety and self-consciousness in binge eating disorder: Associations with eating disorder psychopathology. *Comprehensive Psychiatry, 53*(6), 740-745. doi:10.1016/j.comppsych.2011.10.003

Schienle, A., Stark, R., Schafer, A., Walter, B., Kirsch, P., & Vaitl, D. (2004). Disgust and disgust, sensitivity in bulimia nervosa: An fMRI study. *European Eating Disorders Review, 12*(1), 42-50. doi:10.1002/erv.562

Selby, E. A., Anestis, M. D., & Joiner, T. E. (2008). Understanding the relationship between

emotional and behavioral dysregulation: Emotional cascades. *Behaviour Research and Therapy, 46*(5), 593-611. doi:10.1016/j.brat.2008.02.002

Simpson, J., Hillman, R., Crawford, T., & Overton, P. G. (2010). Self-esteem and self-disgust both mediate the relationship between dysfunctional cognitions and depressive symptoms. *Motivation and Emotion, 34*(4), 399-406. doi:10.1007/s11031-010-9189-2

Singh, M. (2014). Mood, food, and obesity. *Frontiers in Psychology, 5*, 1-35. doi:10.3389/fpsyg.2014.00925

Slade, P. (1982). Towards a functional analysis of anorexia nervosa and bulimia nervosa. *British Journal of Clinical Psychology, 21*(3), 167-179.

Smolak, L., Levine, M. P., & Thompson, J. K. (2001). The use of the sociocultural attitudes towards appearance questionnaire with middle school boys and girls. *International Journal of Eating Disorders, 29*(2), 216-223. doi:10.1002/1098-108X(200103)29:2<216::AID-EAT1011>3.0.CO;2-V

Smyth, J. M., Wonderlich, S. A., Heron, K. E., Sliwinski, M. J., Crosby, R. D., Mitchell, J. E., & Engel, S. G. (2007). Daily and momentary mood and stress are associated with binge eating and vomiting in bulimia nervosa patients in the natural environment. *Journal of Consulting and Clinical Psychology, 75*(4), 629-638. doi:10.1037/0022-006X.75.4.629

Steinhausen, H. (2009). Outcome of eating disorders. *Child and Adolescent Psychiatric Clinics of North America, 18*(1), 225-242. doi:10.1016/j.chc.2008.07.013

Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin, 128*(5), 825-848. doi:10.1037//0033-2909.128.5.825

Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research, 53*(5), 985-993. doi:10.1016/S0022-3999(02)00488-9

Stice, E. (1998). Relations of restraint and negative affect to bulimic pathology: A longitudinal test of three competing models. *International Journal of Eating Disorders, 23*(3), 243-260. doi:10.1002/(SICI)1098-108X(199804)23:3<243::AID-EAT2>3.0.CO;2-J

Stice, E., & Agras, W. S. (1998). Predicting onset and cessation of bulimic behaviors during adolescence: A longitudinal grouping analysis. *Behavior Therapy, 29*(2), 257-276. doi:10.1016/S0005-7894(98)80006-3

Stice, E., Maxfield, J., & Wells, T. (2003). Adverse effects of social pressure to be thin on young women: An experimental investigation of the effects of "fat talk". *International Journal of Eating Disorders, 34*(1), 108-117. doi:10.1002/eat.10171

Stice, E., Shaw, H., & Nemeroff, C. (1998). Dual pathway model of bulimia nervosa:

Longitudinal support for dietary restraint and affect-regulation mechanisms. *Journal of Social and Clinical Psychology, 17*(2), 129-149. doi:10.1521/jscp.1998.17.2.129

Surguladze, S. A., El-Hage, W., Dalgleish, T., Radua, J., Gohier, B., & Phillips, M. L. (2010). Depression is associated with increased sensitivity to signals of disgust: A functional magnetic resonance imaging study. *Journal of Psychiatric Research, 44*(14), 894-902. doi:10.1016/j.jpsychires.2010.02.010

Telch, C. F., & Agras, W. S. (1996). Do emotional states influence binge eating in the obese? *International Journal of Eating Disorders, 20*(3), 271-279. doi:10.1002/(SICI)1098-108X(199611)20:3<271::AID-EAT6>3.0.CO;2-L

Troop, N. A., Holbrey, A., & Treasure, J. L. (1998). Stress, coping, and crisis support in eating disorders. *International Journal of Eating Disorders, 24*(2), 157-166. doi:10.1002/(SICI)1098-108X(199809)24:2<157::AID-EAT5>3.0.CO;2-D

Troop, N. A., Murphy, F., Bramon, E., & Treasure, J. L. (2000). Disgust sensitivity in eating disorders: A preliminary investigation. *International Journal of Eating Disorders, 27*(4), 446-451. doi:10.1002/(SICI)1098-108X(200005)27:4<446::AID-EAT9>3.0.CO;2-W

Torstveit, M. K., Rosenvinge, J. H., & Sundgot-Borgen, J. (2008). Prevalence of eating disorders and the predictive power of risk models in female elite athletes: A controlled study. *Scandinavian Journal of Medicine & Science in Sports, 18*(1), 108-118. doi:10.1111/j.1600-0838.2007.00657.x

Troop, N. A., Treasure, J. L., & Serpell, L. (2002). A further exploration of disgust in eating disorders. *European Eating Disorders Review, 10*(3), 218-226. doi:10.1002/erv.444

Troop, N. A., & Redshaw, C. (2012). General shame and bodily shame in eating disorders: A 2.5-year longitudinal study: Shame in eating disorders. *European Eating Disorders Review, 20*(5), 373-378. doi:10.1002/erv.2160

Van Strien, T., Frijters, J. E. R., Bergers, G. P. A., & Defares, P. B. (1986). The dutch eating behavior questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders, 5*(2), 295-315. doi:10.1002/1098-108X(198602)5:2<295::AID-EAT2260050209>3.0.CO;2-T

Vardar, E., Vardar, S. A., & Kurt, C. (2007). Anxiety of young female athletes with disordered eating behaviors. *Eating Behaviors, 8*(2), 143-147. doi:10.1016/j.eatbeh.2006.03.002

Wade, T. D., Wilksch, S. M., & Lee, C. (2012). A longitudinal investigation of the impact of disordered eating on young women's quality of life. *Health Psychology, 31*(3), 352-359. doi:10.1037/a0025956

Waller, G., Babbs, M., Milligan, R., Meyer, C., Ohanian, V., & Leung, N. (2003). Anger and core beliefs in the eating disorders. *International Journal of Eating Disorders, 34*(1),

118-124. doi:10.1002/eat.10163

Wallis, D. J., & Hetherington, M. M. (2004). Stress and eating: The effects of ego-threat and cognitive demand on food intake in restrained and emotional eaters. *Appetite, 43*(1), 39-46. doi:10.1016/j.appet.2004.02.001

Ward, R., & Hay, M. (2015). Depression, coping, hassles, and body dissatisfaction: Factors associated with disordered eating. *Eating Behaviors, 17*, 14-18. doi:10.1016/j.eatbeh.2014.12.002

Whiteside, U., Chen, E., Neighbors, C., Hunter, D., Lo, T., & Larimer, M. (2007). Difficulties regulating emotions: Do binge eaters have fewer strategies to modulate and tolerate negative affect? *Eating Behaviors, 8*(2), 162-169. doi:10.1016/j.eatbeh.2006.04.001

Yager, J., Yager, J., Rorty, M., Rorti, M., Rossotto, E., & Rossotto, E. (1995). Coping styles differ between recovered and nonrecovered women with bulimia nervosa, but not between recovered women and non-eating-disordered control subjects. *Journal of Nervous and Mental Disease, 183*(2), 86-94.

Zellner, D. A., Loaiza, S., Gonzalez, Z., Pita, J., Morales, J., Pecora, D., & Wolf, A. (2006). Food selection changes under stress. *Physiology & Behavior, 87*(4), 789-793. doi:10.1016/j.physbeh.2006.01.014

Zysberg, L., & Rubanov, A. (2010). Emotional intelligence and emotional eating patterns: A new insight into the antecedents of eating disorders? *Journal of Nutrition Education and Behavior, 42*(5), 345-348. doi:10.1016/j.jneb.2009.08.009

Appendix A: Demographic Questionnaire

Please indicate your answers to the questions below by circling your response or by filling in the blank provided.

1) What is your gender? (Please circle one response.) **a) Female b) Male c) Other**

2) What is your age (in years)? **_____ years old**

3) What is your current height? **_____ feet _____ inches**

4) What is your current weight? (Please give your best estimate.) **_____ pounds**

5) What is your current relationship status? (Please circle one response.)

a) Single b) Married c) In a relationship d) Divorced e) Other

6) Which of the following best describes your race/ethnicity? (Please circle one response.)

a) African American
b) Arab American
c) Asian American
d) Caucasian/White
e) Hispanic/Latino
f) Multiethnic/Multiracial
g) Native American
h) Pacific Islander
i) Other: _____

7) Which of the following best describes your political affiliation? (Please circle one response.)

a) Constitution Party
b) Democrat
c) Green Party
d) Independent
e) Libertarian
f) Republican
g) No affiliation
h) Other: _____

8) Which of the following best describes your religion? (Please circle one response.)

a) Buddhism c) Hinduism e) Judaism g) Atheism/Agnosticism
b) Christianity d) Islam f) Spiritualism h) Other: _____

9) Which of the following best describes your household's annual income? (Please circle one response.)

a) $81,000 or more **c) $41,000 to $60,999** **e) Less than $20,999**

b) $61,000 to $80,999 **d) $21,000 to $40,999** **f) I decline to answer**

10) What is your year in college? (Please circle one response.)

a) First-Year **b) Sophomore** **c) Junior** **d) Senior**

11) What is your major? _____

12) Which of the following best describes your current residence? (Please circle one response.

a**) At home with parents** **c) In college dorm** **e) Other: _____**

b) With roommate/housemate **d) In own home/apartment**

Appendix B: Disgust Scale-Revised

Please indicate how much you agree with each of the following statements, or how true it is about you. Please circle a number from 0 to 4 to indicate your answer:

	Strongly Disagree	Mildly disagree	Neither agree nor disagree	Mildly Agree	Strongly Agree
1. I might be willing to try eating monkey meat, under some circumstances.	0	1	2	3	4
2. It would bother me to be in a science class and see a human hand preserved in a jar.	0	1	2	3	4
3. It bothers me to hear someone clear a throat full of mucous.	0	1	2	3	4
4. I never let any part of my body touch the toilet seat in public restrooms.	0	1	2	3	4
5. I would go out of my way to avoid walking through a graveyard.	0	1	2	3	4
6. Seeing a cockroach in someone else's house doesn't bother me.	0	1	2	3	4
7. It would bother me tremendously to touch a dead body.	0	1	2	3	4
8. If I see someone vomit, it makes me sick to my stomach.	0	1	2	3	4
9. I probably would not go to my favorite restaurant if I found out that the cook had a cold.	0	1	2	3	4
10. It would not upset me at all to watch a person with a glass eye take the eye out of the socket.	0	1	2	3	4

11. It would bother me to see a rat run across my path in a park.	0	1	2	3	4
12. I would rather eat a piece of fruit than a piece of paper	0	1	2	3	4
13. Even if I was hungry, I would not drink a bowl of my favorite soup if it had been stirred by a used but thoroughly washed flyswatter.	0	1	2	3	4
14. It would bother me to sleep in a nice hotel room if I knew that a man had died of a heart attack in that room the night before.	0	1	2	3	4

How disgusting would you find each of the following experiences? Please circle a number from 0 to 4 to indicate your answer.					
	Not Disgusting at all	**Slightly Disgusting**	**Moderately Disgusting**	**Very Disgusting**	**Extremely Disgusting**
15. You see maggots on a piece of meat in an out door garbage pail.	0	1	2	3	4
16. You see a person eating an apple with a knife and fork	0	1	2	3	4
17. While you are walking through a tunnel under a railroad track, you smell urine.	0	1	2	3	4
18. You take a sip of soda, and then realize that you drank from the glass that an acquaintance of yours had been drinking from.	0	1	2	3	4
19. Your friend's pet cat dies, and you have to pick up the dead body with your bare hands.	0	1	2	3	4
20. You see someone put ketchup on vanilla ice cream, and eat it.	0	1	2	3	4
21. You see a man with his intestines exposed after an accident.	0	1	2	3	4
22. You discover that a friend of yours changes underwear only once a week.	0	1	2	3	4
23. A friend offers you a piece of chocolate shaped like dog poop.	0	1	2	3	4

24. You accidentally touch the ashes of a person who has been cremated.	0	1	2	3	4
25. You are about to drink a glass of milk when you smell that it is spoiled.	0	1	2	3	4
26. As part of a sex education class, you are required to inflate a new, unlubricated condom, using your mouth.	0	1	2	3	4
27. You are walking barefoot on concrete, and you step on an earthworm.	0	1	2	3	4

Appendix C: The Self-Disgust Scale-Revised

This questionnaire is concerned with how you feel about yourself. When responding to the statements below, **please circle the appropriate number** according to the following definitions:

	Strongly disagree						***Strongly agree***
1. I find myself repulsive.	1	2	3	4	5	6	7
2. I am proud of who I am.	1	2	3	4	5	6	7
3. I am sickened by the way I behave	1	2	3	4	5	6	7
4. Sometimes I feel tired	1	2	3	4	5	6	7
5. I can't stand being me	1	2	3	4	5	6	7
6. I enjoy the company of others	1	2	3	4	5	6	7
7. I am revolting for many reasons.	1	2	3	4	5	6	7
8. I consider myself attractive	1	2	3	4	5	6	7
9. People avoid me	1	2	3	4	5	6	7
10. I enjoy being outdoors	1	2	3	4	5	6	7
11. I feel good about the way I behave.	1	2	3	4	5	6	7
12. I do not want to be seen.	1	2	3	4	5	6	7
13. I am a sociable person.	1	2	3	4	5	6	7
14. I often do things I find revolting.	1	2	3	4	5	6	7
15. I avoid looking at my reflection.	1	2	3	4	5	6	7
16. Sometimes I feel happy.	1	2	3	4	5	6	7
17. I am an optimistic person	1	2	3	4	5	6	7
18. I behave as well as everyone else.	1	2	3	4	5	6	7

19. It bothers me to look at myself.	1	2	3	4	5	6	7
20. Sometimes I feel sad.	1	2	3	4	5	6	7
21. I find the way I look nauseating.	1	2	3	4	5	6	7
22. My behavior repels people	1	2	3	4	5	6	7

Appendix D: Eating Disorder Examination Questionnaire

Instructions: The following questions are concerned with the past four weeks (28 days) only. Please read each question carefully. Please answer all the questions. Thank you.

Questions 1 to 12: Please circle the appropriate number on the right**.** Remember that the questions only refer to the **past four weeks (28 days) only.**

On how many of the past 28 days ..	**No days**	**1-5 days**	**6-12 days**	**13-15 days**	**16-22 days**	**23-27 days**	**Every day**
1. Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
2. Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?	0	1	2	3	4	5	6
3. Have you tried to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
4. Have you tried to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
5. Have you had a definite desire to have an empty stomach with the aim of influencing your shape or weight?	0	1	2	3	4	5	6

6. Have you had a definite desire to have a totally flat stomach?	0	1	2	3	4	5	6
7. Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
8. Has thinking about shape or weight made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6

On how many of the past 28 days ..	**No days**	**1-5 days**	**6-12 days**	**13-15 days**	**16-22 days**	**23-27 days**	**Every day**
9. Have you had a definite fear of losing control over eating?	0	1	2	3	4	5	6
10. Have you had a definite fear that you might gain weight?	0	1	2	3	4	5	6
11. Have you felt fat?	0	1	2	3	4	5	6
12. Have you had a strong desire to lose weight?	0	1	2	3	4	5	6

Questions 13-18: Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to the **past four weeks (28 days).**

13. How many times have you eaten what other people would regard as an unusually large amount of food (given the circumstances)?	
14. On how many of these times did you have a sense of having lost control over your eating (at the time that you were eating)?	
15. On how many **DAYS** have such episodes of overeating occurred (i.e. you have eaten an unusually large amount of food and have had a sense of loss of control at the time)?	

16. How many times have you made yourself sick (vomit) as a means of controlling your shape or weight?	_____
17. How many times have you taken laxatives as a means of controlling your shape or weight?	_____
18. How many times have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat or to burn off calories?	_____

Questions 19-21: Please circle the appropriate number. Please note that for these questions the term "binge eating" means eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.

	No days	**1-5 days**	**6-12 days**	**13-15 days**	**16-22 days**	**23-27 days**	**Every day**
19. Over the past 28 days, on how many days have you eaten in secret (ie, furtively)? **.....Do not count episodes of binge eating**	0	1	2	3	4	5	6
	None of the times	**A few of the times**	**Less than half**	**Half of the times**	**More than half**	**Most of the time**	**Every time**
20. On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? .....**Do not count episodes of binge eating**	0	1	2	3	4	5	6
	Not at all	**Slightly**		**Moderately**			**Markedly**
21. Over the past 28 days, how concerned have you been about other people seeing you eat? **.....Do not count episodes of binge eating**	0	1	2	3	4	5	6

Questions 22-28: Please circle the appropriate number on the right. Remember that the questions only refer to the **past four weeks (28 days).**

Over the past four weeks (28 days)	Not at all	Slightly		Moderately		Markedly	
22. Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
23. Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24. How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
25. How dissatisfied have you been with your weight?	0	1	2	3	4	5	6
Over the past four weeks (28 days)	**Not at all**	**Slightly**		**Moderately**		**Markedly**	
26. How dissatisfied have you been with your shape?	0	1	2	3	4	5	6
27. How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
28. How uncomfortable have you felt about others seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

Appendix E: Dutch Eating Behavior Questionnaire

Please read each question and circle the number corresponding to the answer that best describes what you would do in each situation. **Circle only one response** for each question.

	Never	**Seldom**	**Sometimes**	**Often**	**Very Often**
1. Do you have a desire to eat when you are emotionally upset?	1	2	3	4	5
2. If you have put on weight, do you eat less than you usually do?	1	2	3	4	5
3. Do you have the desire to eat when you are irritated?	1	2	3	4	5
4. When preparing a meal are you inclined to eat something?	1	2	3	4	5
5. Do you watch exactly what you eat?	1	2	3	4	5
6. Do you have a desire to eat when you have nothing to do?	1	2	3	4	5
7. Can you resist eating delicious foods?	1	2	3	4	5
8. Do you deliberately eat less in order not to become heavier?	1	2	3	4	5
9. Do you have a desire to eat when you are depressed or discouraged?	1	2	3	4	5
10. If you walk past a snack bar or a café, do you have the desire to buy something delicious?	1	2	3	4	5
11. How often in the evening do you try not to eat because you are watching your weight?	1	2	3	4	5
12. Do you have a desire to eat when you are cross (upset)?	1	2	3	4	5
13. If you see or smell something delicious, do you have a desire to eat it?	1	2	3	4	5

14. Do you try to eat less at mealtimes than you would like to eat?	1	2	3	4	5
15. Do you have a desire to eat when you are feeling lonely?	1	2	3	4	5
16. If you walk past a bakery do you have the desire to buy something delicious?	1	2	3	4	5
17. Do you take into account your weight with what you eat?	1	2	3	4	5

Please read each question and circle the number corresponding to the answer that best describes what you would do in each situation. **Circle only one response** for each question.

	Never	**Seldom**	**Sometimes**	**Often**	**Very Often**
18. Do you have a desire to eat when you are approaching something unpleasant to happen?	1	2	3	4	5
19. If food tastes good to you, do you eat more than usual?	1	2	3	4	5
20. How often do you try not to eat between meals because you are watching your weight?	1	2	3	4	5
21. Do you have a desire to eat when you are frightened?	1	2	3	4	5
22. Do you eat more than usual, when you see others eating?	1	2	3	4	5
23. When you have eaten too much, do you eat less than usual the following days?	1	2	3	4	5
24. Do you have a desire to eat when somebody lets you down?	1	2	3	4	5
25. If food smells and looks good, do you eat more than usual?	1	2	3	4	5
26. Do you deliberately eat foods that are slimming?	1	2	3	4	5
27. Do you have a desire to eat when things are going against you or when things have gone wrong?	1	2	3	4	5
28. If you have something delicious to eat, do you eat it right away?	1	2	3	4	5
29. How often do you refuse food or drink offered because you are concerned about your weight?	1	2	3	4	5

30. Do you have a desire to eat when you are disappointed?	1	2	3	4	5
31. If you see others eating, do you also have the desire to eat?	1	2	3	4	5
32. Do you have a desire to eat when you are bored or restless?	1	2	3	4	5
33. Do you get the desire to eat when you are anxious, worried or tense?	1	2	3	4	5

Appendix F: Depression Anxiety and Stress Scale

This part of the questionnaire we will ask you questions regarding your internal experiences. Please read the directions and indicate a response to the best of your ability.

Please read each statement and **circle a number 0, 1, 2 or 3,** which indicates how much the statement applied to you ***over the past week***. There are no right or wrong answers. Do not spend too much time on any statement.

Over the past week…..	**Did not apply to me at all**	**Applied to me to some degree, or some of the time**	**Applied to me to a considerable degree, or a good part of time**	**Applied to me very much, or most of the time**
1. I was intolerant of anything that kept me from getting on with what I was doing	**0**	**1**	**2**	**3**
2. I felt that life was meaningless	**0**	**1**	**2**	**3**
3. I was aware of the action of my heart in the absence of physical exertion	**0**	**1**	**2**	**3**
4. I felt I was rather touchy	**0**	**1**	**2**	**3**
5. I felt that I had nothing to look forward to	**0**	**1**	**2**	**3**
6. I experienced breathing difficulty	**0**	**1**	**2**	**3**
7. I found it difficult to relax	**0**	**1**	**2**	**3**
8. I couldn't experience any positive feeling	**0**	**1**	**2**	**3**
9. I experienced trembling (e.g., in the hands)	**0**	**1**	**2**	**3**
10. I found myself getting agitated	**0**	**1**	**2**	**3**

Over the past week…..	**Did not apply to me at all**	**Applied to me to some degree, or some of the time**	**Applied to me to a considerable degree, or a good part of time**	**Applied to me very much, or most of the time**
11. I was unable to become enthusiastic about anything	**0**	**1**	**2**	**3**
12. I felt I was close to panic	**0**	**1**	**2**	**3**
13. I felt scared without any good reason	**0**	**1**	**2**	**3**
14. I found it difficult to wind down	**0**	**1**	**2**	**3**
15. I felt that I wasn't worth much as a person	**0**	**1**	**2**	**3**
16. I was worried about situations in which I might panic and make a fool of myself	**0**	**1**	**2**	**3**
17. I felt that I was using a lot of nervous energy	**0**	**1**	**2**	**3**
18. I felt down-hearted and blue	**0**	**1**	**2**	**3**
19. I was aware of dryness of my mouth	**0**	**1**	**2**	**3**
20. I tended to over-react to situations	**0**	**1**	**2**	**3**
21. I found it difficult to work up the initiative to do things	**0**	**1**	**2**	**3**