THE EFFECTS OF SELF-FORGIVENESS, SELF-COMPASSION, AND SELF-ACCEPTANCE ON SUBCLINICAL DISORDERED EATING:
THE ROLES OF SHAME AND GUILT

Stephanie Dianne Womack

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APPROVED:

Joshua N. Hook, Major Professor
Patricia L. Kaminski, Committee Member
C. Ed Watkins, Committee Member
Vicki Campbell, Chair of the Department of Psychology
David Holdeman, Dean of the College of Arts and Sciences
Victor Prybutok, Vice Provost of the Toulouse Graduate School

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Disordered eating is a general term that describes a wide range of behaviors from diagnosable eating disorders to subclinical patterns of behavior that do not meet criteria for diagnosis (e.g., problematic weight loss behaviors, excessive dieting, bingeing, purging). Disordered eating is prevalent and has a wide range of physical and psychological consequences. Negative self-conscious emotions such as shame and guilt have been implicated in the development and maintenance of disordered eating.

Positive attitudes toward the self (i.e., self-forgiveness, self-compassion, self-acceptance) may be helpful in reducing shame, guilt, and disordered eating symptoms. In this dissertation, I explored the associations between positive attitudes toward the self, negative self-conscious emotions, and disordered eating in a sample of college students and adults (*N* = 477). Positive attitudes toward the self were associated with lower levels of disordered eating symptoms, and this relationship was partially mediated by lower levels of negative self-conscious emotions. I concluded by discussing areas for future research and implications for clinical practice.
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CHAPTER 1

INTRODUCTION

Disordered eating is a common problem, with more people experiencing subclinical disordered eating than clinical eating disorders. Both types of disordered eating lead to serious physical and psychological health consequences. Negative self-conscious emotions such as shame and guilt have been identified as core components of the development and maintenance of disordered eating. Shame specifically plays an important role in disordered eating, and is an important treatment consideration in helping individuals with disordered eating cope with shame. One way to reduce problematic shame may be to increase positive attitudes toward the self, such as self-forgiveness, self-compassion, and self-acceptance. In this dissertation, I explore the relationship between positive attitudes toward the self and subclinical disordered eating, with particular attention to the mechanisms of shame and guilt.

In Chapter 2, I present a review of the current literature pertaining to subclinical disordered eating and the roles of shame and guilt. I investigate theories explaining the mechanisms by which shame and guilt maintain disordered eating behaviors. I then review the literature on self-forgiveness and the subsequent roles of shame and guilt, as well as the closely related constructs of self-compassion and self-acceptance. Finally, I propose a model whereby positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-acceptance) are related to lower subclinical disordered eating, and this relationship is mediated by lower self-conscious emotions (i.e., shame and guilt).
In Chapter 3, I present my rationale for this dissertation. Since few studies have examined the mechanisms of self-forgiveness and related constructs as they relate to disordered eating, and since the predominant eating disorder treatment of cognitive behavioral therapy is only effective with approximately 50% of patients, it is important to explore and implement intervention methods that could be used in conjunction with existing eating disorder treatments.

In Chapter 4, I specify the methodology for my empirical study in which I test my proposed model and expand the existing literature on the relationship between these variables.

In Chapter 5, I report the results, including (a) exploratory analyses examining the symptomatology of participants, correlations between variables, gender differences in key variables, and symptomatology differences in key variables, (b) primary analyses testing my model, including the extent to which negative self-conscious emotions mediate the relationship between positive attitudes toward the self and disordered eating. I conclude my dissertation with Chapter 6, in which I discuss (a) the findings from my empirical study in the context of the extant literature, (b) areas for future research, and (c) implications for counseling clients who have disordered eating symptoms.
CHAPTER 2
REVIEW OF THE LITERATURE

The term ‘disordered eating’ encompasses a variety of behaviors that can be conceptualized on a continuum ranging from clinical eating disorders (e.g., anorexia nervosa, bulimia nervosa, binge eating disorder) to subclinical behaviors and patterns of eating that do not meet the diagnostic criteria for eating disorders, but can be considered problematic or harmful (Thompson & Sherman, 1993). On one end of the subclinical disordered eating spectrum are behaviors such as weight loss, dieting, exercising, bingeing, and purging behaviors that may not cause significant distress for an individual, but may have negative psychological, emotional, and physical consequences (Beals, 2000; DeBate, Wethington, & Sargent, 2002).

On the other end of the subclinical disordered eating spectrum are the formal subclinical eating disorder diagnoses outlined in the Diagnostic and Statistical Manual (DSM-5; American Psychiatric Association, 2013) such as Other Specified Feeding or Eating Disorder (OSFED) and Unspecified Feeding or Eating Disorder (UFED). These disorders were formerly called Eating Disorders Not Otherwise Specified (EDNOS) in the fourth edition of the Diagnostic and Statistical Manual (DSM-IV-TR; American Psychiatric Association, 2000). These new categories in the DSM-5 describe behaviors that are (a) typical of eating disorders but do not meet full criteria for an eating disorder, (e.g., behaviors that attempt to reduce body weight by means of limiting food groups, excessive dieting, restricting food and/or calories, or excessive exercise, as well as occasional bingeing and/or purging) and (b) cause a significant level of impairment or distress in functioning (American Psychiatric Association, 2013).
Often the harmful effects of subclinical disordered eating are overlooked or not recognized as problematic, despite the prevalence and potential consequences associated with disordered eating (Beals, 2000). Approximately 20 million women and 10 million men in the United States will struggle with eating disorders in their lifetime (Wade, Keski-Rahkonen, & Hudson, 2011), and approximately twice that many will have struggled with some form of subclinical disordered eating (Shisslak, Crago, & Estes, 1995). The majority of research to date on the prevalence of subclinical disordered eating has been conducted on college athletes, with prevalence rates ranging from 17.5% to 62% for female collegiate athletes (Warren, Stanton, & Blessing, 1990; Williams, Sargent, & Durstine, 2003) and 20% to 33% for male collegiate athletes (Byrne & McLean, 2001; Petrie, Greenleaf, Reel, & Carter, 2008). A study by Eisenberg, Bicklett, Roeder, and Kirz (2011) found that among non-athlete college students, 13.5% of females and 3.6% of males endorsed subclinical disordered eating behavior, and another study found that at many as 61% of college women displayed disordered eating behavior (Mintz & Betz, 1988).

Few studies have explored prevalence rates of subclinical disordered eating among non-college, non-athlete populations, though several studies have investigated dieting behaviors. Unhealthy dieting behaviors often progress to subclinical disordered eating and clinical eating disorders (Beals, 2000; Shisslak et al., 1995), and the emergence of eating disorders are often predicted by weight concern and dieting (Joiner, Heatherton, Rudd, & Schmidt, 1997; Stice, 1998). One study by Neumark-Sztainer, Sherwood, French, and Jeffery (1999) found that 22% of females and 17% of males in their sample utilized at least one unhealthy behavior to control their weight.
Furthermore, a longitudinal study found that adolescents with disordered eating behaviors were at increased risk for these behaviors 10 years later (Neumark-Sztainer, Wall, Larson, Eisenberg, & Loth, 2011).

Numerous detrimental health consequences of disordered eating have been documented. Anorexia nervosa, in particular, is associated with life-threatening physical symptoms, including organ failure, and has the highest mortality rate of any psychiatric disorder (Arcelus, Mitchell, Wales, & Nielsen, 2011). Bulimia nervosa is also associated with organ failure and severe electrolyte imbalance, and binge eating disorder is associated with chronic health conditions such as high blood pressure and diabetes (Simon & Zieve, 2013). One longitudinal study by Crow et al. (2009) examined crude mortality rates (i.e., any cause of death) for individuals with disordered eating. Specific causes of death examined included suicide, substance-use related deaths, traumatic causes of death, and medical causes of death. They found a 4.0% crude mortality rate for individuals diagnosed with anorexia nervosa and a 3.9% rate for bulimia nervosa, as well as a 5.2% rate for individuals diagnosed with EDNOS (i.e., subclinical disordered eating; Crow et al., 2009). It is interesting to note these researchers found a comparable mortality rate between the clinical eating disorders and subclinical eating disorders, which may highlight the harmful effects of the full spectrum of disordered eating.

In addition to the physical consequences of disordered eating, numerous psychological and emotional effects have been examined. Studies have found substantially higher prevalence rates of comorbid anxiety, depression, and substance use disorder in women with disordered eating behavior than in women without
disordered eating behavior (Gadalla & Piran, 2008). A study by DeBoer and Smits (2013) found approximately 65% of women with an eating disorder met criteria for at least one anxiety disorder, and another study found women with subclinical disordered eating had high levels of depression that were quantitatively and qualitatively different than depression experienced by women without disordered eating (Mansfield & Wade, 2000). Subclinical disordered eating has also been linked to dissatisfaction and distress, with approximately 75% of women surveyed reporting that concerns over shape and weight interfered with happiness and heavily contributed to overall feelings about the self (Reba-Harreleson, Von Holle, Hamer, Swan, Reyes, & Bulik, 2009).

Subclinical disordered eating behavior is a common problem that has wide-ranging physical and emotional consequences. Throughout the following sections, I will discuss two variables (i.e., shame and guilt) that have been associated with the onset and maintenance of disordered eating behavior. I will then explore potential ways to help individuals with disordered eating behavior cope with shame and guilt, focusing specifically on self-forgiveness. Self-forgiveness has been suggested as a possible pathway to reducing disordered eating, as have self-compassion and self-acceptance. Finally, I will propose a model linking subclinical disordered eating behavior to positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-forgiveness) and negative self-conscious emotions (i.e., shame and guilt).

Shame and Guilt

A growing body of literature has focused on the relationship between disordered eating, shame, and guilt. Guilt is a self-conscious emotion that involves remorse or
regret resulting from one’s actions (Tangney, 1995). Hall and Fincham (2005) described guilt as “other-oriented” in that it focuses on an individual’s effect on other people, though some researchers have described guilt as “offense-oriented” (e.g., “I did something bad”; Sanftner, Barlow, Marschall, & Tangney, 1995; Tangney, Burggraf, & Wagner, 1995). The negative emotions associated with guilt may prompt attempts at making amends and apologizing, which can lead to a resolution of the feelings of guilt (Tangney, Wagner, & Gramzow, 1992).

Shame, by contrast, is a feeling of being bad or not worthy because of an intrinsic inadequacy that tends to be generalized as a core deficit (e.g., “I am bad”; Tangney et al., 1992; Vitz & Meade, 2011). Shame can be experienced as internal or external (Gilbert, 1998). Internal shame is experienced when an individual perceives oneself as having failed to live up to internalized standards and therefore sees oneself as bad, inferior, or morally defective (Gilbert, 1992; Tangney, 1995). Internal shame is usually associated with self-criticism and self-hatred (Gilbert, 2002). External shame is experienced when an individual perceives oneself to be judged as flawed or inadequate by some real or imagined observer (Gilbert, 1998). Internal and external shame can occur together, such that an individual believes that he or she is flawed in some way and also believes that others look down on them because of this failing (Goss & Allan, 2009).

Several components of shame have been identified (Gilbert, 1998, 2002; Tangney, 1995). The emotional component of shame involves both the primary component of shame and a blending of other emotions, such as anger, anxiety, and self-disgust. The cognitive component of shame involves thoughts and beliefs about
the self, such that the self is inadequate or flawed. Bodily components of shame, such as blushing or feeling flushed, may also be present. The behavioral component of shame describes actions an individual may take when they feel shamed, such as withdrawing, overcompensating for the feeling of shame (i.e., overachieving), and running away. Shame can also include an interpersonal relationship component that can be real or imagined (i.e., person A feels ashamed because he or she thinks person B saw them doing something perceived to be shameful).

The major distinction between shame and guilt is that guilt involves feeling bad about what one has done, whereas shame involves feeling bad about one’s entire self (Sanftner et al., 1995). Although both shame and guilt involve negative self-conscious emotions, each evokes a different psychological response (Markham, Thompson, & Bowling, 2005). Shame is associated with depression, anxiety, anger, and hostility (Tangney et al., 1992), whereas guilt (i.e., guilt not confounded by feelings of shame) is not strongly linked to psychological maladjustment (Tangney, 1995; Tangney et al., 1992). Shame and guilt can co-occur in certain situations, such as when an individual has violated a societal standard of behavior and thus feels guilty, but also feels ashamed at their personal moral failing (Burney & Irwin, 2000).

Shame, Guilt, and Disordered Eating

Although behaviors such as dieting are strongly implicated in the development of disordered eating, research has shown that dieting alone is not likely to be a causal factor in eating disorders (Leung & Price, 2007). A large portion of the current literature has investigated other factors that may contribute to the development of disordered eating, such as...
eating behavior and eating disorders, and one of the recurrent themes is the presence of feelings of shame and guilt. These emotions have been found to play an integral role in disordered eating (Markham et al., 2005) and are part of the criteria for diagnosis of Binge Eating Disorder (American Psychiatric Association, 2013).

While research has identified both shame and guilt as factors in disordered eating, several studies have found that shame plays a more prominent role than guilt in predicting disordered eating symptoms (Burney & Irwin, 2000; Hayaki, Friedman, & Brownell, 2002). Individuals with disordered eating tend to view their negative feelings about their bodies as the result of being a bad person (i.e., shame) rather than as the result of having done something bad and experiencing resultant problematic thoughts (i.e., guilt; Sanftner et al., 1995). Burney and Irwin (2000) found shame to be more closely related to the severity of disordered eating than guilt. When controlling for guilt, shame was positively correlated with symptoms of disordered eating, but when controlling for shame, guilt was not correlated with these symptoms (Burney & Irwin, 2000; Sanftner et al., 1995). Researchers have proposed that individuals with disordered eating may feel bad about their eating behaviors and thus experience guilt, though they likely reflect upon these behaviors and focus on the self, which results in feelings of shame (Sanftner et al., 1995). Shame tends to be more problematic than guilt in terms of psychological functioning, because shame relates to core feelings of worthlessness, inadequacy, or failure (Tangney et al., 1995).

Theories Explaining Shame and Disordered Eating

Several theories have been proposed to explain the relationship between shame and disordered eating. Three of the most frequently referenced theories for the
maintenance of disordered eating behaviors via shame include (a) the role of emotional (i.e., affect) regulation, (b) the interplay between the emotions of shame and pride, and (c) the effects of self- and other-objectification.

_Affect regulation model._ Polivy and Herman (1993) proposed one possible mechanism by which symptoms of bulimia are maintained. They suggested bingeing and purging may function to reduce negative emotions, and that the behaviors are maintained through negative reinforcement (i.e., bingeing and purging take away negative emotions, thereby increasing the likelihood the individual will engage in the behaviors again). Studies have documented the use of disordered eating behaviors to dissociate from or reduce negative affect among individuals with anorexia nervosa, bulimia nervosa, and binge eating disorder (Cooper, Todd, & Wells, 1998; De Young et al., 2013; Polivy & Herman, 2002).

Researchers have also examined the types of negative emotions present in the affect regulation model. Emotions such as depression, anxiety, anger, guilt, and shame have been found to be important in the negative reinforcement of disordered eating (Goss & Allan, 2009; Gupta, Rosenthal, Mancini, Cheavens, & Lynch, 2008; Polivy & Herman, 1993). Difficulties regulating emotion has been found to mediate the relationship between shame and disordered eating symptoms (Gupta et al., 2008), and shame has been found to increase the possibility of dissociation (Bromberg, 2001). Goss and Allan (2009) have suggested that strategies that help individuals cope with negative affect (i.e., shame) might be important to the understanding and treatment of disordered eating.
Shame and pride cycles. Goss and Gilbert (2002) suggested a model explaining the relationship between disordered eating and shame, in which different patterns of disordered eating behavior are associated with internal and external shame. External shame is associated with symptoms of anorexia nervosa and restriction, and internal shame is associated with symptoms of bulimia nervosa and bingeing (Troop, Allan, Serpell, & Treasure, 2008).

According to Goss and Gilbert’s (2002) model, individuals with symptoms of anorexia are vulnerable to external shame (i.e., feel as though others are judging their inability to live up to the cultural standard of thinness), and may also feel internal shame about their own failure to live up to the cultural standard. Therefore, these individuals attempt to defend against these feelings of shame by trying to change their body weight to fit the cultural standard (i.e., restrict). The successful management of weight leads to feelings of pride (as well as external reinforcement), whereas unsuccessful management of weight leads to feelings of shame. Thus, a Shame-Pride Cycle develops, in which shame negatively reinforces restriction and weight loss, and pride positively reinforces restriction and weight loss.

Individuals with symptoms of bulimia nervosa and bingeing are vulnerable to internal shame (i.e., feel like they are not good enough, are unworthy), which can manifest in uncontrolled negative affect. These individuals use food and bingeing to try to control or regulate this affect. However, once they engage in bingeing and compensatory behaviors (i.e., purging), they experience internal shame for engaging in the behaviors (i.e., behavioral shame). Thus, a self-perpetuating Shame-Shame Cycle
develops, which reinforces their attempts at affect regulation and leads to further shame.

Objectification theory. Fredrickson and Roberts (1997) proposed a theory to explain the relationship between women’s cultural experiences and shame, and the influence of these variables on disordered eating. The theory posits that gender socialization and female life experiences often include sexual objectification (i.e., females are reduced to their body parts and functions). Self-objectification is the internalization of this observer-based perspective, and is often manifested by body surveillance (Noll & Fredrickson, 1998).

Several researchers have investigated the link between self-objectification and disordered eating. Noll and Fredrickson (1998) found that self-objectification contributed directly to disordered eating, and the relationship was mediated by body shame. Another study found the relationship between self-objectification and disordered eating was mediated by body surveillance and internalization of the cultural ideal (Moradi, Dirks, & Matteson, 2005). This study made the distinction between body surveillance (i.e., the act of measuring the oneself against the cultural standard) and body shame (i.e., the emotion that results from this measurement). Studies have also shown that comparisons between the cultural ideal and the actual self (i.e., very thin ideal and larger actual body) are associated with lower self-worth and body-image esteem (Durkin & Paxton, 2002; Stormer & Thompson, 1996).

Shame and Disordered Eating Symptomatology

Several studies have found that proneness to shame surrounding eating and body-related concerns is the strongest predictor of the severity of disordered eating
symptomatology (Andrews, 1997; Burney & Irwin, 2000; McKinley & Hyde, 1996). Body
dissatisfaction, drive for thinness, and bulimic symptoms are positively correlated with
shame (Hayaki et al., 2002; Sanftner et al., 1995), and shame accounts for a significant
amount of the variance in bulimic symptomatology (Hayaki et al., 2002). Shame also
predicts body image concerns in eating disordered populations, accounting for more
than 50% of the variance for patients with anorexia nervosa and bulimia nervosa
(Franzoni et al., 2013). Among patients with binge eating disorder, shame is associated
with concern over body shape and weight (Masheb, Grilo, & Brondolo, 1999). Although
the overwhelming majority of research is conducted with female participants, one study
found possible gender differences in the relationship between shame and disordered
eating; among patients with binge eating disorder, shame in men related to body
dissatisfaction, while shame in women related to weight concerns (Jambekar, Masheb,
& Grilo, 2003).

Shame tends to be resistant to change and may persist after successful
treatment of disordered eating symptoms (Keith, Gillanders, & Simpson, 2009; Swan &
Andrews, 2003). However, there is evidence that symptoms of shame are reduced
among patients who have been successfully treated for eating disorders. One study
found lower levels of shame in women considered to be in remission than those who
were still symptomatic, though both groups had higher levels of shame than non-clinical
controls (Troop et al., 2008). It is yet unclear whether a reduction of disordered eating
symptoms leads to experiences less shame, or whether a reduction in shame levels
leads to a fewer disordered eating symptoms (Troop et al., 2008).
Types of Shame Associated with Disordered Eating

*Internal versus external shame.* Some studies have shown a difference in the types of symptoms associated with internal shame (i.e., judging the self as having failed to live up to some standard) and external shame (i.e., feeling as though others are judging the self for having failed to live up to some standard; Goss & Allan, 2009). A study by Troop and colleagues (2008) found high levels of internal and external shame related to eating disorder symptoms among clinical patients, even after controlling for depression. This study also found an association between internal shame and bulimia nervosa symptom severity, and between external shame and anorexia nervosa symptom severity. Patients with anorexia nervosa had higher levels of external shame than patients with bulimia nervosa, and patients with bulimia nervosa had higher levels of internal shame than patients with anorexia nervosa (Troop et al., 2008). Another study found high levels of internal and external shame among obese patients with subclinical disordered eating behavior, and that the levels of distress related to shame experienced by the subclinical participants were similar to levels of distress experienced by participants with an eating disorder diagnosis (Webb, 2000).

*State versus trait shame.* There is a methodological differentiation in the literature between assessing state shame and trait shame. State shame refers to the emotional state of shame that is felt in the moment (Tangney, 1996). This type of shame would be expected to arise following some event or change in situation, such as engaging in disordered eating behavior. Trait shame, often called dispositional shame, refers to an emotional trait of proneness to shame (Tangney, 1996). Trait shame is a component of personality, and therefore less changeable than state shame.
The majority of research examining shame and disordered eating has focused on dispositional or trait shame rather than state shame (Goss & Allan, 2009). Jambekar et al. (2003) found that dispositional shame was not associated with frequency of binges (i.e., participants with higher levels of shame did not engage in more frequent episodes of binge eating). Despite the prevalence of studying dispositional shame, Goss and Allan (2009) suggested that research and interventions aimed at reducing shame in disordered eating participants focus on state shame rather than trait shame. Since trait shame is a component of personality and therefore difficult to change, Goss and Allan suggested that it would be more productive to attend to “specific and changeable aspects of the self” (p. 306). Sanftner and Crowther (1998) examined state shame and guilt in participants with eating disorders. Participants were required to complete the state shame and guilt questionnaire at regular intervals throughout the day, and data from the measures were compared with instances of binge eating. The researchers found that women who binged did not experience increased levels of shame immediately before a binge.

Bodily shame. Several studies examining the relationship between shame and disordered eating have differentiated general shame from bodily shame (i.e., shame about physical characteristics) in order to examine specific types of shame that predict disordered eating (Doran & Lewis, 2012; Troop & Redshaw, 2012). One study examined the differences between bodily shame, characterological shame (i.e., shame about aspects or characteristics of the self), and behavioral shame (i.e., shame about behaviors) in their ability to predict disordered eating symptoms (Doran & Lewis, 2012). This study found that among subclinical females, characterological and bodily shame
predicted disordered eating symptoms more so than behavioral shame. Among subclinical males and females with clinical eating disorders, only bodily shame predicted symptoms. Therefore, shame about the body may play a larger role in disordered eating symptomatology than shame about behaviors (e.g., bingeing; Doran & Lewis, 2012; Sanftner et al., 1995).

Bodily shame can further be defined as current (i.e., shame experienced in relation to current body size) or anticipated (i.e., shame that is anticipated if an individual were to gain weight; Troop, Sotrilli, Serpell, & Treasure, 2006). Current bodily shame is associated with binge eating, whereas anticipated bodily shame is associated with avoidance of weight gain (i.e., fear of weight gain, over-exercising, fasting, or dieting), though it is possible for an individual to experience both current and anticipated bodily shame (Troop et al., 2006). In a 2.5-year longitudinal study, Troop and Redshaw (2012) found that bodily shame predicted increases in symptoms of anorexia nervosa but not bulimia nervosa, and that current bodily shame predicted participants’ weight and evaluations of their body size, whereas anticipated bodily shame predicted an increased fear of weight gain.

Self-Forgiveness

Shame is an important component of disordered eating behavior in that it can both lead to and maintain disordered eating. Therefore, it is important to explore ways in which individuals might cope with shame in an effort to reduce disordered eating behavior. In this dissertation, I will explore the relationship between self-forgiveness and (a) shame and guilt, and (b) disordered eating behavior. I will also explore the
related constructs of self-compassion and self-acceptance, which have been proposed as possible important areas for exploration in relation to shame and disordered eating (Fisher & Exline, 2010).

The current forgiveness literature distinguishes interpersonal forgiveness (i.e., one person forgiving another person for a transgression) and intrapersonal forgiveness (i.e., one person forgiving himself or herself for a transgression), which is often referred to as self-forgiveness. For the purposes of this dissertation, “self-forgiveness” will be used to describe intrapersonal forgiveness. Self-forgiveness and interpersonal forgiveness both involve a process that happens over time (i.e., rather than a single event of forgiveness) and an objective transgression (Hall & Fincham, 2005).

There is no single accepted definition of self-forgiveness throughout the existing forgiveness literature, though most definitions include some common elements. Enright and the Human Development Study Group’s (1996) definition included releasing oneself from resentment despite having committed a transgression, while “fostering compassion, generosity, and love toward oneself” (p. 115). Wohl, DeShea, and Wahkinney (2008) also explained self-forgiveness as a process that involved the release of resentment one feels due to a perceived wrongdoing. Thompson and colleagues (2005) described self-forgiveness as a process by which individuals examine their assumptions about themselves in the context of the present, to arrive at a new outlook. Hall and Fincham (2005) included a description of replacing revenge motivations toward the self with benevolent motivations toward the self.

Throughout many of the myriad definitions, self-forgiveness is referred to as a process or transition that involves (a) wrongdoing or perceived wrongdoing, (b) negative
feelings about the self (e.g., shame, guilt, regret) due to this wrongdoing, and (c) acceptance or forgiveness of the self despite this wrongdoing (Enright and the Human Development Study Group, 1996; Fisher & Exline, 2010; Hall & Fincham, 2005; Holmgren, 1998). Also common among the definitions are the components of affective, behavioral, and cognitive responses (Watson, 2007).

Self-forgiveness is not a quick fix or simple solution; the process of forgiving oneself involves time and energy (Wade & Worthington, 2005). A single event of self-forgiveness may not be sufficient, and the process may need to be repeated multiple times (Worthington & Wade, 1999). Self-forgiveness does not involve excusing or condoning behavior, nor does it entail denying, rationalizing, or justifying one’s actions (Enright & The Human Development Study Group, 1996; Snow, 1993; Worthington, 2001). An individual must acknowledge the wrongs he or she has committed and is capable of, and then must have a benevolent and forgiving response to the self (Coyle, 1999).

**Self-Forgiveness for Interpersonal Transgressions and Intrapersonal Transgressions**

Self-forgiveness can be subdivided into self-forgiveness for interpersonal transgressions (i.e., forgiving the self for harming someone else) and self-forgiveness for intrapersonal transgressions (i.e., forgiving the self for harming the self; Terzino, 2010). Although the majority of existing research focuses on self-forgiveness for interpersonal transgressions, there are several instances in which the primary victim of transgressions or wrongdoing might be oneself. For example, a student may choose not to attend classes (i.e., the perceived wrongdoing), and then experience negative feelings toward themself when they fail out of school (i.e., shame and/or guilt). The self-
forgiveness process would therefore focus on forgiving the self for a transgression against the self rather than for a transgression against others (e.g., if the feelings of shame and guilt stemmed from a physical altercation with a classmate rather than the student “letting themself down” by not attending classes).

**Shame, Guilt, and Self-Forgiveness**

Shame and guilt have been theoretically and empirically linked to self-forgiveness. While both shame and guilt involve self-directed negative emotions, guilt is directed toward behavior and shame is directed at the core self (Tangney, 1991). The relationship between guilt and self-forgiveness can be positive or negative depending on the situation. When guilt motivates the transgressor to attempt to repair relationships, it can facilitate self-forgiveness and allow for moving past the transgression (Fisher & Exline, 2010). However, when guilt becomes excessive it can lead to self-punishment, which can not only be harmful to the individual, but also can facilitate and deepen shame responses (Fisher & Exline, 2010).

Shame is generally regarded as an obstacle to self-forgiveness (Tangney et al., 1995). Fisher and Exline (2010) propose that when an individual feels shame following a transgression, it is difficult to overcome the global sense of being a bad person and move toward forgiving the self. The authors argue that one goal of the self-forgiveness process might be to reduce shame so the individual can begin the work of self-forgiveness (i.e., acknowledging the transgression and taking responsibility). One way to facilitate this reduction of shame might be to help a client move from shame to guilt, so that reparative actions can be taken. Another method to reduce shame might be to
work toward self-compassion and/or self-acceptance, which would allow individuals to acknowledge and tolerate their mistakes rather than be paralyzed by shame.

Theoretical Models of Self-Forgiveness

Enright’s four-stage model. Enright and the Human Development Study Group (1991) proposed a four-stage model to explain the process of forgiveness, which was revised in 1996 to address the concept of self-forgiveness (i.e., as opposed to interpersonal forgiveness). The first stage, called the Uncovering Phase, involves an individual fully acknowledging the wrongdoing he or she has committed against others and/or against himself or herself. The individual recognizes the effects of the transgression, and eventually is able to identify and express feelings (e.g., shame and guilt) related to the transgression. During the second stage (i.e., the Decision Phase) the individual explores the concept of self-forgiveness, and ultimately makes a commitment to forgive him or herself. The third phase, the Work Phase, involves developing empathy and compassion toward the self and accepting the pain caused by the transgression. The final phase is called the Deepening Phase, and the individual finds new positive meaning in the transgression and pain. The individual realizes they have forgiven the self, and finds relief from excessive guilt and remorse.

Hall and Fincham’s model. Hall and Fincham (2005) proposed a model of self-forgiveness comprised of three primary components: emotional determinants, social-cognitive determinants, and offense related determinants.

The emotional determinants of Hall and Fincham’s (2005) model include shame and guilt. The authors predicted shame would be directly negatively linked with self-forgiveness. Guilt was predicted to have an indirect link with self-forgiveness, and to be
mediated by empathy and conciliatory behavior. According to the model, guilt is associated with increased other-oriented empathic concern (i.e., feeling compassion and concern for others), which motivates the offender to make amends (i.e., engage in conciliatory behavior). This would in turn increase self-forgiveness (i.e., positive indirect relationship between guilt and self-forgiveness). On the other hand, other-oriented empathic concern also inhibits self-forgiveness in that the more one feels the pain they have caused others, the less likely they are to forgive themselves. Therefore, Hall and Fincham predicted an overall negative relationship between guilt and self-forgiveness. This negative relationship has been demonstrated in other studies (Strelan, 2007; Zechmeister & Romero, 2002).

The model identified attributions as a social-cognitive determinant of self-forgiveness. This aspect of the model was taken from interpersonal forgiveness literature and generalized to self-forgiveness. Hall and Fincham (2006) described attributions in interpersonal contexts by giving an example of forgiveness of a partner who has been unfaithful. When attributions of behavior are external, unstable, and specific, it is easier to forgive a partner (i.e., “My partner only cheated because he/she got put in a bad situation and he/she won’t cheat again,” p. 510). However, when attributions of behavior are internal, stable, and global, it is harder to forgive a partner (i.e., “My partner cheated because he/she is untrustworthy, no matter the situation, and isn’t going to change,” p. 509). Hall and Fincham (2005) extrapolated this principle to self-forgiveness, such that (a) external, unstable, and specific attributions of one’s own behavior are associated with increased self-forgiveness, and (b) internal, stable, and
global attributions of one’s own behavior are associated with decreased self-forgiveness.

Three offense-related determinants are identified in the model. Conciliatory behavior (i.e., attempts to make amends) is predicted to be associated with increased self-forgiveness because these actions absolve the offender of guilt. Forgiveness from a higher power is also thought to be positively associated with self-forgiveness. Severity of the transgression is predicted to be negatively associated with self-forgiveness (i.e., the more severe the transgression, the lower the likelihood of self-forgiveness).

Hall and Fincham’s model revised. Rangganadhan and Todorov (2010) tested Hall and Fincham’s (2005) model, with particular emphasis on the emotional determinant. They asserted that empathy could be divided into (a) other-oriented concern (as previously discussed), and (b) personal distress empathy (i.e., feelings of anxiety and discomfort when observing another individual’s distress during a negative experience). Tangney (1991) found a link between shame-proneness and self-oriented personal distress reactions. Rangganadhan and Todorov predicted that personal distress reactions make the process of releasing resentment toward oneself difficult, and thus inhibits self-forgiveness. Whereas Hall and Fincham’s original model emphasized the role of guilt in inhibiting self-forgiveness, Rangganadhan and Todorov’s model emphasized the role of shame in inhibiting self-forgiveness.

Rangganadhan and Todorov (2010) tested both Hall and Fincham’s (2005) model and their proposed revised model, and found the path between shame and personal distress empathy to be the key variable in predicting self-forgiveness.
Although they found a relationship between guilt and other-oriented empathy, and between guilt and conciliatory behaviors, there was no significant relationship between these variables and self-forgiveness. In describing their results, the authors highlighted the idea that high shame proneness might be negatively associated with self-forgiveness because the individual feels pain from (a) personal distress empathy, and (b) shame from feeling like a bad person. McGaffin, Lyons, and Deane (2013) applied Rangganadhan and Todorov’s revised model with individuals recovering from drug and alcohol problems, and found that shame-proneness was negatively related to self-forgiveness, while guilt-proneness was positively related to self-forgiveness.

Genuine Self-Forgiveness and Pseudo Self-Forgiveness

An important distinction must be made between authentic or genuine self-forgiveness and what Hall and Fincham (2005) termed pseudo self-forgiveness. Authentic self-forgiveness involves accepting responsibility for one’s role in transgressions, and in order to truly forgive oneself, one must acknowledge the wrongness of behavior (Enright & the Human Development Study Group, 1996; Hall & Fincham, 2005; Holmgren, 1998). Genuine self-forgiveness does not involve excusing or dismissing behavior or responsibility, but rather involves a long, uncomfortable process of self-examination (Holmgren, 2002). One study by Fisher and Exline (2006) found participants who viewed the self-forgiveness process as difficult and requiring substantial effort were more likely to experience character change and repentance. However, it is important to note that authentic self-forgiveness does not exist nor need to exist in the absence of wrongful behavior (Hall & Fincham, 2005). For example, a woman who is raped and blames herself for “asking for it” by wearing provocative
clothing does not need to forgive herself for her actions, as she was not the transgressor. In this instance, interpersonal forgiveness or self-compassion work might be more appropriate.

By contrast, pseudo self-forgiveness occurs when individuals do not take responsibility for their actions, thereby avoiding the consequences and negative emotions associated with their role as the transgressor (Hall & Fincham, 2005; Tangney et al., 2005). Pseudo self-forgiveness is achieved through self-deception and rationalization (Holmgren, 2002). In essence, offenders attempt to reduce negative emotions without accepting responsibility, which is required for true self-forgiveness to occur (Hall & Fincham, 2005).

Narcissism has been linked with pseudo self-forgiveness (Enright & the Human Development Study Group, 1996). A study by Strelan (2007) found a positive link between narcissism and self-forgiveness. The researcher proposed that narcissists have an inflated view of self and are therefore more likely to forgive themselves for transgressions, either because they are unaware they have violated a standard of behavior, or because they are unable or unwilling to see themselves in a negative light and therefore do not experience negative emotions that come with admitting wrongdoing, which is essential for true self-forgiveness to occur.

Hall and Fincham (2005) argue that authentic self-forgiveness comes from a place of guilt, remorse, and shame. Individuals accept responsibility for their actions and the resultant negative emotions, and through the process of self-forgiveness, are able to replace them with benevolence and acceptance (Enright & the Human Development Study Group, 1996). Pseudo self-forgiveness, however, does not
originate from these negative emotions, and actively seeks to avoid experiencing them (Hall & Fincham 2005). These uncomfortable feelings are not addressed, which precludes genuine self-forgiveness from occurring (Enright & the Human Development Study Group, 1996).

**Self-Forgiveness, Self-Compassion, and Self-Acceptance**

While much of the self-forgiveness literature mentions both self-compassion and self-acceptance as constructs related to self-forgiveness, it is yet unclear how they relate to or differ from forgiving oneself. Fisher and Exline (2010) proposed that self-compassion and self-acceptance might be mechanisms by which an individual may work through shame, which hinders self-forgiveness. However, no studies to date have examined the mechanisms by which this may take place, nor the extent to which self-forgiveness, self-compassion, and self-acceptance may be interrelated or represent distinct processes.

**Self-acceptance.** Worthington (2006) defined self-acceptance as finding peace in the fact that one is fundamentally flawed, and emphasized that self-acceptance might be a necessary part of self-forgiveness. Other authors have suggested that self-forgiveness is actually self-acceptance. Vitz and Meade (2011) published a critique of the construct of self-forgiveness, arguing that while self-forgiveness seeks to remove barriers to healing (i.e., feeling unworthy, feeling as though there is no way to make reparations, feeling as though one should be punished because of their actions), the idea of forgiving the self can actually lead to a split, wherein the “good” half of the individual forgives the “bad” half of the individual. The authors note that such splitting is clinically harmful and can prevent healing (i.e., forgiveness). They highlight the use of
self-forgiveness to relieve persistent negative emotions that often persist despite interpersonal forgiveness, and propose self-acceptance as the way to resolve these negative emotions. Self-acceptance would therefore promote the individual acknowledging their failures and viewing himself or herself as a flawed person who is capable of both good and bad. Despite several authors including references to self-acceptance within the self-forgiveness literature, no studies to date examine the differences between these constructs.

**Self-compassion.** Kristin Neff is one of the most prolific authors on the subject of self-compassion. She defines self-compassion as being kind and understanding to oneself despite experiencing failure, inadequacy, or misfortune (Neff, 2008). Neff (2003) has proposed three components of self-compassion: self-kindness (i.e., being kind to the self instead of judgmental), common humanity (i.e., recognizing that one is a part of a larger humanity and is not cut off from or alone in the world), and mindfulness (i.e., acknowledging pain without dwelling on it).

Self-compassion is rooted in the concept of balance. It involves balancing negative emotions such that pain is neither denied nor exaggerated, and balancing concerns about the self with concerns about others (Neff, 2008). Self-compassion has been found to be a stronger predictor of mental health than self-forgiveness (Neff, 2008), and in her dissertation, Terzino (2010) argued that while self-forgiveness tends to be instance-specific (i.e., is required after an offense has occurred), self-compassion exists within the self even when nothing has triggered it.

Neff (2008) differentiated self-compassion from self-esteem, which also offers the benefits of positive self-affect and self-acceptance. However, self-compassion is not
based on evaluations of the self in comparison to others, whereas self-esteem tends to position the self in opposition to others (Gilbert & Irons, 2005). While Neff acknowledged that self-esteem and self-compassion overlap in their positive emotional viewpoint of the self, the attention to self versus others separates these constructs.

**Self-Forgiveness and Disordered Eating**

Given that self-forgiveness can apply to situations in which the victim and the offender are the same person (i.e., intrapersonal forgiveness), self-forgiveness has been suggested to be relevant for individuals with clinical concerns such as disordered eating (Hall and Fincham, 2005). Disordered eating has been associated with a myriad of issues surrounding an individual’s negative relationship with the self (i.e., self-criticism, negative self-talk, distorted self-image; Watson, 2007). The patterns of negativity and avoidance common in disordered eating are similar to the patterns of negative emotions and attempts to avoid that are seen in unforgiveness (i.e., lack of self-forgiveness; Enright and the Human Development Study Group, 1996; Watson, 2007). Therefore, it stands to reason that self-forgiveness, with its emphasis on acknowledging and resolving negative emotions toward the self (e.g., shame and guilt), may play a role in the context of disordered eating (Hall & Fincham, 2005; Lander, 2012; Watson et al., 2012).

Only two published studies to date have investigated the relationship between self-forgiveness and disordered eating, though many researchers and clinicians have suggested that such a relationship exists (Watson, 2007). Lander (2012) conducted a case study in which an individual with anorexia nervosa underwent treatment that included a component of self-forgiveness as described in Enright and the Human
Development Study Group (1991). At the end of treatment, the client demonstrated reduced levels of negative emotion and alexithymia, as well as increased levels of self-love and positive behavioral changes. Watson and colleagues (2012) found that higher levels of anorexia nervosa and bulimia nervosa symptoms were associated with lower levels of both state self-forgiveness (i.e., in response to specific offenses against the self) and trait self-forgiveness (i.e., experiencing negative emotions as a typical way of responding to the self). No study to date has investigated the link between self-forgiveness and subclinical disordered eating.

Self-forgiveness interventions have been suggested as an adjunct or supplementary treatment to the empirically supported treatments currently utilized in disordered eating therapy (Lander, 2012; Watson, 2007; Watson et al., 2012). As cognitive behavioral therapy, one of the most widely used treatment modalities for disordered eating, is problem-oriented (i.e., focuses on disordered eating behaviors, distorted beliefs, and coping skills; Lander, 2012) and may not address the persistent self-directed negative emotions and self-blame common with disordered eating, self-forgiveness interventions, with their focus on acknowledgement of negative emotionality, might be an effective addition to treatment protocols (Enright & Fitzgibbons, 2000; Watson et al., 2012).

It is important to note that self-forgiveness assumes that the individual has committed some transgression or wrongdoing that must be acknowledged in order for self-forgiveness to occur (Coyle, 1999). However, disordered eating may not include a rational transgression that can (or should) be forgiven. Disordered eating can include irrational beliefs and self-flagellation related to thoughts, feelings, and actions that may
or may not be objectively classifiable as transgressions. It may actually be more harmful than helpful to label such thoughts, feelings, and behaviors as transgressions in need of forgiveness. It is unclear how the concept of self-forgiveness might be useful in this context, and more research is needed in this area. It is possible that self-forgiveness may only be applicable to some aspects of disordered eating, or that some other construct such as self-acceptance or self-compassion, perhaps in conjunction with self-forgiveness, may be more appropriate.

**Self-Compassion and Disordered Eating**

It has also been suggested that self-compassion might be useful in treating disordered eating. There is some recent research on the relationship between disordered eating and self-compassion, as well as studies investigating self-compassion interventions targeted at reducing disordered eating symptoms. Lower levels of self-compassion have been associated with higher levels of shame and disordered eating pathology, as well as poorer treatment responses (Kelly, Carter, Zuroff, & Borairi, 2013). Self-compassion predicts lower levels of body shame and lower concern surrounding weight gain, and body shame mediates the relationship between self-compassion and self-reported anticipated disordered eating (Breines, Toole, Tu, & Chen, 2014). Self-compassion has also been linked with lower levels of body image dissatisfaction and lower levels of engagement in disordered patterns of eating behavior, and has been shown to mediate the relationship between external shame and drive for thinness in clinical and nonclinical samples (Ferreira, Pinto-Gouveia, & Duarte, 2013). Another study demonstrated that participants who listened to self-directed audio self-compassion interventions for three weeks had higher levels of self-compassion and
body image and lower levels of body shame following the interventions (Albertson, Neff, & Dill-Shackleford, 2014).

Goss and Allan (2014) developed a version of compassion-focused therapy (CFT) specifically for eating disorders (CFT-E). CFT was originally developed as treatment to target shame, self-criticism, and self-directed hostility (Goss & Allan, 2014). CFT-E is intended to be utilized alongside empirically supported treatments for disordered eating, such as cognitive behavioral therapy. Studies are currently being conducted to test the efficacy of CFT applied to eating disorders.

**Self-Acceptance and Disordered Eating**

No research to date has examined the relationship between self-acceptance (i.e., acknowledging and accepting that one is fundamentally flawed; Worthington, 2006) and eating disorders or subclinical disordered eating. Several studies have recently been conducted to examine Acceptance and Commitment Therapy (ACT) as an intervention in disordered eating (Baer, Fischer, & Huss, 2005; Berman, Boutelle, & Crow, 2009; Juarascio, Forman, & Herbert, 2010) but “acceptance” in this context refers to non-judgmental acceptance of fat-related thoughts, feelings, images, and fears (Hayes, Strosahl, & Wilson, 1999; Heffner & Eifert, 2004). Acceptance in ACT is based on accepting what is (i.e., thoughts and experiences), rather than on accepting the self as a whole. While ACT has been shown to decrease disordered eating behavior, a thorough review of acceptance in this context is beyond the scope of this dissertation.

Although self-acceptance has not been directly studied in the context of disordered eating, self-forgiveness has been suggested as a potential treatment for disordered eating. Gerber (1990) and Worthington (2006) have suggested that self-
acceptance may be a necessary component of self-forgiveness. Vitz and Meade (2011) have suggested that what has been called self-forgiveness is actually self-acceptance. Watson et al. (2012) argued that while self-forgiveness and making amends for wrongdoing may be important in eating disorder treatment, self-acceptance is necessary for recovery. Given the as yet undetermined relationship between self-forgiveness and self-acceptance, particularly in relation to disordered eating, it is important to examine these constructs more fully.

A Proposed Model of Positive Attitudes Toward the Self and Subclinical Disordered Eating

Although the relationship between self-compassion and disordered eating has been studied more than the relationship between self-forgiveness and disordered eating, it is yet unclear how self-forgiveness, self-compassion, and self-acceptance are interrelated or distinct constructs. Self-compassion has been suggested to be a component of self-forgiveness, especially in reference to shame (Fisher & Exline, 2010), yet no study has examined whether self-compassion is related to self-forgiveness. One unpublished masters thesis (Swanepoel, 2009) studied the correlation between self-forgiveness and disordered eating, and between self-compassion and disordered eating. The study found that both self-forgiveness and self-compassion were correlated with drive for thinness and predictors of disordered eating, but did not explore how controlling for either self-forgiveness or self-compassion affected the relationship.

It cannot be determined as yet whether it is (a) self-compassion, (b) self-forgiveness, (c) self-acceptance, or (d) some combination of these variables that is
related to potential improvements in disordered eating. Therefore, I have proposed a model (see Figure 1) to address the relationship between positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-acceptance) and subclinical disordered eating, and to examine the potential mediation effect of negative self-conscious emotions (i.e., shame and guilt).

This model includes subclinical disordered eating rather than clinical eating disorders because (a) the rates of subclinical disordered eating are approximately twice the rates of clinical eating disorders (i.e., anorexia nervosa and bulimia nervosa), and (b) subclinical disordered eating is often accompanied by significant psychological distress, including depression and suicidality (Shisslak et al., 1995). I predict positive attitudes toward the self will have a negative relationship with disordered eating. I also predict a mediation effect such that there will be a negative relationship between positive attitudes toward the self and negative emotions, and a positive relationship between negative emotions and disordered eating.

**Research Implications of the Proposed Model**

Application and testing of the proposed model would serve to expand the existing self-forgiveness literature, which primarily refers to self-forgiveness for interpersonal transgressions (i.e., forgiving the self for harming another). Disordered eating is likely an intrapersonal transgression, wherein both the victim and the offender are the self (i.e., forgiving the self for engaging in disordered eating, which harms the self).
Figure 1. A proposed model of positive attitudes toward the self and disordered eating.
Therefore, it is unclear as to whether the relationship between shame, guilt, and self-forgiveness in the context of disordered eating will parallel the existing literature on self-forgiveness for interpersonal transgressions.

This model might also help clarify and examine the interrelatedness or distinction of the constructs of self-forgiveness, self-compassion, and self-acceptance. No studies to date have investigated the ways in which the mechanisms of each of these variables might be similar or different, nor have any studies examined their possible combined effects on disordered eating. Recent literature has studied the effects of a self-compassion intervention on disordered eating (i.e., CFT-E). However, since the distinction between self-forgiveness and self-compassion has not been explored, and given the question as to whether self-forgiveness includes components of self-compassion (i.e., with regard to reducing shame), it is possible that self-forgiveness interventions might also be effective in reducing disordered eating symptoms. Testing of the proposed model would allow for clarification and could lead to efficacy studies of self-forgiveness interventions versus self-compassion interventions on disordered eating.

*Counseling Implications of the Proposed Model*

Cognitive behavioral therapy (CBT) is one of the most widely utilized treatments for eating disorders and disordered eating. It focuses on reducing problematic thoughts and behaviors, as well as increasing coping skills (Lander, 2012). However, it does not address the self-directed negative emotions that accompany disordered eating (Enright & Fitzgibbons, 2000), and CBT alone is only moderately effective (i.e., 30-50% of individuals with bulimia nervosa reported reduced symptoms after treatment; Wilson,
An effective supplemental treatment to CBT and other empirically supported treatments for disordered eating might be able to offer additional clinical/counseling resources for treatment providers. The proposed model has the potential to identify components of potential supplemental interventions such that they could be applied in a counseling setting. The model might also have application for other psychological disorders with a component of negative self-directed emotions.

Areas for Future Research

Future research could be done on testing the proposed model to determine whether the variables relate to each other in the predicted manner, or whether some other variable or variables might be present. Studies should be conducted to identify and test potential mediators and moderators of the proposed relationship between self-forgiveness and disordered eating, thereby modifying the current model to obtain a more specific picture of the mechanisms involved in this relationship. Additional research might also examine the relationship between positive attitudes toward the self and other psychological disorders, including clinical eating disorders, depression, substance use, or any other disorder for which negative self-directed emotions are a component.

Application of the model to counseling interventions is another potential area for future research. This might result in the implementation of existing interventions or the development and testing of new treatment protocols and interventions. Studies should examine whether self-forgiveness, self-compassion, self-acceptance, or a combination of these variables reduce disordered eating via the pathways of shame and guilt.
Efficacy studies should then compare self-forgiveness interventions with self-acceptance or self-compassion interventions (i.e., CFT-E) to determine whether any specific intervention is more effective in reducing symptoms of disordered eating or other applicable psychological disorders.
Eating disorders and subclinical disordered eating (i.e., problematic behaviors and patterns of eating that do not meet criteria for a full eating disorder diagnosis) affect millions of men and women in the United States. Approximately 20 million women and 10 million men will suffer from an eating disorder in their lifetime (Wade et al., 2011) and approximately 40 million women and 20 million men (i.e., twice as many people) will be affected by subclinical disordered eating (Shisslak et al., 1995). This widespread problem has far-reaching physical and psychological health consequences. Eating disorders are among the most deadly psychological disorders, and one study found that individuals with subclinical disordered eating have a similar crude mortality rate as individuals with eating disorder diagnoses (Crow et al., 2009). Disordered eating behaviors have been linked to other physical health problems, including organ failure (Arcelus et al., 2011). Several comorbid psychological disorders have been linked with disordered eating, including anxiety, depression, and substance use (DeBoer & Smits, 2013; Gadalla & Piran, 2008). Given the prevalence and wide ranging negative effects of disordered eating, the implementation of effective intervention strategies to help individuals with both eating disorders and subclinical disordered eating is critical.

The negative self-conscious emotions of shame (i.e., “I am bad”) and guilt (i.e., “I did something bad”) have been linked to the development and maintenance of disordered eating (Markham et al., 2005; Sanftner et al., 1995). Shame is thought to be more prominent in disordered eating than guilt (Burney & Irwin, 2000; Hayaki et al., 2002), as individuals with disordered eating tend to have a negative view of themselves.
that they attribute to being a bad person (i.e., shame) rather than as the result of guilt about disordered eating behaviors (Sanftner et al., 1995). Since shame is related to a core sense of worthlessness or failure, shame tends to be psychologically more destructive than guilt, with its focus on behavioral wrongdoings (Tangney et al., 1995).

Intervention Strategies Commonly Used to Treat Disordered Eating

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is considered the treatment of choice for eating disorders (Murphy, Straebler, Cooper, & Fairburn, 2010). CBT is designed to address the thoughts, feelings, behaviors, perceptions, and beliefs surrounding disordered eating symptoms. CBT-BN was specifically developed to treat patients with bulimia nervosa, and entails 16-20 sessions over 4 to 5 months to address eating habits and the ways of thinking about shape and weight that maintain these eating habits (Fairburn, Marcus, & Wilson, 1993). CBT has also been adapted specifically for binge eating disorder (i.e., CBT-BED; National Institute for Clinical Excellence, 2004). Recently, Enhanced CBT (CBT-E) was developed from CBT-BN to treat eating disorder pathology rather than eating disorder diagnoses (Murphy et al., 2010). It includes modules that address low self-esteem, perfectionism, and interpersonal issues. Although no specific treatment for subclinical disordered eating has been identified, the National Institute for Clinical Excellence (2004) has recommended that CBT be used and tailored to the client depending on their symptom presentation.

While CBT is considered the treatment of choice for eating disorders, particularly bulimia nervosa (National Institute for Clinical Excellence, 2004), it is only 30-50%
Effective in treating individuals with bulimia (Wilson et al., 2007). CBT and its iterations focus primarily on thoughts and behaviors, but focus less on the maladaptive emotions that are common in disordered eating (i.e., shame and guilt). CBT-E addresses additional factors such as perfectionism and low self-esteem, but again, focuses less on the not the core maladaptive emotions of shame and guilt that have been linked to disordered eating.

Third Wave Behavioral Interventions

Third wave behaviorism moves beyond traditional CBT by integrating mindfulness and spirituality with behavioral theory. Interventions such as Acceptance and Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT) are examples of third wave behavioral modalities.

DBT was developed by Linehan (1993) to treat borderline personality disorder. Since its inception, DBT has been adapted to treat multiple psychological disorders, including eating disorders, and has been shown to be an effective treatment for anorexia nervosa, bulimia nervosa, and binge eating disorder (Lenz, Taylor, Fleming, & Serman, 2014). DBT for eating disorders is based on the affect regulation model of eating disorder maintenance (see Chapter 2; Linehan & Chen, 2005). This approach to treatment acknowledges that emotions are important in the development and maintenance of eating disorders, and that individuals with eating disorders have difficulty preventing, tolerating, and modulating emotional distress (Linehan & Chen, 2005). DBT addresses shame as a secondary emotion that is involved in the emotion regulation process.
ACT has also been implemented as a treatment for eating disorders, and has been shown to be an effective intervention (Baer et al., 2005; Berman et al., 2009; Juarascio et al., 2010). ACT is rooted in the idea that controlling unwanted experiences or distressing thoughts and feelings is often ineffective (Hayes, 2004). The two primary components of ACT that are thought to be effective in treating disordered eating are mindfulness (i.e., connection to the present moment, awareness, and openness) and acceptance (i.e., making room for painful experiences without trying to change them; Baer et al., 2005). ACT also emphasizes reducing cognitive control, which is thought to be component of eating disorders (Tiggemann & Raven, 1998).

Third wave behavioral interventions have gone beyond traditional CBT to integrate the emotional components of shame and guilt into a treatment model. Both ACT and DBT emphasize acceptance (i.e., non-judgmentally acknowledging and accepting that things are the way they are), but do not directly address components of positive attitudes toward the self, such as self-forgiveness (i.e., letting go of past intrapersonal transgressions in order to move past them), self-compassion (i.e., being kind to oneself despite failures or inadequacies), and self-acceptance (i.e., finding peace in one’s flaws).

Positive Attitudes Toward the Self and Disordered Eating

“Positive attitudes toward the self” is the term I have proposed to integrate the constructs of self-forgiveness, self-compassion, and self-acceptance. Self-forgiveness refers to a process wherein an individual who has committed a wrongdoing against the self or others chooses to let go of negative emotions (e.g., shame and guilt) he or she
experiences as a result of the wrongdoing (Enright and the Human Development Study Group, 1996; Fisher & Exline, 2010; Hall & Fincham, 2005). Self-compassion involves being kind to oneself in the face of inadequacies or failures (Neff, 2003). Self-acceptance is defined as finding peace in the fact that one is flawed (Worthington, 2006). These three constructs appear to be interrelated (i.e., self-forgiveness likely involves an aspect of self-acceptance and self-compassion; self-compassion likely involves accepting one’s failures), yet it is unclear as to how these constructs are distinct or overlap.

Hall and Fincham (2005) suggested that self-forgiveness for intrapersonal transgressions (i.e., forgiving oneself for hurting oneself) is related to disordered eating (i.e., engaging in disordered eating is an intrapersonal transgression that creates a sense of unforgiveness within the self). Lander (2012), Watson (2007), and Watson et al. (2012) proposed self-forgiveness as a pathway to reducing the negative emotions toward the self (i.e., shame and guilt) that are common in disordered eating. Self-compassion has also been suggested as a possible component of treatment of disordered eating, and several studies have found a relationship between self-compassion and disordered eating (Breines et al., 2014; Ferreira et al., 2013; Kelly et al., 2013). No studies to date have examined the relationship between self-acceptance and disordered eating. However, as the interrelatedness of the constructs of self-forgiveness, self-compassion, and self-acceptance has yet to be determined, there might be a direct or indirect relationship between self-acceptance and disordered eating.
I have proposed a model (see Figure 1 in Chapter 2) to guide exploration of the relationship between positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-acceptance) and subclinical disordered eating. I predict a negative relationship between these variables, such that increased levels of positive attitudes toward the self are related to decreased levels of disordered eating. I also predict that negative self-conscious emotions (i.e., shame and guilt) mediate this relationship, such that increased levels of positive attitudes toward the self are related to decreased negative self-conscious emotions, which in turn are positively related to disordered eating (i.e., lower levels of shame and guilt are related to lower levels of subclinical disordered eating).

Aside from helping define the relationship between these variables, the proposed model might serve as a guide to inform effective disordered eating treatments by helping clarify intrapersonal components that co-exist alongside disordered eating. Interventions that target self-forgiveness, self-compassion, and self-acceptance to reduce shame and guilt may be useful adjunct treatments for reducing disordered eating, and may be able to address intrapersonal components of disordered eating that are not addressed by traditional cognitive/behavioral treatments. While no studies to date have investigated a self-forgiveness intervention for disordered eating, one study tested a self-forgiveness intervention for alcohol and substance abuse (Scherer, Worthington, Hook, & Campana, 2011). This study found participants who participated in the self-forgiveness treatment had higher levels of self-forgiveness, higher levels of drinking refusal efficacy, and lower levels of shame and guilt over alcohol-related offenses. As substance use and disordered eating both involve elements of self-
unforgiveness for intrapersonal transgressions, it is possible that a similar treatment protocol for self-forgiveness among disordered eating individuals might be effective.

A specific intervention for self-compassion in the context of disordered eating has been recently developed and studied. Compassion-focused therapy for eating disorders (CFT-E) is an adaptation of a treatment designed to target shame, self-criticism, and self-directed hostility, that has been formulated for individuals with disordered eating (Goss & Allan, 2014). CFT-E is intended to be an adjunct treatment for disordered eating (i.e., used alongside treatments such as CBT).

Purpose of the Current Study

In the following chapters, I present a study intended to extend the current research in this field. This study is intended to test my proposed model of positive attitudes toward the self, negative self-conscious emotions, and subclinical disordered eating. I have two primary hypotheses. First, I hypothesize that higher positive attitudes toward the self will be related to lower subclinical disordered eating behaviors. Second, I hypothesize that negative self-conscious emotions will mediate the negative relationship between positive attitudes toward the self and subclinical disordered eating. The model is also intended to clarify the relationship between self-forgiveness, self-acceptance, and self-compassion, which I predict to be distinct but interrelated constructs.
CHAPTER 4

METHOD

Participants

The study sample consisted of undergraduate students from a large Southwestern university in the United States, and a community sample recruited from Amazon Mechanical Turk. The combined sample consisted of 477 participants (328 female, 146 male, 2 non-binary gender, 1 transgender) ranging in age from 18 to 70 years old ($M = 23.62, SD = 8.68$). Participants self-identified their race, with 58.5% of the combined sample identifying as White or Caucasian, 12.4% as Black or African-American, 17.4% as Latino or Hispanic, 4.8% as Asian or Pacific Islander, 0.6% as Native American, 5.0% as Multiracial, and 1.3% as Other. A summary of demographic information for the combined sample is listed in Table 1.

The student sample consisted of 377 participants (250 female, 125 male, 2 non-binary gender) ranging in age from 18 to 55 years ($M = 20.86, SD = 3.58$). The majority of the student sample (i.e., 52%) identified as White/Caucasian, 14.3% as Black/African-American, 20.7% as Latino/Hispanic, 5.3% as Asian/Pacific Islander, 0.5% as Native American, 5.6% as Multiracial, and 1.6% as Other. The community sample consisted of 100 participants (78 female, 21 male, 1 transgender) ranging in age from 18 to 70 years ($M = 33.99, SD = 13.27$). The majority of the community sample (i.e., 83.0%) identified as White/Caucasian, 5.0% as Black/African-American, 5.0% as Latino/Hispanic, 3.0% as Asian/Pacific Islander, 1.0% as Native American, and 3.0% as Multiracial.
### Table 1

**Combined Sample Demographic Statistics**

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<th>Variable</th>
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<td><strong>Gender</strong></td>
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</table>
Design

The study design used a cross-sectional, correlational design and was implemented in an online format.

Measures

Demographic Questionnaire

An 18-item questionnaire was used to collect demographic information from participants. Questions regarding participants’ gender, age, marital status, race, and level of education, among others, were included in multiple choice and short answer format.

Measures of Disordered Eating

Questionnaire for Eating Disorder Diagnoses (Q-EDD; Mintz, O’Halloran, Mulholland, & Schneider, 1997). The Q-EDD is a self-report measure of disordered eating. The Q-EDD differentiates between eating-disordered, symptomatic, and asymptomatic participants, and also between anorexia nervosa and bulimia nervosa diagnoses. It consists of 50 questions presented in multiple-choice (e.g., “do you make yourself vomit to prevent weight gain”), fill-in-the-blank (e.g., “list the types of exercise”), and Likert-type scale formats (e.g., “does your weight and/or body shape influence how you feel about yourself” with choices ranging from 1 [not at all] to 5 [extremely or completely]). A series of decision trees is used to score the Q-EDD, and participants as classified as eating disordered (i.e., given a suggested diagnoses), symptomatic (i.e., symptoms of disordered eating are present), or asymptomatic (i.e., disordered eating symptoms are not present).
The Q-EDD provides suggested diagnoses for eating disordered and symptomatic participants. Eating disordered (i.e., clinical) diagnoses include anorexia nervosa, menstruating anorexia, bulimia nervosa, subthreshold bulimia, exercise bulimia, nonbingeing bulimia, and binge-eating disorder. Symptomatic (i.e., subclinical) subtypes are also suggested, and include low-weight anorexia, nonnormal-weight nonbingeing bulimia, subthreshold nonbingeing bulimia, subthreshold binge-eating disorder, binge dieting, chewing/spitting, behavioral bulimia, subthreshold behavioral bulimia, and chronic dieting.

Mintz et al. (1997) explored the reliability and validity of the Q-EDD. They found the measure differentiated eating disordered participants from symptomatic participants and asymptomatic participants with 90% accuracy, and differentiated eating disordered and non-eating disordered participants with 97% sensitivity and 98% specificity. Test-retest reliability analyses at a 2-week interval showed kappa values ranging from .85 to .94 depending on the disorders being compared. The Q-EDD also showed evidence for convergent validity when compared with other measures of disordered eating, and criterion validity when compared with clinical interviews.

*Eating Disorder Examination Questionnaire (EDE-Q 6.0; Fairburn & Beglin, 1994)*. The EDE-Q is a 28-item, self-report version of the interview-based Eating Disorder Examination (EDE; Fairburn & Cooper, 1993). It is designed to assess eating disordered pathology, and provides frequency data and subscale scores reflecting the severity of symptoms. The EDE-Q subscales are Restraint, Eating Concern, Shape Concern, and Weight Concern. Subscale items are averaged, with higher scores indicating higher severity. A global score can also be calculated. Questions are
presented in as fill-in-the-blank questions (i.e., “how many times have you exercised”) and as questions rated on a 7-point Likert-type scale ranging from 0 (no days/not at all) to 6 (every day/markedly).

The EDE-Q has shown acceptable levels of internal consistency, with Cronbach’s alpha for subscales ranging from .73 to .95 (Aardoom, Dingemans, Op’t Landt, & Van Furth, 2012; Mond, Hay, Rodgers, Owen, & Beumont, 2004; Rose, Vaewsorn, Rosselli-Navarra, Wilson, & Weissman, 2013). Studies utilizing the EDE-Q have found strong test-retest reliability, with Pearson’s $r$ ranging from .81 to .92 after 7 days (Rose et al., 2013), and .81 to .94 after 14 days (Luce & Crowther, 1999). There is also evidence of adequate discriminate validity (i.e., ROC analysis yielded AUC of .96; Aardoom et al., 2012), and Mond et al. (2004) found acceptable criterion validity and good concurrent validity scores among a community sample. For the current study, Cronbach’s alpha was .96.

Measures of Positive Attitudes Toward the Self

Heartland Forgiveness Scale (HFS; Thompson et al., 2005). The HFS is an 18-item self-report inventory designed to assess dispositional (i.e., trait) self-forgiveness. Statements such as “I hold grudges against myself for negative things I’ve done” are rated on a 7-point Likert-type scale ranging from 1 (almost always false of me) to 7 (almost always true of me). Scores are summed, with higher scores indicating higher levels of self-forgiveness. Scores for Total Forgiveness, Forgiveness of Self, Forgiveness of Others, and Forgiveness of Situations can be calculated.

The HFS has shown adequate internal consistency, with Cronbach’s alpha coefficients ranging from .84 to .87 (Thompson & Snyder, 2003). The three-week test-
retest reliability coefficient for Total Forgiveness was .83, and ranged from .72 to .77 for the subscales. The measure has also correlated significantly with Transgression-Related Interpersonal Motivations Inventory (TRIM; $r = -.25, p < .005$), the Multidimensional Forgiveness Inventory (MFI) and the Forgiveness of Self and Forgiveness of Other Scales (Thompson & Snyder). For the current study, Cronbach’s alpha was .82 for the Forgiveness of Self subscale.

State Self-Forgiveness Scale (SSFS; Wohl et al., 2008). The SSFS is a 17-item self-report scale intended to measure state self-forgiveness (i.e., self-forgiveness in response to a specific situation or circumstance). A series of statements are presented (e.g., “As I consider what I did wrong, I feel accepting of myself”) and are rated on a 4-point Likert-type scale from 1 (not at all) to 4 (completely). For the purposes of this study, the beginning of each statement was altered to focus the participant on their disordered eating behavior rather than a general transgression (i.e., “As I consider my problematic eating behaviors, I feel accepting of myself”). Subscale scores are calculated for Self-Forgiving Feelings and Actions and for Self-Forgiving Beliefs. Response scores are summed, with higher scores indicating higher levels of self-forgiveness.

Wohl et al. (2008) found high levels of internal consistency, with Cronbach’s alpha ranging from .86 to .98. The authors also found evidence for adequate convergent validity and discriminant validity, but there is some question as to whether the scale measures self-forgiveness or some other related construct (e.g., excusing oneself from blame; Griffin, 2014). For the current study, the Cronbach’s alpha
coefficient was .92 for both the Self-Forgiving Feelings and Actions subscale and the Self-Forgiving Beliefs subscale.

*Self-Compassion Scale (SCS; Neff, 2003).* The SCS is a 26-item self-report questionnaire that measures aspects of self-compassion. Participants rate statements (e.g., “When times are really difficult, I tend to be tough on myself”) on a 5-point Likert-type scale ranging from 1 (*almost never*) to 5 (*almost always*). A total score as well as subscale scores (i.e., Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, Over-Identified) are calculated by summing response scores. Higher scores indicate higher levels of self-compassion.

Neff (2003) found internal consistency coefficients ranging from .75 to .92 depending on the subscale. The SCS was correlated with several measures assessing similar constructs (i.e., Self-Criticism subscale of the Depressive Experiences Questionnaire; Social Connectedness Scale), was found to predict mental health outcomes, and was correlated with the Beck Depression Inventory, Speilberger Trait Anxiety Inventory, and the Life Satisfaction Scale. For the current study, the Cronbach’s alpha coefficient for Total Self-Compassion was .95.

*Unconditional Self-Acceptance Questionnaire (USAQ; Chamberlain & Haaga, 2001a).* The USAQ is a self-report measure intended to measure various aspects of self-acceptance. It includes 20 statements such as “I avoid comparing myself to others to decide if I am a worthwhile person” are rated on a 7-point Likert-type scale ranging from 1 (*almost always untrue*) to 7 (*almost always true*). Response scores are summed, with higher scores indicating higher levels of self-acceptance.
Chamberlain and Haaga (2001b) found an internal consistency coefficient of .86, and found the USAQ to be correlated with several related measures, indicating convergent validity. The questionnaire was negatively correlated with depression and anxiety, and was positively correlated with happiness, satisfaction with life, and state mood. It was not correlated with either self-deception or narcissism. For the current study, Cronbach’s alpha was .82.

**Measures of Negative Self-Conscious Emotions**

**State Shame and Guilt Scale (SSGS; Marschall, Sanftner, & Tangney, 1994).**

The SSGS is a 15-item self-report measure of state shame and guilt (i.e., shame and guilt experienced at the present time in relation to some event or behavior). Statements such as “I want to sink into the floor and disappear” are rated on a 5-point Likert-type scale ranging from 1 (*not feeling this way*) to 5 (*feeling this way very strongly*). Scores for three subscales (i.e., Shame, Guilt, and Pride) are summed, with higher scores indicating higher levels of shame and guilt. The scale has shown high levels of internal consistency, with Cronbach’s alpha ranging from .82 to .89 (Tangney & Dearing, 2002). Tangney and Dearing (2002) also found evidence of test-retest reliability, predictive validity, and convergent validity among a sample of undergraduate college students. For the current sample, Cronbach’s alpha was .86 for the Shame subscale and .88 for the Guilt subscale.

**Test of Self-Conscious Affect (TOSCA-3; Tangney, Dearing, Wagner, & Gramzow, 2000).** The TOSCA-3 is a self-report measure that is often used to differentiate trait (i.e., dispositional) shame and trait guilt. Participants read a series of 16 scenarios (i.e., five positive and 11 negative) such as “you break something at work
and then hide it.” Each scenario includes four to five statements related to how the participant might feel or react to the scenario (e.g., “you would think about quitting,” and “you would think: ‘it was only an accident’”), which are rated on a 5-point Likert-type scale ranging from 1 (not likely) to 5 (very likely). Six subscale scores (i.e., Guilt Proneness, Shame Proneness, Externalization, Detachment, Alpha Pride, Beta Pride) are calculated by averaging the items for each subscale, with higher scores representing higher levels self-conscious affect. The scale has shown acceptable levels of internal consistency, with Cronbach’s alpha ranging from .77 to .78 for Shame Proneness and Guilt Proneness, and from .48 to .75 for the other subscales. The TOSCA-3 has shown evidence of test-retest reliability and validity among American, Japanese, and German participants (Hasui, Kitamura, Tamaki, Takahashi, Masuda, & Ozeki, 2009; Kocherscheidt, Fiedler, Kronmuller, Backenstra, & Mundt, 2002; Tangney et al., 2000). For the current sample, the Cronbach’s alphas were .84 for Shame Proneness and .82 for Guilt Proneness.

Procedure

Following approval by the university’s Institutional Review Board, participants were recruited from undergraduate classes or Mechanical Turk. Participants recruited from undergraduate classes received course credit for their participation, and participants recruited from Mechanical Turk received financial compensation for their participation. Participants who volunteered to participate were directed to an online survey, where they were provided an explanation of the study’s procedures and informed consent guidelines. After they gave informed consent, they completed the
Hypotheses and Planned Analyses

Hypothesis #1

Statement. The measurement model (see Figure 2) will demonstrate adequate goodness of fit. The path coefficients between each indicator variable and its latent variable will be significant.

Justification. Self-forgiveness, self-compassion, and self-acceptance should be positively related to each other. Fisher and Exline (2010) suggested self-compassion and self-acceptance may be mechanisms of self-forgiveness, and Vitz and Meade (2011) proposed that self-forgiveness for intrapersonal transgressions is actually self-acceptance. To the extent that these variables are positively related to each other, they should load significantly on the same latent variable (i.e., positive attitudes toward the self). Shame and guilt should be positively related to each other, as both shame and guilt are negative emotions directed at the self that arise in response to some event or situation. To the extent that these variables are positively related to each other, they should load significantly on the same latent variable (i.e., negative self-conscious emotions). To the extent that the subscales of the EDE-Q assess disordered eating, they should load significantly on the same latent variable (i.e., disordered eating). If all...
indicator variables load strongly on their respective latent variable, the measurement model should show adequate fit.

Figure 2. The proposed measurement model. D.E = Disordered Eating; POS.ATT = Positive Attitudes Toward the Self; NEG.EM = Negative Self-Conscious Emotions; de.r = Disordered Eating, Restraint; de.ec = Disordered Eating, Eating Concern; de.sc = Disordered Eating, Shape Concern; de.wc = Disordered Eating, Weight Concern; tr.sf = Trait Self-Forgiveness; st.sf = State Self-Forgiveness; sc = Self-Compassion; sa = Self-Acceptance; st.s = State Shame; st.g = State Guilt; tr.s = Trait Shame; tr.g = Trait Guilt.
Planned analysis. Several fit indices will be calculated to evaluate how well the measurement model fits the data, including (a) the chi-square ($\chi^2$), (b) the comparative fit index (CFI), and the root-mean-square error of approximation (RMSEA). A model is said to have good fit to the data when there is a non-significant chi-square, the CFI value is above .95, and the RMSEA is less than .06 (Hu & Bentler, 1999).

Hypothesis #2

Statement. The structural model (see Figure 3) will demonstrate adequate goodness of fit. The path coefficients between latent variables identified in the model will be significant. The indirect effect of positive attitudes toward the self on subclinical disordered eating via negative self-conscious emotions will be significant.

Justification. Constructs such as self-forgiveness, self-compassion, and self-acceptance (i.e., positive attitudes toward the self) have been linked to (a) negative self-conscious emotions such as shame and guilt and (b) disordered eating. Watson et al. (2012) found that lower levels of self-forgiveness were linked to higher levels of disordered eating symptoms, and Kelly et al. (2013) found a similar link between self-compassion and disordered eating. Self-compassion also predicted shame, and shame was found to mediate the relationship between self-compassion and disordered eating (Breines et al., 2014). The implementation of a self-forgiveness intervention was associated with decreased negative emotions and improvements in disordered eating symptoms following treatment (Lander, 2012). Self-compassion interventions are currently being tested to assess effects on shame and disordered eating (Goss & Allan, 2014).
Figure 3. The proposed structural model. D.E = Disordered Eating; POS.ATT = Positive Attitudes Toward the Self; NEG.EM = Negative Self-Conscious Emotions; tr.sf = Trait Self-Forgiveness; st.sf = State Self-Forgiveness; sc = Self-Compassion; sa = Self-Acceptance; de.r = Disordered Eating, Restraint; de.ec = Disordered Eating, Eating Concern; de.sc = Disordered Eating, Shape Concern; de.wc = Disordered Eating, Weight Concern; st.s = State Shame; st.g = State Guilt; tr.s = Trait Shame; tr.g = Trait Guilt.
Planned analysis. Several fit indices will be calculated to evaluate how well the structural model fits the data, including (a) the chi-square ($\chi^2$), (b) the comparative fit index (CFI), and the root-mean-square error of approximation (RMSEA). A model is said to have good fit to the data when there is a non-significant chi-square, the CFI value is above .95, and the RMSEA is less than .06 (Hu & Bentler, 1999). The significance of each path coefficient and the significance of the indirect effect will be evaluated using SEM software. Furthermore, a fully mediated model will be tested by constraining the direct path from positive attitudes toward the self to disordered eating to zero. The fully mediated and partially mediated models will be compared using a chi-square difference test.
Prior to conducting the primary analyses, I checked the dataset for missing data, random responding, outliers, and normality. Approximately 14% of the original 996 responses (i.e., 136 cases) included incomplete responses (i.e., the participant discontinued the study prior to finishing the questionnaires). These responses were deleted, and the remaining 860 responses were assessed for random responding. The study questionnaires included three validity questions that instructed participants to provide a specific response to a question (i.e., “select the Strongly Agree option”). Participants who failed to answer all three validity questions correctly were excluded from the final dataset. The final dataset included 477 participants.

Due to a researcher error, one of the questions on the State Shame and Guilt Scale (SSGS) Shame subscale was missing for all participants. The Shame subscale was calculated as a total of the remaining four items rather than with five items. Therefore, the range of possible scores for this subscale was 4.00 to 20.00 rather than 5.00 to 25.00.

There were a small number of outliers (i.e., 0.54% of responses, primarily in the disordered eating and state shame variables). Outliers are problematic because they may (a) lead to Type 1 and Type 2 errors and (b) lead to results that do not generalize except to another sample with the same kind of outlier (Tabachnick & Fidell, 2007). Upon further examination, the outliers in the dataset were not the result of a mistake
due to data entry. Therefore, I recoded outliers to 3 standard deviations above or below the mean.

I checked the data for normality by examining the skewness and kurtosis values for each variable. Curran, West, and Finch (1996) suggest utilizing moderate normality thresholds (i.e., 2.0 for skewness, 7.0 for kurtosis) for variables used in multivariate analyses such as factor analysis. Furthermore, in multivariate analyses with large sample sizes (i.e., larger than 200 participants), variables with significant skewness values as indicated by the Shapiro-Wilk Test of Normality do not deviate enough from normal to make a significant difference in analyses (Tabachnick & Fidell, 2007). Therefore, I did not conduct the Shapiro-Wilk Test of Normality and I utilized a skewness threshold of ±2.0 and a kurtosis threshold of ±7.0. No variables exceeded these thresholds; no transformations were necessary. Table 2 contains the descriptive statistics for each of the variables included in the study analyses.

**Exploratory Analyses**

*Symptomatology of Participants*

The Questionnaire for Eating Disorder Diagnosis (Q-EDD) is a self-report measure of disordered eating that provides categorical data distinguishing eating disordered (i.e., clinical), symptomatic (i.e., subclinical), and asymptomatic participants. The majority of the sample (i.e., 392 participants; 82.2%) was asymptomatic, meaning they did not meet criteria for clinical eating disorder diagnoses nor subclinical disordered eating. Of the 392 asymptomatic participants, 257 participants (65.6%) identified as female, 133 participants (33.9%) identified as male, 1 participant (0.25%)
identified as non-binary gender, and 1 participant (0.25%) identified as transgender.

Table 3 contains a summary of participant symptomatology.

Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Possible Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDE-Q Restraint Scale</td>
<td>1.23</td>
<td>1.44</td>
<td>0.00 to 5.58</td>
<td>0.00 to 6.00</td>
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<tr>
<td>EDE-Q Eating Concern Scale</td>
<td>0.84</td>
<td>1.13</td>
<td>1.00 to 4.36</td>
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</tr>
<tr>
<td>EDE-Q Shape Concern Scale</td>
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<td>EDE-Q Weight Concern Scale</td>
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<td>1.69</td>
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<td>EDE-Q Total Score</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>State Self-Forgiveness (Beliefs Scale; SSFS)</td>
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<td>7.08</td>
<td>7.24 to 42.00</td>
<td>6.00 to 42.00</td>
</tr>
<tr>
<td>State Self-Forgiveness (Feelings and Actions Scale; SSFS)</td>
<td>23.34</td>
<td>6.10</td>
<td>8.00 to 32.00</td>
<td>8.00 to 32.00</td>
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<tr>
<td>State Shame (SSGS)</td>
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<td>3.58</td>
<td>4.00 to 17.83</td>
<td>4.00 to 20.00</td>
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<tr>
<td>State Guilt (SSGS)</td>
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<tr>
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<td>Trait Guilt (TOSCA)</td>
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</tbody>
</table>

Note. EDE-Q = Eating Disorder Examination Questionnaire; HFS = Heartland Forgiveness Scale; SSFS = State Self-Forgiveness Scale; SCS = Self-Compassion Scale; USAQ = Unconditional Self-Acceptance Questionnaire; SSGS = State Shame and Guilt Scale; TOSCA = Test of Self-Conscious Affect.
Table 3

**Symptomatology of Participants**

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<th>Variable</th>
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<td>% Variable</td>
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<td>% Cluster</td>
<td>% Variable</td>
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<td></td>
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</tr>
<tr>
<td>Female</td>
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<td>84.4</td>
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<td>257</td>
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<td>78.4</td>
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<td>7</td>
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<td>33.9</td>
<td>91.1</td>
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<td>White/Caucasian</td>
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<td>218</td>
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<td>78.1</td>
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<td>2</td>
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<td>83.7</td>
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<td>8.4</td>
<td>45</td>
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<td>9.5</td>
<td>392</td>
<td>82.2</td>
<td>82.2</td>
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</table>

*Note.* % Cluster refers to percentage of the symptom cluster (e.g., 82.5% of the participants identified as “clinical” were female); % Variable refers to percentage of the variable of interest (e.g., 10.0% of female participants were identified as “clinical”).
Of the 40 participants (8.4%) whose symptoms were representative of clinical patterns of disordered eating, 33 participants (82.5%) identified as female, 6 participants (15.0%) identified as male, and 1 participant (2.5%) identified as non-binary gender. The most common diagnosis among these participants was subthreshold bulimia (27 participants, 5.7% of the total sample). Other diagnoses included menstruating anorexia (5 participants, 1.0%), bulimia, purging type (4 participants, 0.8%), nonbingeing bulimia (3 participants, 0.6%), and exercise bulimia (1 participant, 0.2%).

The remaining 45 participants (i.e., 9.4%) reported subclinical patterns of disordered eating. Of these participants, 84.4% (i.e., 38 participants) identified as female and 15.6% (i.e., 7 participants) identified as male. The most common subclinical diagnosis was subthreshold nonbingeing bulimia (26 participants, 5.5% of the total sample), followed by subthreshold behavioral bulimia (9 participants, 1.9%), binge dieting (5 participants, 1.0%), behavioral bulimia (3 participants, 0.6%), and subthreshold binge eating disorder (2 participants, 0.4%).

Correlations Between Main Variables

Disordered eating and positive attitudes toward the self. Each of the Eating Disorder Examination Questionnaire (EDE-Q) subscales correlated negatively with each of the scales representing positive attitudes toward the self. Correlations ranged from -.23 to -.41 for trait self-forgiveness, from -.48 to -.75 for state self-forgiveness, from -.29 to -.52 for self-compassion, and from -.25 to -.49 for self-acceptance, depending on the EDE-Q subscale. All correlations were significant at $p < .001$ (see Table 4).
### Correlations for the Complete Sample

<table>
<thead>
<tr>
<th></th>
<th>EDE R</th>
<th>EDE E</th>
<th>EDE S</th>
<th>EDE W</th>
<th>Trait SF-S</th>
<th>SSFA</th>
<th>SFB</th>
<th>SCS</th>
<th>USAQ</th>
<th>State S</th>
<th>State G</th>
<th>Trait S</th>
<th>Trait G</th>
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</tr>
<tr>
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<td>.76**</td>
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</tr>
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<td>.75**</td>
<td>.94**</td>
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</tbody>
</table>

*Note.* *p* < .05. **p** < .001. EDE R = Restraint Subscale, Eating Disorder Examination Questionnaire (EDE-Q); EDE E = Eating Concern Subscale, EDE-Q; EDE S = Shape Concern Subscale, EDE-Q; EDE W = Weight Concern Subscale, EDE-Q; Trait SF-S = Forgiveness of Self Subscale, Heartland Forgiveness Scale; SSFA = Self-Forgiving Feelings and Actions Subscale, State Self-Forgiveness Scale; SFB = Self-Forgiving Beliefs, State Self-Forgiveness Scale; SCS = Self-Compassion Scale; USAQ = Unconditional Self-Acceptance Questionnaire; State S = Shame, State Shame and Guilt Scale; State G = Guilt, State Shame and Guilt Scale; Trait S = Shame Proneness, Test of Self-Conscious Affect; Trait G = Guilt Proneness, Test of Self-Conscious Affect.
Disordered eating and negative self-conscious emotions. All four of the EDE-Q subscales correlated positively with negative self-conscious emotions (i.e., shame and guilt), with the exception of trait guilt. Correlations ranged from .28 to .44 for state shame, from .21 to .37 for trait shame, and from .21 to .36 for state guilt. All correlations were significant at $p < .001$. No correlation between any of the EDE-Q scales and trait guilt was significant.

Positive attitudes toward the self and negative self-conscious emotions. Each of the components of positive attitudes toward the self (i.e., self-forgiveness, self-acceptance, and self-compassion) correlated negatively with negative self-conscious emotions, with the exception of trait guilt. Correlations ranged from -.54 to -.60 for state shame, from -.34 to -.48 for trait shame, and from -.37 to -.50 for state guilt. All correlations were significant at $p < .001$. Trait guilt was not significantly correlated with any measure of positive attitudes toward the self.

Gender Differences

I examined gender differences in the correlations between key variables. I only included participants who self-identified as male or female in this examination. The number of non-binary gender and transgender participants (i.e., 3) was too small for comparison. A summary of the correlations for gender differences is presented in Table 5.

Disordered eating and positive attitudes toward the self. Generally, disordered eating was negatively correlated with positive attitudes toward the self for both males and females. For females, all correlations between each of the EDE-Q subscales were negatively correlated with each of the components of positive attitudes toward the self.
### Table 5

**Correlations by Gender**

<table>
<thead>
<tr>
<th></th>
<th>EDE R</th>
<th>EDE E</th>
<th>EDE S</th>
<th>EDE W</th>
<th>Trait SF-S</th>
<th>SSFA</th>
<th>SFB</th>
<th>SCS</th>
<th>USAQ</th>
<th>State S</th>
<th>State G</th>
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<td><strong>.95</strong></td>
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<td>-.02</td>
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</table>

*Note.* *p < .05. **p < .001. Correlations for males in shaded portions, females in non-shaded portions. EDE R = Restraint Subscale, Eating Disorder Examination Questionnaire (EDE-Q); EDE E = Eating Concern Subscale, EDE-Q; EDE S = Shape Concern Subscale, EDE-Q; EDE W = Weight Concern Subscale, EDE-Q; Trait SF-S = Forgiveness of Self Subscale, Heartland Forgiveness Scale; SSFA = Self-Forgiving Feelings and Actions Subscale, State Self-Forgiveness Scale; SFB = Self-Forgiving Beliefs, State Self-Forgiveness Scale; SCS = Self-Compassion Scale; USAQ = Unconditional Self-Acceptance Questionnaire; State S = Shame, State Shame and Guilt Scale; State G = Guilt, State Shame and Guilt Scale; Trait S = Shame Proneness, Test of Self-Conscious Affect; Trait G = Guilt Proneness, Test of Self-Conscious Affect.
Correlations ranged from -.32 to -.78 at \( p < .001 \). For males, most correlations were significant, though correlation between trait self-forgiveness and the Restraint subscale and the Eating Concern subscale of the EDE-Q were not significant. Correlations ranged from -.25 to -.63 at \( p < .05 \).

**Disordered eating and negative self-conscious emotions.** Generally, disordered eating was positively correlated with negative self-conscious emotions for both males and females. All of the EDE-Q subscales were positively correlated with state and trait shame and state guilt, though not with trait guilt. Correlations ranged from .20 to .52 at \( p < .001 \). For males, the Restraint subscale of the EDE-Q was not significantly correlated with any of the negative self-conscious emotions, and trait shame and trait guilt were not significantly correlated with the Eating Concern subscale of the EDE-Q. However, all other correlations between disordered eating subscales and negative self-conscious emotions scales were positively correlated at \( p < .05 \), with correlations ranging from .17 to .33.

**Positive attitudes toward the self and negative self-conscious emotions.** All correlations between the positive attitudes toward the self scales and negative self-conscious emotion scales except trait guilt were significant and negative regardless of gender. Correlations for males ranged from -.20 to -.62 at \( p < .05 \), and from -.36 to -.67 at \( p < .001 \) for females.

**Mean differences.** I conducted a series of independent samples t-tests to further examine the differences between males and females on each of the main variables. Females had significantly higher scores on all of the EDE-Q subscales, as well as a higher EDE-Q total score \( (p < .001) \). Females also had significantly higher levels of trait
shame and guilt than males ($p < .001$). Males had significantly higher scores for state self-forgiveness than females ($p < .05$). There were no significant gender differences for trait self-forgiveness, self-compassion, self-acceptance, state shame, or state guilt (see Table 6).

**Symptom Differences**

I also examined differences in correlations for symptomatic and asymptomatic participants. I recoded Q-EDD scores such that participants originally classified as clinical and subclinical were grouped together as symptomatic. This examination included 95 symptomatic participants and 392 asymptomatic participants. A summary of the correlation symptom differences is presented in Table 7.

**Disordered eating and positive attitudes toward the self.** Generally, disordered eating was negatively correlated with positive attitudes toward the self for both symptomatic and asymptomatic participants. All EDE-Q subscales were negatively correlated with all positive attitudes toward the self scales for asymptomatic participants, with correlations ranging from -.13 to -.71 ($p < .05$). For symptomatic participants, most of the correlations were significant and negative, with correlations ranging from -.23 to -.64 ($p < .05$). However, the Restraint subscale of the EDE-Q was not significantly correlated with any of the measures comprising the positive attitudes toward the self construct, except for the Self-Forgiving Beliefs subscale of the State Self-Forgiveness Scale (SSFS; $r(475) = -.33$, $p < .05$).
<table>
<thead>
<tr>
<th>Variable</th>
<th>Female M (SD)</th>
<th>Male M (SD)</th>
<th>Mean Difference</th>
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<td>EDE-Q Eating Concern Scale</td>
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Note. * p < .05. ** p < .001. EDE-Q = Eating Disorder Examination Questionnaire; HFS = Heartland Forgiveness Scale; SSFS = State Self-Forgiveness Scale; SCS = Self-Compassion Scale; USAQ = Unconditional Self-Acceptance Questionnaire; SSGS = State Shame and Guilt Scale; TOSCA = Test of Self-Conscious Affect.
### Table 7

**Correlations by Symptomatic and Asymptomatic Classification**

<table>
<thead>
<tr>
<th></th>
<th>EDE R</th>
<th>EDE E</th>
<th>EDE S</th>
<th>EDE W</th>
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<th>SSFA</th>
<th>SFB</th>
<th>SCS</th>
<th>USAQ</th>
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<th>State G</th>
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<td>.18</td>
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</table>

**Note.** *p < .05. **p < .001. Correlations for asymptomatic participants in shaded portions, symptomatic participants in non-shaded portions. EDE R = Restraint Subscale, Eating Disorder Examination Questionnaire (EDE-Q); EDE E = Eating Concern Subscale, EDE-Q; EDE S = Shape Concern Subscale, EDE-Q; EDE W = Weight Concern Subscale, EDE-Q; Trait SF-S = Forgiveness of Self Subscale, Heartland Forgiveness Scale; SSFA = Self-Forgiving Feelings and Actions Subscale, State Self-Forgiveness Scale; SFB = Self-Forgiving Beliefs, State Self-Forgiveness Scale; SCS = Self-Compassion Scale; USAQ = Unconditional Self-Acceptance Questionnaire; State S = Shame, State Shame and Guilt Scale; State G = Guilt, State Shame and Guilt Scale; Trait S = Shame Proneness, Test of Self-Conscious Affect; Trait G = Guilt Proneness, Test of Self-Conscious Affect.
Disordered eating and negative self-conscious emotions. Overall, disordered eating was positively correlated with negative self-conscious emotions. All asymptomatic participants’ EDE-Q scores were positively correlated with trait and state shame and state guilt. Correlations ranged from .15 to .41 (p < .05). Trait guilt was not significantly correlated with any of the disordered eating scales for asymptomatic participants. Symptomatic participants’ correlations for these variables were generally positive, with correlations ranging from .25 to .37 (p < .05). However, the Restraint subscale of the EDE-Q was not significantly correlated with any of the negative self-conscious emotions scales, and the Eating Concern subscale of the EDE-Q was not significantly correlated with trait shame. Trait guilt was not significantly correlated with most of the EDE-Q scales, with the exception of the Weight Concern subscale (r(475) = .25, p < .05).

Positive attitudes toward the self and negative self-conscious emotions. All scales comprising the positive attitudes toward the self construct were negatively correlated with state shame, state guilt, and trait shame regardless of symptom classification. Correlations for the asymptomatic group ranged from -.30 to -.59 (p < .001) and from -.27 to -.61 (p < .05) for the symptomatic group. Trait guilt was not significantly correlated with any scale for either group, with the exception of a significant positive correlation between trait guilt and trait self-forgiveness (r(475) = .12, p < .05) for the asymptomatic group.

Mean differences. I conducted a series of independent samples t-tests to examine the mean differences in key variables for symptomatic and asymptomatic participants. A summary of these analyses is presented in Table 8.
Table 8

Mean Differences by Symptomatic and Asymptomatic Classification

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symptomatic M (SD)</th>
<th>Asymptomatic M (SD)</th>
<th>Mean Difference</th>
<th>Standard Error</th>
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<tbody>
<tr>
<td>EDE-Q Restraint Scale</td>
<td>2.51 (1.48)</td>
<td>.95 (1.27)</td>
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<td>.17</td>
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<tr>
<td>EDE-Q Eating Concern Scale</td>
<td>2.00 (1.37)</td>
<td>.59 (.90)</td>
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<td>.16</td>
</tr>
<tr>
<td>EDE-Q Shape Concern Scale</td>
<td>4.29 (1.30)</td>
<td>2.09 (1.63)</td>
<td>2.19**</td>
<td>.16</td>
</tr>
<tr>
<td>EDE-Q Weight Concern Scale</td>
<td>3.82 (1.38)</td>
<td>1.81 (1.54)</td>
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<tr>
<td>EDE-Q Total Score</td>
<td>3.16 (1.17)</td>
<td>1.36 (1.19)</td>
<td>1.80**</td>
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<tr>
<td>Trait Self-Forgiveness (Forgiveness of Self Scale; HFS)</td>
<td>24.21 (6.43)</td>
<td>29.43 (6.87)</td>
<td>-5.22**</td>
<td>.81</td>
</tr>
<tr>
<td>State Self-Forgiveness (Feelings and Actions Scale; SSFS)</td>
<td>17.94 (5.57)</td>
<td>24.51 (5.57)</td>
<td>-6.56**</td>
<td>.67</td>
</tr>
<tr>
<td>State Self-Forgiveness (Beliefs Scale; SSFS)</td>
<td>25.82 (5.97)</td>
<td>31.31 (4.94)</td>
<td>-5.49**</td>
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<td>Self-Compassion (SCS)</td>
<td>2.45 (.65)</td>
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<td>Self-Acceptance (USAQ)</td>
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<td>State Guilt (SSGS)</td>
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<td>Trait Shame (TOSCA)</td>
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<td>Trait Guilt (TOSCA)</td>
<td>65.28 (9.16)</td>
<td>65.49 (8.13)</td>
<td>-.21</td>
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</table>

Note. * p < .05. ** p < .001. EDE-Q = Eating Disorder Examination Questionnaire; HFS = Heartland Forgiveness Scale; SSFS = State Self-Forgiveness Scale; SCS = Self-Compassion Scale; USAQ = Unconditional Self-Acceptance Questionnaire; SSGS = State Shame and Guilt Scale; TOSCA = Test of Self-Conscious Affect.
Symptomatic participants had significantly higher average scores for all EDE-Q scales 
\( p < .001 \), and significantly higher average scores for state shame, trait shame, and 
state guilt \( p < .001 \). Asymptomatic participants had significantly higher scores for all 
measures of positive attitudes toward the self \( p < .001 \).

**Hypothesis #1**

Hypothesis 1 was that the measurement model would demonstrate adequate 
goodness of fit, and that the path coefficients between each indicator and latent 
variables would be significant. I tested this hypothesis using structural equation 
modeling using maximum likelihood estimation. All analyses were conducted using 
LISREL 8.72 (Joreskog & Sorbom, 2005).

I began testing the measurement model by specifying four indicator variables for 
the latent variable disordered eating (i.e., the four subscales of the EDE-Q), five 
indicator variables for the latent variable positive attitudes toward the self (i.e., trait self-
forgiveness, two subscales of state self-forgiveness, self-compassion, and self-
acceptance), and four indicator variables for the latent variable negative self-conscious 
emotions (i.e., trait shame and guilt, state shame and guilt; see Figure 4).

The initial measurement model did not fit the data well, \( \chi^2(62) = 950.31, p < .001 \), 
\( CFI = .91, RMSEA = .173 \) (90% confidence interval = .164 to .183), \( SRMR = .096, GFI = .77 \). Hu and Bentler (1999) suggest a model is a good fit when there is a non-significant 
chi-square value (though this criterion is overly sensitive to large sample sizes; Kline, 
2010), the CFI value and GFI value are above .95, and the SRMR is below .08.
Figure 4. The initial measurement model. D.E = Disordered Eating; POS.ATT = Positive Attitudes Toward the Self; NEG.EM = Negative Self-Conscious Emotions; ede.r = Restraint scale, Eating Disorder Examination Questionnaire (EDE-Q); ede.e = Eating Concern scale, EDE-Q; ede.s = Shape Concern scale, EDE-Q; ede.w = Weight Concern scale, EDE-Q; tr.sf = Forgiveness of Self scale, Heartland Forgiveness Scale; st.sf.a = Self-Forgiving Feelings and Actions scale, State Self-Forgiveness Scale (SSFS); st.sf.b = Self-Forgiving Beliefs scale, SSFS; sc = Self-Compassion Scale total score; sa = Unconditional Self-Acceptance Questionnaire total score; st.s = Shame scale, State Shame and Guilt Scale (SSGS); st.g = Guilt scale, SSGS; tr.s = Shame Proneness scale, Test of Self-Conscious Affect (TOSCA); tr.g = Guilt Proneness scale, TOSCA.
Browne and Cuddeck (1993) also suggest the RMSEA and the 90% confidence interval should be below .10.

I examined the factor loadings for each indicator variable, which ranged from .43 to .97 ($p < .001$) for all indicator variables except trait guilt, which had a factor loading of -.02 ($p = .984$). This weak factor loading was consistent with the non-significant correlations between trait guilt and virtually all other variables described in the exploratory analyses. Thus, I removed trait guilt from the measurement model (i.e., the revised measurement model included three indicator variables for negative self-conscious emotions—trait shame, state shame, and state guilt). The model fit improved but the model was still not a good fit to the data, $\chi^2(51) = 824.66$, $p < .001$, CFI = .93, RMSEA = .179 (90% confidence interval = .168 to .189), SRMR = .089, GFI = .78. Factor loadings ranged from .43 to .97 ($p < .001$).

Next, I examined each of the scale and subscale items comprising each of the indicator variables to determine whether any of the other indicator variables should be excluded from the model. I included two measures of self-forgiveness in the model (i.e., state and trait). Each item of the original State Self-Forgiveness Scale (SSFS) begins with the phrase “As I consider what I did wrong” and presents a statement reflecting feelings and beliefs. Since the procedure of the study did not target a specific transgression (i.e., something the participant “did wrong”), I elected to rephrase the beginning of the questions to “As I consider my problematic eating behaviors.”

While this change did provide context for the state (i.e., situation specific) self-forgiveness or unforgiveness, it is possible that changing the wording affected the validity of the measure. It is also likely that since 82.2% of the sample was classified as
asymptomatic by the Q-EDD, this question was not able to accurately capture self-forgiveness and/or unforgiveness related to eating behaviors (i.e., there was no problematic eating behavior to forgive oneself for).

The fact that the study also did not include any induction of self-forgiveness or unforgiveness, nor did it include any prompt to recall and reflect upon a specific transgression, might have made it difficult to measure the construct of state self-forgiveness (i.e., self-forgiveness about a specific situation). Additionally, Griffin (2014) questioned whether the SSFS actually measures self-forgiveness or some other related construct. In fact, several of the questions of the SSFS included the words “acceptance” and “compassion,” which overlap with the indicator variables of self-compassion and self-acceptance.

Given these questions as to the validity and applicability of the SSFS to my sample, I chose to exclude both subscales of the SSFS from the model (i.e., the revised measurement model included three indicator variables for positive attitudes toward the self—trait self-forgiveness, self-compassion, and self-acceptance). This resulted in an improved model fit, $\chi^2(32) = 179.30, p < .001, \text{CFI} = .97, \text{RMSEA} = .098 (90\% \text{ confidence interval} = .085 \text{ to } .113), \text{SRMR} = .064, \text{GFI} = .93$. Some of the fit statistics indicated adequate fit (e.g., CFI), whereas other fit statistics exceeded the suggested thresholds for model fit (e.g., RMSEA).

One of the factors that impacts goodness of fit is multicollinearity, wherein seemingly separate variables actually measure the same construct (Kline, 2010). To examine multicollinearity, I calculated a squared multiple correlation ($R^2$), tolerance, and the variance inflation factor (VIF) for each indicator variable. Kline (2010) suggested
that $R^2$ values above .90, tolerance values below .10, and VIF values above 10.0 suggest “extreme multivariate collinearity,” in multivariate analyses (p. 53). The Shape Concern subscale of the EDE-Q ($R^2 = .90$, tolerance = .10, VIF = 9.90) and Weight Concern subscale of the EDE-Q ($R^2 = .89$, tolerance = .11, VIF = 9.17) demonstrated a high degree of multicollinearity.

Peterson et al. (2007) examined the factor structure of the EDE-Q and suggested that the Weight Concern and Shape Concern subscales could be collapsed into a single factor. However, other researchers disagree on whether to use four factors, three factors (i.e., collapse weight and shape concern), two factors (i.e., collapse all three concern subscales), or one factor (i.e., global score; Allen, Byrne, Lampard, Watson, & Fursland, 2011). Given the disagreement on whether to combine subscales into a single indicator, I allowed the variables to covary freely rather than consolidating them. The goodness of fit improved, $\chi^2(31) = 141.58$, $p < .001$, CFI = .98, RMSEA = .087 (90% confidence interval = .072 to .101), SRMR = .062, GFI = .94. The CFI and SRMR met the criteria for goodness of fit suggested by Hu and Bentler (1999) and Browne and Cudeck (1993). The RMSEA and GFI approached adequate goodness of fit, and although the chi-square was statistically significant, it is possible for models to be a good fit to data yet be statistically significant when there is a large sample size (Kline, 2010). I retained this model (see Figure 5) as the final measurement model.

Hypothesis 1 was supported. The measurement model demonstrated goodness of fit, and the path coefficients between each indicator variable were significant ($p < .001$) and ranged from .47 to .90 (see Table 9).
Figure 5. The final measurement model. D.E = Disordered Eating; POS.ATT = Positive Attitudes Toward the Self; NEG.EM = Negative Self-Conscious Emotions; ede.r = Restraint scale, Eating Disorder Examination Questionnaire (EDE-Q); ede.e = Eating Concern scale, EDE-Q; ede.s = Shape Concern scale, EDE-Q; ede.w = Weight Concern scale, EDE-Q; tr.sf = Forgiveness of Self scale, Heartland Forgiveness Scale; sc = Self-Compassion Scale total score; sa = Unconditional Self-Acceptance Questionnaire total score; st.s = Shame scale, State Shame and Guilt Scale (SSGS); st.g = Guilt scale, SSGS; tr.s = Shame Proneness scale, Test of Self-Conscious Affect.
Table 9

*Factor Loadings of Indicator and Latent Variables*

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicator Variable</th>
<th>β</th>
<th>T Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disordered Eating</td>
<td>Restraint</td>
<td>.74</td>
<td>18.65**</td>
</tr>
<tr>
<td></td>
<td>Eating Concern</td>
<td>.87</td>
<td>23.05**</td>
</tr>
<tr>
<td></td>
<td>Shape Concern</td>
<td>.87</td>
<td>22.50**</td>
</tr>
<tr>
<td></td>
<td>Weight Concern</td>
<td>.86</td>
<td>21.99**</td>
</tr>
<tr>
<td>Positive Attitudes Toward the Self</td>
<td>Trait Self-</td>
<td>.82</td>
<td>23.01**</td>
</tr>
<tr>
<td></td>
<td>Forgiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-Compassion</td>
<td>.90</td>
<td>24.32**</td>
</tr>
<tr>
<td></td>
<td>Self-Acceptance</td>
<td>.86</td>
<td>24.99**</td>
</tr>
<tr>
<td>Negative Self-Conscious Emotions</td>
<td>State Shame</td>
<td>.89</td>
<td>22.34**</td>
</tr>
<tr>
<td></td>
<td>State Guilt</td>
<td>.76</td>
<td>14.92**</td>
</tr>
<tr>
<td></td>
<td>Trait Shame</td>
<td>.47</td>
<td>10.90**</td>
</tr>
</tbody>
</table>

*Note.* **p < .001

Hypothesis #2

Hypothesis 2 was that (a) the structural model would demonstrate adequate goodness of fit, (b) the path coefficients between latent variables would be significant, and (c) the indirect effects of positive attitudes toward the self on disordered eating via negative self-conscious emotions would be significant. After refining the measurement model I tested the structural model using structural equation modeling with maximum likelihood estimation. I also compared a partially mediated model with a fully mediated model.

The fully mediated structural model (see Figure 6) showed adequate goodness of fit for some, but not all, of the fit statistics, $\chi^2(32) = 161.27, p < .001$, CFI = .98, RMSEA = .097 (90% confidence interval = .083 to .111), SRMR = .065, GFI = .93.
Figure 6. The structural model with full mediation. D.E = Disordered Eating; POS.ATT = Positive Attitudes Toward the Self; NEG.EM = Negative Self-Conscious Emotions; ede.r = Restraint scale, Eating Disorder Examination Questionnaire (EDE-Q); ede.e = Eating Concern scale, EDE-Q; ede.s = Shape Concern scale, EDE-Q; ede.w = Weight Concern scale, EDE-Q; tr.sf = Forgiveness of Self scale, Heartland Forgiveness Scale; sc = Self-Compassion Scale total score; sa = Unconditional Self-Acceptance Questionnaire total score; st.s = Shame scale, State Shame and Guilt Scale (SSGS); st.g = Guilt scale, SSGS; tr.s = Shame Proneness scale, Test of Self-Conscious Affect.
The partially mediated model (see Figure 7) was a good fit for the data, $\chi^2(31) = 140.63$, $p < .001$, CFI = .98, RMSEA = .087 (90% confidence interval = .072 to .101), SRMR = .062, GFI = .94. I conducted a chi-square difference test to compare the fully mediated and partially mediated models. The partially mediated model fit the data significantly better than the fully mediated model, $\Delta \chi^2(1)= 20.64$, $p < .001$. Therefore I retained the partially mediated structural model.

All path coefficients were significant. Positive attitudes toward the self was negatively related to disordered eating (path coefficient = -.39, $t(30) = -4.97$, $p < .001$) and negatively related to negative self-conscious emotions (path coefficient = -.76, $t(31) = -16.83$, $p < .001$). Negative self-conscious emotions was positively related to disordered eating (path coefficient = .25, $t(31) = 3.07$, $p < .001$). The indirect effect of positive attitudes toward the self on disordered eating via negative self-conscious emotions was significant (est. = -.18, $t(31) = -3.06$, $p = .005$).

Hypothesis 2 was supported. The partial mediation structural model was a good fit to the data, the path coefficients between all latent variables were significant, and the indirect effects of positive attitudes toward the self on disordered eating via negative self-conscious emotion were significant.
Figure 7. The structural model with partial mediation. D.E = Disordered Eating; POS.ATT = Positive Attitudes Toward the Self; NEG.EM = Negative Self-Conscious Emotions; ede.r = Restraint scale, Eating Disorder Examination Questionnaire (EDE-Q); ede.e = Eating Concern scale, EDE-Q; ede.s = Shape Concern scale, EDE-Q; ede.w = Weight Concern scale, EDE-Q; tr.sf = Forgiveness of Self scale, Heartland Forgiveness Scale; sc = Self-Compassion Scale total score; sa = Unconditional Self-Acceptance Questionnaire total score; st.s = Shame scale, State Shame and Guilt Scale (SSGS); st.g = Guilt scale, SSGS; tr.s = Shame Proneness scale, Test of Self-Conscious Affect.
CHAPTER 6
DISCUSSION

This study examined the associations among (a) positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-acceptance), (b) negative self-conscious emotions (i.e., guilt and shame), and (c) disordered eating. In addition to conducting several exploratory analyses, I tested hypotheses related to (a) a measurement model examining the fit of several indicator variables to the three latent variables in my model (i.e., positive attitudes toward the self, negative self-conscious emotions, disordered eating), and (b) a structural model in which negative self-conscious emotions (i.e., shame and guilt) were hypothesized to mediate the relationship between positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-acceptance) and subclinical disordered eating. Overall, my hypotheses were supported.

Demographic Characteristics of the Sample

The majority of the sample did not report symptoms of disordered eating. Nearly 20% of participants reported symptoms consisted with clinical eating disorders or subclinical disordered eating. Consistent with the current literature, symptomatic participants had significantly higher levels of state shame, trait shame, and state guilt than asymptomatic participants. This finding is consistent with past research. Several studies have found that participants with disordered eating have higher levels of trait shame (Sanftner et al., 1995), shame about eating behaviors (i.e., state shame; Swan &
Andrews, 2003), and state guilt than control participants without disordered eating symptoms (Frank, 1991).

Asymptomatic participants had significantly higher levels of positive attitudes toward the self (i.e., self-forgiveness, self-compassion, self-acceptance) than symptomatic participants. Other studies have found similar relationships between disordered eating and self-forgiveness (Watson et al., 2012), and between disordered eating and self-compassion (Kelly et al., 2013). No other studies to date have examined the relationship between disordered eating and self-acceptance. However, Watson et al. (2012) suggested that self-acceptance may play a part in recovery from disordered eating.

The majority of the participants who endorsed disordered eating symptoms were female, and females reported higher levels of disordered eating than males. This is consistent with the current disordered eating literature wherein fewer males than females report disordered eating symptoms (Woodside et al., 2001). Females in the current study reported higher levels of trait shame and trait guilt (but not state shame or guilt) than males. This is consistent with findings by Else-Quest, Higgins, Allison, and Morton (2012), who found that females experienced higher levels of shame and guilt than men, and that trait measures of shame and guilt were more sensitive to gender differences than state measures. Males in the current study reported higher levels of state self-forgiveness than females, but no gender differences were found in trait self-forgiveness, self-compassion, or self-acceptance. These findings are consistent with a study by Exline, Root, Yadavalli, Martin, and Fisher (2011), which found that males had higher levels of state self-forgiveness than females. Several studies have found no
gender differences on trait self-forgiveness (Macaskill, Maltby, & Day, 2002; Rangganadhan & Todorov, 2010), self-acceptance (Perez, 2012; Scott, 2007), or self-compassion (Neff, Kirkpatrick, & Rude, 2007).

Positive Attitudes Toward the Self and Disordered Eating

As expected, there was a negative relationship between positive attitudes toward the self (i.e., trait self-forgiveness, self-compassion, and self-acceptance) and disordered eating. Participants with higher levels of positive attitudes toward the self had lower levels of disordered eating. Each of the variables constituting positive attitudes toward the self (i.e., trait and state self-forgiveness, self-compassion, self-acceptance) was negatively correlated with each of the disordered eating subscales. With regard to the measurement model, each of the observed variables for both positive attitudes toward the self and disordered eating significantly loaded onto their respective latent variables (though one measure was excluded from the final measurement model due to validity concerns), and the path between the latent variables was significant.

While few studies to date have empirically studied the relationship between disordered eating and self-forgiveness, self-compassion, or self-acceptance, the results of the current study are consistent with theory put forth by other researchers. For example, several researchers have proposed that self-forgiveness may play a role in disordered eating (Hall & Fincham, 2005; Lander, 2012). One empirical study found that self-forgiveness was associated with behavior changes in participants with Anorexia Nervosa (Lander, 2012), and Watson et al. (2012) found that Anorexia Nervosa and Bulimia Nervosa symptoms were associated with both state and trait self-
forgiveness. Self-compassion has also been negatively associated with disordered eating (Breines et al., 2014; Ferreira et al., 2013; Kelly et al., 2013). No studies to date have examined self-acceptance and disordered eating, but Watson et al. (2012) suggested self-acceptance may be necessary for recovery from an eating disorder.

One of the purposes of the proposed model was to be able to examine whether self-forgiveness, self-compassion, and self-acceptance were distinct or interrelated constructs. The final model fit the data when each of these constructs was used as a separate indicator variable of the latent variable positive attitudes for the self. This provides support for theory that self-compassion, self-acceptance, and self-forgiveness are related but distinct constructs that each relate to disordered eating. While no studies to date have examined the similarities and differences between self-forgiveness, self-compassion, and self-acceptance, one dissertation by Swanepoel (2009) found that self-compassion and self-forgiveness (i.e., distinct constructs) were both related to disordered eating.

Contrary to expectations, the Restraint Subscale of the EDE-Q was not significantly correlated with any of the indicator variables for positive attitudes toward the self except State Self-Forgiving Beliefs (i.e., one of the state self-forgiveness subscales) for symptomatic participants. The Restraint subscale also had the smallest factor loading of the four EDE-Q subscales. Dietary restraint involves dieting or otherwise restricting food in an attempt to lose weight, and is associated with clinical eating disorders and subclinical disordered eating (Laessle, Tuschl, Kotthaus, & Pirke, 1989). It is possible that there is a different relationship between dietary restraint and positive attitudes toward the self among symptomatic and asymptomatic participants.
However, this finding is inconsistent with past research that has found self-compassion interventions to reduce the disinhibition effect common among restrictive eaters, suggesting that there is a relationship between positive attitudes toward the self and dietary restraint among individuals with problematic eating behaviors (i.e., symptomatic; Adams & Leary, 2007).

Positive Attitudes Toward the Self and Negative Self-Conscious Emotions

There was a negative relationship between positive attitudes toward the self (i.e., trait self-forgiveness, self-compassion, and self-acceptance) and negative self-conscious emotions (i.e., state shame, state guilt, and trait shame). Participants with higher levels of positive attitudes toward the self had lower levels of negative self-conscious emotions.

State shame, state guilt, and trait shame significantly correlated with each of the subscales of positive attitudes toward the self (i.e., self-forgiveness, self-compassion, self-acceptance), and each of these indicator variables significantly loaded onto their respective latent variables. Trait guilt was not correlated with any of the measures of positive attitudes toward the self for the general sample and was excluded from the model. There were no gender differences in correlations among these variables.

These findings are consistent with past research examining shame, guilt, and self-forgiveness. Shame is generally conceptualized as an obstacle to self-forgiveness (Tangney et al., 1995), while guilt has been shown to facilitate self-forgiveness via motivation (Fisher & Exline, 2010). However, excessive guilt can deepen shame and thus impede self-forgiveness (Fisher & Exline, 2010). Shame proneness has been
negatively correlated with self-compassion, and guilt-proneness has been weakly positively correlated with self-compassion (Woods & Proeve, 2014). Fisher and Exline (2010) suggested self-compassion and self-acceptance may be mechanisms that reduce shame, which can hinder self-forgiveness.

**Negative Self-Conscious Emotions and Disordered Eating**

Consistent with expectations, negative self-conscious emotions (i.e., state shame, state guilt, trait shame) were positively related to disordered eating symptoms. Participants with higher levels of negative self-conscious emotions had higher levels of disordered eating. State shame, state guilt, and trait shame significantly correlated with each of the subscales of disordered eating for the overall sample, and each of these indicator variables significantly loaded onto their respective latent variables. This positive relationship between shame, guilt, and disordered eating is consistent with past research. Several researchers have linked increased shame and guilt to disordered eating symptomatology (Burney & Irwin, 2000; Hayaki et al., 2002; Markham et al., 2005; Sanftner et al., 1995; Tangney et al., 1991), though most studies to date have focused on trait shame rather than state shame.

Contrary to expectations, trait guilt was not correlated with any of the disordered eating subscales and did not significantly load onto the latent variable of negative self-conscious emotions. When trait guilt was excluded from the model, the path between the latent variables of negative self-conscious emotions and disordered eating were significant. Some researchers have suggested that shame may play a more prominent role than guilt in disordered eating (Burney & Irwin, 2000; Hayaki et al., 2002; Tangney...
et al., 1995). Few studies have specifically studied trait versus state shame and guilt in the context of disordered eating, so any explanations for the exclusion of trait guilt but inclusion of state guilt are tentative. Sanftner et al. (1995) suggested that individuals may experience guilt surrounding eating behaviors (i.e., state guilt), but that when individuals reflect upon these behaviors and guilt, they experience feelings of shame. It may be that state shame and guilt are more immediately salient to disordered eating pathology than the stable personality construct of propensity for guilt, and that the propensity to experience shame is related to whether or not an individual experiences state shame in the context of eating behaviors.

When exploratory analyses were conducted examining gender and symptomatology differences, some unexpected correlations emerged. The restraint subscale of the EDE-Q was not significantly correlated with state or trait guilt or shame for males or symptomatic participants. Also, the eating concern subscale of the EDE-Q was also not correlated with trait shame for these participants. Although dietary restraint has been linked to disordered eating symptoms and pathology (Stice, 2002), it is possible that dietary restraint is related to shame and guilt differently for participants with and without disordered eating symptoms. Symptomatic participants in the current study reported higher levels of dietary restraint, eating concern, trait shame, state guilt, and state shame than asymptomatic participants. To my knowledge, no studies have investigated the relationship between shame, guilt, dietary restraint, and eating concern among symptomatic versus asymptomatic participants, though Conradt, Dierk, Schlumberger, Rauh, Hebebrand, and Rief (2008) found that guilt and shame were related to dietary restraint in obese participants.
Trait guilt was generally not significantly correlated with disordered eating, state shame, or state guilt. However, there was a significant relationship between trait guilt and weight concern among symptomatic participants. Sanftner et al. (1995) found that trait shame and trait guilt both significantly predicted weight preoccupation, which might explain why trait guilt was significantly correlated with the weight concern subscale of the EDE-Q but not with any other subscale of the EDE-Q. It is possible that an individual’s propensity to experience guilt is less important in predicting disordered eating than their situational experiences of guilt. Guilt has been found to be a self-regulating and prosocial emotion (Tangney and Dearing, 2002), and so an experience of guilt in a specific situation might be associated with changes in attitudes toward the self or eating behaviors.

Mediation Effects

Negative self-conscious emotions (i.e., state shame, state guilt, trait shame) partially mediated the relationship between positive attitudes toward the self (i.e., trait self-forgiveness, self-compassion, self-acceptance) and disordered eating. Mediation occurs when a third variable (i.e., negative self-conscious emotions) explains the relationship between an independent variable (i.e., positive attitudes toward the self) and a dependent variable (i.e., disordered eating). Partial mediation occurs when this third variable explains some, but not all, of the relationship between the independent and dependent variables. Thus, positive attitudes toward the self both directly relates to disordered eating and indirectly relates to disordered eating via negative self-conscious emotions.
Though no studies to date exist exploring this mediation effect, studies have shown a negative relationship between disordered eating and self-forgiveness (Hall & Fincham, 2005; Lander, 2012; Watson et al., 2012) and self-compassion (Breines et al., 2014; Ferreira et al., 2013; Kelly et al., 2013). Studies have also demonstrated a negative relationship between shame and guilt and self-forgiveness (Fisher & Exline, 2010) and self-compassion (Woods & Proeve, 2014). Disordered eating has also been positively associated with shame and guilt (Burney & Irwin, 2000; Hayaki et al., 2002; Markham et al., 2005; Sanftner et al., 1995; Tangney et al., 1991). Although no studies have examined self-acceptance in these contexts, several researchers have suggested self-acceptance is related to self-forgiveness and self-compassion (Fisher & Exline, 2010).

Limitations

The current study has several limitations. First, the study used a cross-sectional, correlational design rather than a longitudinal or experimental design. It is therefore impossible to make any inferences about causality based on the results of this study.

Second, this study was conducted in an online format rather than in a controlled laboratory setting, using exclusively self-report measures. Although I implemented a series of validity questions, it is impossible to know whether participants completed the measures honestly and accurately or in an untruthful or haphazard manner. There was also a great deal of variability in the amount of time it took participants to complete the measures. Some participants may have rushed through the study, hence the short response time, which might have impacted accuracy of responses. The online format
also did not control for variability in the testing environment such as excessive noise or time of day.

Third, it is unclear whether the questionnaires used to measure the latent variable constructs truly measure distinct constructs (i.e., discriminant validity). For example, several items on the self-compassion, self-acceptance, and self-forgiveness questionnaires included similar wording (e.g., “compassion,” “acceptance”). Similarities in item wording were also noticeable on the questionnaires measuring shame and guilt. The fit of the model may be impacted if each of the indicator variables does not adequately measure unique constructs.

Fourth, there is some question as to the interrelatedness of positive attitudes toward the self and negative self-conscious emotions. Although the fit of the model and the partial mediation effect demonstrated evidence that shame and guilt are separate constructs from self-compassion, self-acceptance, and self-forgiveness, it is yet unclear whether shame and guilt (specifically the absence of shame and guilt) are components of positive attitudes toward the self, or whether the constructs are unique and distinct.

Fifth, there was an imbalance in the number of males and females in the sample, as well as between symptomatic and asymptomatic participants. Oversampling male and symptomatic participants would likely improve the generalizability of the findings. Since there were also significant differences on key variables between genders and symptomatology, it is important to compare even numbers of males and females, and symptomatic and asymptomatic participants. Additionally, there was an imbalance between the number of college students and community sample participants. Inclusion of more participants from the community would also improve the study’s generalizability.
Sixth, the scoring system for the questionnaire that classified participants as clinical, symptomatic, or asymptomatic (i.e., the Q-EDD) is based upon the DSM-IV-TR diagnostic criteria for eating disorders. Given the changes to diagnostic criteria for eating disorders in the DSM-5, it is possible that some of the participants who were classified as symptomatic would be classified as eating disordered if updated criteria were used. Additionally, the Q-EDD provides suggested diagnoses or labels for clinical and symptomatic participants (e.g., bulimia nervosa and subthreshold binge eating disorder, respectively). The Q-EDD classifies the EDNOS diagnoses of binge eating disorder and nonbingeing bulimia as clinical eating disorders, but classifies other patterns of significant disordered eating symptoms (e.g., low weight anorexia, subthreshold nonbingeing bulimia) as symptomatic. It is unclear whether these diagnostic labels accurately differentiate clinical from symptomatic participants, especially given the changes in criteria from the DSM-IV-TR to the DSM-5 (i.e., at what point is a cluster of symptoms EDNOS and therefore clinical rather than a subthreshold cluster of symptoms and therefore not clinical?).

Areas for Future Research

As this is the first study to test the hypothesis that negative self-conscious emotions mediate the relationship between positive attitudes toward the self and disordered eating, replication studies are needed to determine the reliability and validity of these findings. Replication among other populations (e.g., clinical eating disordered populations only, subclinical populations only, various racial and cultural groups) and
control conditions (e.g., control for eating disorder treatment, age, type of eating disorder) would also be fruitful.

Even though the current study found some evidence that the constructs comprising positive attitudes toward the self and negative self-conscious emotions are distinct, future research is needed to examine and parse out the interrelatedness of these constructs (i.e., interrelatedness of self-forgiveness and self-compassion, shame and guilt, etc.). Additionally, measurement of these constructs needs to be further examined and refined. For example, it is yet unclear whether the existing measures of self-compassion measure only self-compassion, or whether they measure self-compassion and self-acceptance and the absence of shame or guilt. Similar overlap may exist between measures of self-forgiveness and shame and guilt, self-forgiveness and self-acceptance, self-forgiveness and self-compassion, and self-acceptance and shame and guilt.

Future research should also examine differences in state and trait components of negative self-conscious emotions and positive attitudes toward the self. This study included state and trait measures of self-forgiveness and shame and guilt, though state self-forgiveness was excluded from the final model. It is still unclear whether including state self-forgiveness versus trait self-forgiveness, or state shame versus trait shame, might affect the relationship between the variables included in the model. Measurement refinement may also be necessary to accurately differentiate state versus trait constructs. It might also be possible to examine state versus trait self-acceptance and self-compassion, though to date no measures of state self-compassion and state self-acceptance exist. The inclusion or exclusion of state versus trait variables might impact
the overall model and the relationship between positive attitudes toward the self, negative self-conscious emotions, and disordered eating, and therefore need to be investigated further.

Finally, the results of this study could be applied to an intervention study designed to increase positive attitudes toward the self and/or decrease negative self-conscious emotions, and observe the effect on disordered eating. There are currently existing interventions designed to increase self-compassion (i.e., Compassion-Focused Therapy; Goss & Allan, 2014) and to increase self-forgiveness (Griffin & Worthington, 2013; Worthington, 2013) that might be implemented to increase positive attitudes toward the self, which might then affect negative self-conscious emotions and/or disordered eating. Efficacy studies comparing self-forgiveness interventions and self-compassion interventions could also be conducted to determine whether increasing one component of positive attitudes toward the self impacts disordered eating more than others. Interventions targeting self-acceptance could also be developed, implemented, and tested.

Implications for Counseling

One of the most widely utilized treatments for disordered eating is cognitive behavioral therapy (CBT). CBT addresses thoughts and behaviors related to disordered eating, and has been adapted for patients with eating disorders to address additional factors such as perfectionism and low self-esteem (Murphy et al., 2010). Despite the existence of evidence based treatments like CBT to treat eating disorders, such treatments are not effective for all individuals, and CBT has been shown to be
approximately 30-50% effective in treating individuals with bulimia (Wilson et al., 2007). Given the negative physiological and psychological health outcomes associated with disordered eating, it is imperative that effective treatments be developed and implemented with individuals with eating disorders.

The current study provides support for the idea that positive attitudes toward the self (i.e., self-forgiveness, self-compassion, and self-acceptance) might play a role in helping reduce disordered eating symptoms, partially through reducing negative self-conscious emotions such as guilt and shame. Counselors are encouraged to consider incorporating discussion of some of these variables in addition to the standard CBT protocol to help clients who present with disordered eating symptoms. Also, interventions that target these variables may prove to be useful adjunct treatments for disordered eating, and may be able to address intrapersonal components that are not targeted by traditional eating disorder treatments.

The current study might also be applied to early intervention and prevention efforts. Girls as young as age 6 express concerns about their weight or body, and 40-60% of girls ages 6-12 worry about becoming too fat (Smolak, 2011). Interventions designed to increase self-compassion and self-acceptance and to decrease shame and guilt from a young age might be able to provide some level of protection or resilience from body-conscious messages in the media and in young children’s observations of adult behavior.
Conclusion

Disordered eating is a prevalent problem with wide-reaching physical, emotional, and mental health consequences. Little research has been conducted to date examining the relationship between self-compassion, self-acceptance, self-forgiveness, and disordered eating. No studies to date have examined shame and guilt in the context of both positive attitudes toward the self and disordered eating. The current study found that negative self-conscious emotions partially mediated the relationship between positive attitudes toward the self and disordered eating. Further research in this area will further clarify the nature of the relationships between these variables, and may have important applications to counseling and prevention interventions.
THE OFFICE OF RESEARCH INTEGRITY AND COMPLIANCE

October 29, 2014

Supervising Investigator: Dr. Joshua Hook
Student Investigator: Stephanie Womack
Department of Psychology
University of North Texas

Re: Human Subjects Application No. 14423

Dear Dr. Hook:

As permitted by federal law and regulations governing the use of human subjects in research projects (45 CFR 46), the UNT Institutional Review Board has reviewed your proposed project titled "Attitudes toward the Self and Eating Behaviors: Study 1." The risks inherent in this research are minimal, and the potential benefits to the subject outweigh those risks. The submitted protocol is hereby approved for the use of human subjects in this study. Federal Policy 45 CFR 46.109(c) stipulates that IRB approval is for one year only, October 30, 2014 to October 29, 2015.

When building your online consent notice, please copy the text exactly as it appears on the version approved by the IRB.

It is your responsibility according to U.S. Department of Health and Human Services regulations to submit annual and terminal progress reports to the IRB for this project. The IRB must also review this project prior to any modifications. If continuing review is not granted before October 29, 2015, IRB approval of this research expires on that date.

Please contact Shelia Bourne, Research Compliance Analyst, at extension 4643, if you wish to make changes or need additional information.

Sincerely,

Chad Trulson, Ph.D.
Professor
Department of Criminal Justice
Chair, Institutional Review Board

CT/sb
Informed Consent Notice College Sample

University of North Texas Institutional Review Board

Informed Consent Notice

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Attitudes Toward the Self and Eating Behaviors: Study 1

Student Investigator: Stephanie Womack, M.S., University of North Texas (UNT) Department of Psychology. Supervising Investigator: Joshua Hook, Ph.D.

Purpose of the Study: You are being asked to participate in a research study which involves collecting information about your attitudes toward your self, your emotions, and your eating behaviors. This information is expected to be used to develop and test a theoretical model explaining the relationship between these variables.

Study Procedures: You are being asked to answer several questionnaires presented in an online format that will take about 1.5 hours of your time.

Foreseeable Risks: There are no foreseeable risks for this study, apart from possible feelings of discomfort stemming from answering survey questions regarding your attitudes, feelings, and experiences. You may exit the study at any time.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but may contribute to the growing body of knowledge about attitudes toward the self, emotions, and eating behaviors.

Compensation for Participants: If your teacher gives course credit or extra credit through SONA for participation in research, you will receive 2 credits for your participation in this research study. Credit will be reported to your teacher via the SONA system prior to the end of the semester. If you choose to discontinue this study at any time, you may receive 1 credit for your partial participation.

Procedures for Maintaining Confidentiality of Research Records: Confidentiality will be maintained to the degree possible given the technology and practices used by the online survey company. Your participation in this online survey involves risks to confidentiality similar to a person’s everyday use of the Internet.

Questions about the Study: If you have any questions about the study, you may contact Stephanie Womack, M.S. at StephanieWomack2@my.unt.edu or Joshua Hook, Ph.D. at Joshua.Hook@unt.edu or 940-369-8076.
Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-4643 with any questions regarding the rights of research subjects.

Research Participants’ Rights:

Your participation in the survey confirms that you have read all of the above and that you agree to all of the following:

- You have read an explanation of the study and understand you may contact Stephanie Womack with any questions about the study. You understand the possible benefits and the potential risks of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- Your decision whether to participate or to withdraw from the study will have no effect on your grade or standing in this course.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You understand you may print or request a copy of this form for your records.

☐ Yes, I agree to participate

☐ Click here to exit the study

Office of Research Integrity & Compliance
University of North Texas
Last Updated: August 9, 2007
Informed Consent Notice Community Sample

University of North Texas Institutional Review Board

Informed Consent Notice

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Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but may contribute to the growing body of knowledge about attitudes toward the self, emotions, and eating behaviors.

Compensation for Participants: You will receive $0.25 as compensation for your participation. Payment will be disseminated within one week of participation, and is conditioned upon completing all required tasks.

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Office of Research Integrity & Compliance
University of North Texas
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REFERENCES


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