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Attachment and Disordered Eating: The Mediating Impact of Body Dissatisfaction

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Attachment and Disordered Eating: The Mediating Impact of Body Dissatisfaction

by

Rachel A. Biegel

A Thesis

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

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Abstract

This study will examine the relationship between attachment patterns and disordered eating, and whether body dissatisfaction impacts this relationship. This is a correlational design. Emphasis will be placed on gender in this sample because past research has not focused on studying males. It is expected that a relationship between insecure attachment patterns and disordered eating will be found, and that body dissatisfaction will impact how disordered eating and attachment patterns are related.

Key words: *Disordered eating, attachment, body dissatisfaction*

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Introduction

Disordered eating is a serious and common phenomenon among undergraduate college students, particularly college women (Cordero & Israel, 2009). Approximately 25% to 40% of college women meet criteria for having disordered eating behaviors and attitudes. Disordered eating symptoms include binge eating, dieting, and obsessive calorie-counting (Eating Disorders Victoria, 2015a). People with disordered eating and eating disorders have also been shown to have higher rates of insecure attachments to parents (Zachrisson & Skårderud, 2010). Most research regarding eating disorders and attachment has focused on females with eating disorders. Researchers have found that disordered eating in males may be more prevalent than originally thought (Koskina & Giovazolias, 2010). Body dissatisfaction is also a significant predictor of disordered eating (Bäck, 2011). However, no studies have examined attachment patterns and body dissatisfaction together and how this affects disordered eating patterns. In addition, most research has been done with Caucasian participants. This study will examine disordered eating patterns and behavior in both men and women and how body dissatisfaction and attachment patterns affect this.

Overview of Eating Disorders

Although there are several feeding and eating disorders listed in the DSM-5, this study will focus on two of the disorders: Anorexia nervosa and bulimia nervosa (American Psychiatric Association, 2013). College students in particular are at risk for these disorders, and research has shown that behaviors associated with these disorders are increasing in frequency (White, Reynolds-Malear, & Cordero, 2011).

Anorexia nervosa is an eating disorder characterized by a severe restriction of food that leads to low body weight, an intense fear of gaining weight, and a distorted view of the way their body looks. There are two subtypes of anorexia, which include either the restricting subtype or the binge-eating/purging type (American Psychiatric Association, 2013). The restricting subtype is characterized by weight loss techniques such as dieting, fasting, and/or excessive exercise. The binge-eating/purging subtype is characterized by binge eating and then compensatory behavior for the binge-eating to ensure weight gain does not occur. Behaviors such as self-induced vomiting and the misuse of diuretics or laxatives characterize this subtype. Anorexia nervosa can have serious long-term health consequences, including the stunting of height or growth, reduction of bone density, and tooth decay (Eating Disorders Victoria, 2015b). It has the highest mortality rate of any psychological disorder, with many people who have anorexia dying of either suicide or cardiac arrest from the disorder (Smith & Cook-Cottone, 2011). Less than 50% of people who have the disease will reach full recovery.

Bulimia nervosa is another type of eating disorder which is characterized by recurrent episodes of binge eating. Binge eating occurs when someone eats an abnormally large quantity of food over a short period of time. There is also a sense of a lack of control or fear that the person will not be able to stop while eating. Following the binges, compensatory behavior occurs, including self-induced vomiting, misuse of laxatives or diuretics, fasting, or excessive exercise. Additionally, evaluation of the self is heavily based on the person's body shape or weight (American Psychiatric Association, 2013). There are also dangerous health effects due to bulimia, including tooth decay, stomach or esophageal ulcers, and heart failure

(Eating Disorders Victoria, 2015c). Because of these severe health effects of eating disorders, more research is needed to understand these disorders.

Overview of Body Dissatisfaction

The scientific definition of body dissatisfaction varies across different studies (Al Sabbah et al., 2009). In general, body dissatisfaction can be defined as how people view, either positively or negatively, the appearance of their bodies. It can also include how satisfied people are with their weight and if they believe they have to lose or gain weight to achieve their ideal shape. Body dissatisfaction is the most important factor in both males and females in predicting whether an individual develops an eating disorder (Dakanalis, Alix Timko, Favagrossa, et al., 2014). However, researchers have found a large difference in how many men have body dissatisfaction, but don't have an eating disorder (Dakanalis, Alix Timko, Favagrossa, et al., 2014; Weltzin et al., 2012). It still remains a mystery as to why some men develop eating disorders when they have body dissatisfaction and some men do not. Overall, prevalence rates of males with eating disorders still remains much lower than female prevalence rates.

In females, variables contributing to the development of body dissatisfaction include going on and off diets, anxiety, and depression (Juarascio, Perone, & Alix Timko, 2011). Interestingly, the prevalence of body dissatisfaction is so high that it is called normative among females and has increased in the past 25 years (Brannan & Petrie, 2011). However, the prevalence of clinical eating disorders has remained fairly low compared to the high incidences of body dissatisfaction. Scientists are still trying to figure out what could be the cause of this difference, as they are with males.

Few studies have looked at the contribution of body dissatisfaction and attachment between the person with an eating disorder and their attachment figures, such as their mother and father, friends, or relationship partners (Dakanalis, Alix Timko, Assunta Zanetti, et al., 2014). Research has shown that nonspecific family factors are significant contributors to the development of disordered eating patterns (Machado, Gonçalves, Martins, Hoek, & Machado, 2014). Other areas of research examining female college students disordered eating habits have shown that familial and social relationships significantly contribute to the onset, trajectory, and recovery from eating disorders (Linville, Brown, Sturm, & McDougal, 2012). One study found that women in college who experienced more criticism from their family members were more likely to engage in disordered eating behaviors (Meno, Hannum, Espelage, & Douglas Low, 2008). These high levels of criticism can create feelings of hopelessness in which then people turn to food as an area to gain feelings of control. Attachment theory is one way to examine these family factors and how people relate to their mother and father and other important figures in their lives may explain how body dissatisfaction occurs in some people.

Attachment Theory

Attachment theory is based off of the work of John Bowlby (Levy, 2013). Bowlby began hypothesizing about attachment theory after writing a paper for the World Health Organization that looked at the mental health of orphaned children in post-World War II Europe (Bretherton, 1997). He looked at children who were brought up in institutions and concluded that for children to grow up healthy, they had to have a steady parental figure to rely on. Attachment theory explores how children emotionally bond to their caregivers and

how this influences different areas of their life, including personality development, psychopathology, and interpersonal functioning. When children and adults feel threatened in their life, they usually seek comfort from other people to help deal with this threat (Zachrisson & Skårderud, 2010). By seeking comfort, the person is able to maintain a feeling of security. This helps the child to develop emotional self-regulation (Davies, 2011). Sometimes, attachment figures are unable or unavailable to give people the feeling of security that is wanted. In this case, attachment theory also looks at how the person reacts to this, such as still feeling loved and appreciated (or not) when the person isn't available immediately to help them.

There are two main types of attachment styles (Illing, Tasca, Balfour, & Bissada, 2011; Zachrisson & Skårderud, 2010). The first one is secure and is an adaptive style. They view their caregivers as predictable and available, and they are confident in their ability to manage stress and attain positive outcomes. The other type of attachment is insecure attachment which is maladaptive. There are three subtypes of insecure attachment styles, which are avoidant, ambivalent/resistant, and disorganized/disoriented. The literature varies on which words are used to describe which attachment styles; for the sake of simplicity, avoidant, ambivalent/resistant, and disorganized/disoriented will be used (Davies, 2011). The avoidant attachment style is characterized by not being as responsive to other's feelings, not being expressive of their own feelings, and not valuing help from others due to their attachment figure being rejecting or unavailable. The ambivalent/resistant attachment style is characterized by strategies such as sensitivity to other's feelings, being overly concerned with abandonment, and a pessimistic view of others due to their attachment figures being

unpredictable or unavailable. In short, people with the ambivalent/resistant attachment style are concerned with being abandoned, and people with the avoidant attachment style are afraid of being close to anyone (Koskina & Giovazolias, 2010). The disorganized pattern of attachment occurs when the attachment figure's responses are very inconsistent (Dallos, 2004). For example, the parent may display behavior that frightens the child, such as maltreatment of the child. The parent may also have a history of unresolved trauma in their childhood (Davies, 2011). Because of this, the child may engage in erratic or bizarre behavior because they don't know how to emotionally deal with this inconsistency.

Insecure attachment patterns have been linked to psychopathology (Dallos, 2004; Tetley, Moghaddam, Dawson, & Rennoldson, 2014; Ty & Francis, 2013; Zachrisson & Skårderud, 2010). Indeed, Bowlby hypothesized in the beginning of the development of his theory that parental rejection of their children reaching out to them was associated with emotional disturbance (Bowlby, 1958). There is a higher prevalence of insecure attachment patterns among clinical populations than the general population. There are several ideas as to why this is. Attachment theory states that when a child is confronted with something that creates fear or anxiety, the child will go to an attachment figure (usually a parent, and then later peers or romantic partners) to be comforted. The function of this behavior is to maintain a feeling of security and to help them regulate their emotions of fear and anxiety (Davies, 2011). When the child learns that the attachment figure is not always there for them, their internal working model of the availability of the attachment figure changes. When the child sees that the attachment figure is not available, they find ways to maintain that feeling of security on their own, hence the insecure attachment style. Patterns of behavior among

children with insecure attachment patterns can be linked to psychopathology, either when they are younger or later in life. One area of psychopathology that has been examined recently in relation to attachment is eating disorders.

It is important to note that with this perspective, researchers aren't seeking to blame the parents for their child's disorder (Tetley et al., 2014). Researchers and clinicians instead advocate for an understanding of their relationships and how these may be addressed in a clinical setting to help the child.

Attachment Theory and Eating Disorders

There are three different perspectives on how attachment influences eating disorders (Zachrisson & Skårderud, 2010). The first is a retrospective approach, which states that attachment in early childhood affects how the person with an eating disorder manifests their symptoms. Seeing as many people with eating disorders begin to have symptoms in early adolescence to early adulthood, this approach would posit that attachment is stable throughout a person's life. However, research isn't clear on whether attachment is stable or not. Therefore, the retrospective approach is difficult to examine.

The second perspective is the general risk approach, which states that different types of attachment can create a risk for eating disorders (Zachrisson & Skårderud, 2010). Instead of naming specific mechanisms or pathways for this association, they state that unhealthy attachment patterns (whether present or past) create a risk factor for developing an eating disorder. This perspective takes a more general approach and focuses on the higher prevalence of insecure attachment among people with eating disorders. Further research has

shown that there is a higher incidence of insecure attachment patterns among people with psychological disorders in general (Tetley et al., 2014).

The third perspective is the attachment theoretical approach, which has several hypotheses regarding how insecure attachment is associated with eating disorders (Koskina & Giovazolias, 2010; Zachrisson & Skårderud, 2010). The first hypothesis states that eating disorder symptoms are direct expressions of the insecure attachment pattern. For example, the ambivalent/resistant attachment pattern may be expressed in someone with anorexia because they feel that their attachment figures are unpredictable. Therefore, they seek some control over their lives, which they do through how much food they eat. People with avoidant attachment patterns often view attachment figures as rejecting, and therefore compensate for this by rejecting them first. They may think of themselves as worthless, and therefore reject food. Or, because they think of themselves as worthless, they may have a heightened sensitivity to rejection (Bäck, 2011). To compensate for this, they may strive to make themselves more socially acceptable, such as living up to the thin ideal. The second hypothesis states that eating disordered behavior is a proximity-seeking behavior, which is when the child or adult seeks someone out for comfort when a threat is detected (Tetley et al., 2014). Not eating or having difficulty eating could be considered a proximity-seeking behavior, because the person with disordered eating may want to be closer to their parents and are unable to express this desire. This hypothesis is also expanded and states that there is an intergenerational transmission of insecure attachment patterns. That is, if a mother or father has an insecure attachment pattern, they will likely transmit this to their child. This insecure attachment pattern can be manifested in eating disorder symptoms. Finally, a third hypothesis

under the attachment theoretical approach states that there may be mediating factors present, including how people with eating disorders compare themselves to others or how they regulate emotion.

There have been interesting research findings regarding what types of attachment styles are associated with which eating disorders. The avoidant attachment style has been associated with anorexia nervosa most commonly (Dallos, 2004; Tetley et al., 2014; Zachrisson & Skårderud, 2010). Additionally, the ambivalent/resistant attachment style has been associated with bulimia nervosa. It has also been shown that parents may have the same attachment styles as their children who have eating disorders, which is another example of intergenerational transmission.

One line of research has examined the role of negative affect in eating disorders (Lavender & Anderson, 2010). Research has shown that negative affect is a common trigger for binge-eating episodes. Typically after a binge-eating episode, negative affect is reduced and positive affect temporarily increased. The reduction in negative affect and increase in positive affect reinforces the binge-eating episodes. Therefore, binge eating can be viewed as a maladaptive attempt to regulate emotions, and perhaps the result of an insecure attachment pattern. People with disordered eating patterns could have developed these maladaptive strategies to regulate emotions due to an insecure attachment pattern between themselves and their primary caregiver. Lavender and Anderson's findings (2010) have shown that difficulties in emotional regulation are associated with disordered eating patterns in both males and females. Additionally, males and females with disordered eating patterns have been

shown to have a decreased number of emotional regulation strategies, further reinforcing the regulatory effects of disordered eating patterns.

Researchers have also looked at specific characteristics of families who have a member with an eating disorder compared to those families who do not have members who have an eating disorder (Linville et al., 2012). Families who have members with an eating disorder have significantly higher levels of criticism, coercive parental control, rigidity, constraining family rules. These families also have significantly lower levels of cohesion. All of these variables could contribute to the development of an insecure attachment pattern.

Most of the research on attachment theory and eating disorders has been done with adolescent females (Rodgers, Faure, & Chabrol, 2009). Perhaps this is because of the greater concern of disordered eating in females and the higher prevalence of disordered eating among females. However, it is occurring in males as well, and more research is needed in this area to understand attachment and disordered eating in males.

Eating Disorders and Males

Overall, there is a lack of literature exploring the phenomenon of eating disorders among males, especially compared to the amount of literature exploring eating disorders among women (Koskina & Giovazolias, 2010; McCabe & Ricciardelli, 2004; Tetley et al., 2014). While there has been literature stating that females have a greater prevalence of eating disorders compared to males, this could be explained by the construct that eating disorders are characterized by the wish to lose weight (Rodgers & Chabrol, 2009). The wish to lose weight is prevalent among females with body dissatisfaction, given the sociocultural norms regarding weight and the female body. In contrast, men more commonly want to gain weight to increase

muscularity in accordance with sociocultural norms regarding the male body. Research has shown that this is consistent across different cultural groups. Given that eating disorders have so far been found to be more common among females, many inventories measuring disordered eating have focused on the female's ideal body type, including asking questions about wanting to lose weight or the belief that certain body parts are too big or fat. Considering that men would want to increase the size of their muscles, it makes sense that men would answer differently to these questions. This could in part explain why there have been lower levels of body dissatisfaction found among males. This could also explain why males have a lower prevalence of eating disorders such as anorexia nervosa, which is mainly focused on losing weight. Therefore, inventories are needed to be developed that focus on constructs relevant to men, such as wanting to gain weight with the idea of gaining muscle in mind.

The wish to either loose or gain weight is prevalent in equal rates among males with body dissatisfaction (Bäck, 2011; McCabe & Ricciardelli, 2004; Rodgers & Chabrol, 2009). Recent research has also shown that males and females are more similar than they are different in their core eating disordered behaviors (Dakanalis, Favagrossa, et al., 2014). Additionally, males often adopt disordered eating techniques to gain muscle instead of losing weight. It is currently unclear which gender perceives more pressure as to how their bodies should look. Some literature has stated that females are put under more pressure to be thin, but other research has shown that males are also under pressure to look muscular. It is also unclear whether females or males respond more to parental criticism of their bodies through disordered eating. Various studies have shown differing outcomes in disordered eating among

the genders in response to parental criticism. It is unclear whether there is more disordered eating among females or males in response to parental criticism, or if there are gender differences in general. Although there are differing results, it appears that males seem to respond to parental criticism in less behavioral ways than females do. Females seem to respond to parental criticism in more overt and behavioral ways, such as controlling their food intake.

Other research has shown that adult males tend to respond more to peer and media criticism towards their bodies than parental criticism (McCabe & Ricciardelli, 2004). Additionally, much of the research focusing on eating disorders and attachment has focused on females, and very little research has been done regarding parental attachment and eating disorders among males. When research has looked at risk factors for eating disorders, they have mainly focused on the female gender, rather than the male gender (Jacobi, Hayward, Zwaan, Kraemer, & Stewart Agras, 2004). Perhaps researchers need to look at disordered eating with the goal of gaining weight instead of losing weight more in the future to see if this is more prevalent among men.

Regarding attachment, previous research has found that attachment styles may not be as important among males in predicting disordered eating compared to females (Koskina & Giovazolias, 2010). Koskina and Giovazolias (2010) found that the avoidant attachment style was much more common among undergraduate men than women. The researchers found that disordered eating patterns in men were associated with insecure attachment, but were mediated by male’s satisfaction with how their bodies looked.

Objectification Theory in Women and Men

Objectification theory posits that women and men can be viewed by others in such a way as to separate their person from their body (Fredrickson & Roberts, 1997). This could be done in a sexual way, such as viewing their bodies or body parts alone as sexual functions with the belief that these functions represent them in entirety. Although most of the proposal of objectification theory has been done regarding women, there are ways to apply this theory to men as well.

In women, research has shown that more attractive, thinner women have more success (Fredrickson & Roberts, 1997). Overweight women are less likely to be accepted to college, and they are more likely to be viewed negatively by their coworkers in the workplace. Being physically attractive also correlates with more dating success, marriage opportunities, and popularity. More success in academics and the workplace can also be associated with power. Therefore, if a woman is more physically attractive, she will gain more power. Because having more power has greater advantages for women, it makes sense that women would become their own “surveyors” of their bodies to see if their bodies meet society’s standards. They may begin to see their body as an outsider would and examine it like someone else would. This is called self-objectification, or viewing yourself from an objective point of view. If their body does not meet society’s standards, or their own, this lends a powerful rationale for women who have eating disorders: By losing weight, women are able to gain more power. Another theoretical perspective states that because women are so cognitively focused on monitoring their appearance, they have less cognitive resources to monitor their internal states, such as hunger and satiety (Peat & Muehlenkamp, 2011). This is called poor

interceptive awareness. Additionally, if a woman is using all of her cognitive resources on monitoring her body and being dissatisfied by it, she may have difficulty identifying her emotional experiences and develop unhealthy coping skills, such as disordered eating, to deal with body dissatisfaction. Anxiety may also have a factor in body dissatisfaction and disordered eating: The more anxiety women feel around their bodies and dissatisfaction, the more prone they may be to disordered eating to cope with this anxiety.

Research has shown that approximately 1 in 40,000 women meet the beauty industry's standards for a model's shape and size (Fredrickson & Roberts, 1997). Additionally, viewing thin-ideal models has been shown to immediately cause body dissatisfaction in women (Ashikali & Dittmar, 2012). By comparing themselves to what they are used to seeing in the media, women may feel that their appearance doesn't meet their or society's expectations. This could result in body dissatisfaction.

Although much of objectification theory has been written about women (Fredrickson & Roberts, 1997) it can also be applied to men. Although women's positive self-concept seems to rest on perceived physical attractiveness, men's positive self-concept seems to rest on physical effectiveness. This can be applied to the male standard of beauty: The more muscular, the more attractive (Dakanalis et al., 2012). Additionally, research has shown that body surveillance and disordered eating was mediated by body shame and influenced by the drive for muscularity and depression. Research has also shown that body checking and body dissatisfaction is higher among gay men compared to heterosexual men, and that higher levels of checking and dissatisfaction is associated with higher levels of disordered eating. Although heterosexual men experience lower levels of body checking and body dissatisfaction, and

subsequent disordered eating, they still experience these phenomena. Media has also increased the objectification of the male body, which could contribute to disordered eating among males if their body does not live up to the media's expectations.

Limitations of Current Research

The biggest limitation that current research faces is the lack of research on males with disordered eating patterns (Koskina & Giovazolias, 2010; McCabe & Ricciardelli, 2004; Tetley et al., 2014). While this may be because eating disorders are more prevalent among females, most of the constructs assessed in disordered eating research have been focused on the goal of losing weight, not gaining weight. This is problematic because the goal of gaining weight may be more prevalent among males (Rodgers & Chabrol, 2009). Therefore, inventories targeting both the goal of gaining and losing weight need to be administered to ensure that the most accurate results are being collected.

While the finding that insecure attachment is more common among people with disordered eating has been replicated, few studies have looked at intervening variables that may protect or exacerbate the effects of insecure attachment among people with disordered eating. Finding more of these intervening variables is helpful to discover the etiology of eating disorders. One such variable that may be important to look at is body dissatisfaction among people with disordered eating patterns.

The Present Study

Disordered eating and body dissatisfaction are very prevalent among college students (Juarascio et al., 2011). Because of this, more research is needed to understand these phenomena. Additionally, few research studies have examined how parental attachment could

contribute to body dissatisfaction and disordered eating together. Therefore, this study will examine the participant's attachment relationship with their parents and how this affects body dissatisfaction and disordered eating. Particular emphasis will be placed on male participants due to less research being done on males with disordered eating patterns.

This study would add to the present literature because it would replicate findings that insecure attachment patterns are associated with disordered eating. Additionally, adding in body dissatisfaction would look at if high body satisfaction could be a protective factor in the development of an eating disorder, even if a participant has an insecure attachment pattern. This study would also add to the literature by examining males because there are many more studies looking at disordered eating among females compared to males. The independent variables include attachment pattern and body dissatisfaction. The dependent variable is disordered eating behaviors. Gender is a status variable that is examined.

For this study, three research questions are posed. Because of the nature of previous research, the first two research questions are based on prior research, and the third research question is more exploratory in nature. The first is: "Is disordered eating associated with insecure attachment patterns in both male and female undergraduate students"? The second research question is: "Is body dissatisfaction associated with insecure attachment?" The third research question is: "Does body dissatisfaction impact disordered eating when considering attachment?" To answer these questions, three hypotheses were formed. The first and second hypotheses are based on prior research, and the third hypothesis is more exploratory in nature. The first hypothesis is: "College students that have secure attachment will have decreased disordered eating compared to those with insecure attachment." The second hypothesis is:

"College students that have secure attachment will have decreased body dissatisfaction compared to those with insecure attachment." The third hypothesis is: "Body dissatisfaction will have a mediating impact on the relationship between attachment and disordered eating, such that college students with insecure attachment will have increased body dissatisfaction and disordered eating."

Conclusion

Overall, there is a serious need to research anorexia and bulimia more, especially in college students. In past research, most of which has been done with females, researchers have found that insecure attachment patterns are associated with disordered eating, although it appears that researchers have not considered how body dissatisfaction may influence this. Both attachment theory and objectification theory can explain how body dissatisfaction and attachment patterns may relate to the development of eating disorders.

Some gaps in the literature that need filling including researching eating disorders and males and researching eating disorders among different ethnic groups. Because college students experience high levels of disordered eating and body dissatisfaction, it is important to study this population, although it is not necessarily representative of the entire population.

This study will also add to the research by examining how early life experiences with participant's mothers and fathers or other caregivers may impact them later in life with the development of disordered eating. Additionally, body dissatisfaction may also play a role in how eating disorders are manifested. Hopefully through research such as this, a better understanding will be gained of how eating disorders present themselves in college students.

By understanding this, clinicians will be better able to develop efficacious treatment interventions to reduce disordered eating behaviors.

Method

Participants

The participants were recruited via a convenience sample from three undergraduate psychology classes at a medium-sized Midwestern university. Another convenience sample was taken from a male-dominated academic club. The participants were entered into a drawing to win one of two $50 Target gift cards. A total of 162 participants completed the study. 122 females and 40 males participated. The average age of participants was 22. The median BMI was 23.01. In my final thesis, I will include demographics such as age, gender, and average BMI (see Appendix B).

Procedure

The research design was a survey design. Recruitment emails were sent out to undergraduate psychology professors. Recruitment emails were also sent out to stereotypically male-dominated clubs to increase the number of male participants. The participants took part in the study during one of their undergraduate lectures in the fall semester or an academic club meeting in the spring semester. Before completing the survey, the participants were given an informed consent sheet and asked to sign it (see Appendix A). The informed consent sheet also included resources that the participants could use if the survey created distress. The participants were then given a paper-and-pencil survey.

Measurements

Three scales were used in this survey. The first scale used was the Eating Attitudes Test (EAT-26, Garner, Olmsted, Bohr, & Garfinkel, 1982, see Appendix C). The EAT-26 is a self-report questionnaire used to assess a participant's overall eating disordered behavior and weight concerns. The EAT-26 has been determined to have a validity of r = .72 and has been shown to have good concurrent validity that can predict whether a participant has an eating disorder (Garner & Garfinkel, 1979). The EAT-26 has a reliability coefficient of α = .94. This assessment also shows good discriminant validity, with low correlations of r = .3 and r = .1 between scores on the EAT-26 and scores of extraversion and neuroticism. In this sample, the internal consistency for this scale α = .890.

To measure body dissatisfaction, two scales were used. The first is the Body Shape Questionnaire-16B (Cooper, Taylor, Cooper, & Fairburn, 1986). This is a 16-item shortened form of the Body Shape Questionnaire, a 36-item self-report measure designed to assess a participant's level of dissatisfaction with their body shape. The questions are answered on a six-point Likert scale (1 = *never,* 6 = *always*). This scale was specifically created for females and thus was only used with female participants. Sample items include "Have you ever been so worried about your shape that you have been feeling you ought to diet?" and "Have you noticed the shape of other women and felt that your own shape compared unfavourably?" Cronbach's alpha was measured at α = .93 for this scale. In this sample, the BSQ-16B was found to be reliable (16 items; α = .959).

The second was the Male Body Dissatisfaction Scale (MBDS, Dakanalis et al., 2015; Hallsworth, Wade, & Tiggemann, 2005). The Male Body Dissatisfaction Scale was developed

parallel to the Body Dissatisfaction Scale and addresses male body concerns. The nine questions were answered on a 6-point Likert scale (1 = *always*, 6 = *never*). Two sample questions from the scale include "I think my chest is just the right size," and "I think my thighs are too small" (see Appendix E). This scale focuses specifically on male body concerns such as gaining weight, which is more common among men (Rodgers & Chabrol, 2009). Because of this, this scale was administered to male participants only. It could also assess for weight loss goals because the questions generally ask how satisfied a participant is with their body shape, not necessarily whether they would want to lose or gain weight. Cronbach's alpha was measured at $r = .92$ for this scale. The MBDS also shows good 1-month test-retest reliability with $r = .88$. In this sample, the BDS was found to be reliable (9 items; $\alpha = .838$).

The third scale used was the Experiences in Close Relationships-Relationship Structures Questionnaire (ECR-RS, Fraley, Heffernan, Vicary, & Brumbaugh, 2011). This scale measures attachment across four different relationships: Attachment with mother, father, romantic partner, and best friend. Because the literature review focused on attachment relationships with mother and father, these two relationships will be focused on for this thesis. If a participant doesn't have a mother or father, the assessment asks them to think about a mother- or father-like figure. The assessment has the same nine items for each relationship; yielding a scale with 18 items total. The items are rated on a Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Two examples from questions from this scale are: "It helps to turn to this person in times of need," and "I don't feel comfortable opening up to this person" (see Appendix F). This assessment also has two subscales: relationship anxiety and avoidance. The anxiety subscale measures the extent to which participants worry about the

availability and responsiveness of their mother or father. The avoidance subscale measures the extent to which a person does not open up to others or depend on them. The lower the score on anxiety and avoidance, the more secure the relationship is. Cronbach's alphas for each item ranges from r = .85 to .92. In this sample, the internal consistency of the mother subscale is α = .913 and the internal consistency of the father subscale is α = .911. Both subscales were found to be reliable.

Results

Demographics

There was a total of 162 participants, with 122 females and 40 males. The majority of the participants were Caucasian (n = 131), however, there were also African American participants (n = 13), Asian participants (n = 12), Hispanic/Latino participants (n = 3), and multiracial participants (n = 1). The average age of participants was relatively young (M = 21.57, range: 18-56). See Table 1 for additional demographic information.

Means and standard deviations were also conducted for each of the measures (see Table 2). The range is also included for each measure to explain where the mean scores were in the range of the measure. These are reported based on gender because the hypotheses are split up by gender as well. The mean score for EAT-26 was relatively low for both males and females (5.05 and 7.65, respectively). These scores are slightly lower than the population this scale was normed on. Population norms for males were 8.6 and 15.6 for females (Garner & Garfinkel, 1979).

Study Variable Correlations

The research design was a survey design. If there was missing data, mean imputation was used. Pearson-Product Moment Correlations between the independent variable (attachment style) and the dependent variable (disordered eating behaviors) were conducted. See Tables 3 and 4 for correlation matrices by gender. For females, correlations between EAT-26 total scores and mother anxiety and avoidance were statistically significant, $r(120) = .211$, $p < .05$ for mother anxiety and $r(120) = .437$, $p < .01$ for mother avoidance. Correlations for females between EAT-26 total scores and father avoidance were also significant, $r(120) = .358$, $p < .01$. Correlations between EAT-26 total scores and father anxiety were non-significant $r(120) = .161$, $p > .05$. Therefore, Hypothesis 1 was confirmed when considering insecure attachment patterns of mother anxiety and avoidance and father avoidance in females.

Correlations were also conducted between the BSQ 16-B and attachment were also conducted (see Table 3). For females, correlations between EAT-26 total scores and the BSQ 16-B were significant, $r(120) = .583$, $p < .01$. Correlations between mother anxiety and avoidance and the BSQ 16-B were also significant, $r(120) = .197$, $p < .05$ and $r(120) = .298$, $p < .01$, respectively. Correlations between BSQ 16-B and father anxiety were non-significant, $r(120) = .138$, $p > .05$. Finally, correlations between BSQ 16-B total scores and father avoidance were significant, $r(120) = .301$, $p < .01$. Therefore, Hypothesis 2 was confirmed when considering insecure attachment patterns of mother anxiety and avoidance and father avoidance in females.

For males, correlations were conducted between EAT-26 total scores, BDS total scores, and attachment were conducted (See Table 4). The correlations between EAT-26 total scores and BDS total scores were significant, $r(37) = .398$, $p < .05$. Correlations between EAT-26 scores and mother anxiety, mother avoidance, father anxiety, and father avoidance, were all non-significant (see Table 4). Correlations between BDS total score and mother anxiety, mother avoidance, father anxiety, and father avoidance were all non-significant (see Table 4). Therefore, Hypotheses 1 and 2 were not supported in males.

Mediation Results

Mediation models were conducted for females with the independent variables mother avoidance, father avoidance, and mother anxiety due to the correlations being significant. For mother avoidance the mediation model was significant (see Figure 1). Before the mediation model, the relationship between mother avoidance and EAT-26 total scores was $\beta = .437$, $t = 5.27$. After mediation, $\beta = .278$, $t = 3.68$. The Sobel Test of Mediation Model was used to see if the difference in *t*-statistics were statistically significant (Preacher & Leonardelli, 2016). The difference was statistically significant, Sobel Test Statistics = 2.988, $p = .002$.

For father avoidance the mediation model was significant (see Figure 2). Before the mediation model, the relationship between father avoidance and EAT-26 total scores was $\beta = .358$, $t = 4.095$. After mediation, $\beta = .185$, $t = 2.832$. The Sobel Test of Mediation Model was used to see if the difference in *t*-statistics was statistically significant (Preacher & Leonardelli, 2016). The difference was statistically significant, Sobel Test Statistics = 2.059, $p = .0395$.

For mother anxiety the mediation model was not significant (see Figure 3). Before the mediation model, the relationship between father avoidance and EAT-26 total scores was $\beta =$

.211, $t = 2.339$. After mediation, $\beta = .100$, $t = 1.302$. The Sobel Test of Mediation Model was used to see if the difference in *t*-statistics was statistically significant (Preacher & Leonardelli, 2016). The difference was not statistically significant, Sobel Test Statistics = 1.138, $p = .255$. Therefore, Hypothesis 3 was confirmed for females when considering the insecure attachment patterns of mother and father avoidance.

For males, due to there not being statistically significant relationships between attachment, EAT-26 total scores, and BDS total scores, the mediation model did not hold up. Therefore, Hypothesis 3 was not confirmed for males.

Discussion

This study supported my hypotheses with female participants and failed to support my hypotheses in male participants. For female participants, Hypotheses 1, 2, and 3 were confirmed. Disordered eating was found to be associated with insecure attachment patterns of mother anxiety and avoidance, and father avoidance. Body dissatisfaction was associated with insecure attachment patterns of mother anxiety and avoidance and father avoidance. Finally, body dissatisfaction does mediate the relationship between insecure attachment and disordered eating, such that participants with higher body satisfaction had less disordered eating.

Theoretically, these results indicate that insecure attachment relationships with mothers and fathers may have an impact on female's eating patterns. Because the relationship between attachment and eating got weaker when considering body dissatisfaction, body dissatisfaction can be viewed as a protective factor. The more satisfied a woman is with her body, the less impact insecure attachment may have on her eating patterns. For women and

relationships, this may mean that relationships have an impact on how women view their bodies and therefore their eating patterns. There are several theories as to how attachment can impact eating. Because the avoidant attachment style had the strongest relationship with disordered eating in this study, this style of attachment will be focused on. If a parent is rejecting or avoidant of a female child, the child may feel that there is something wrong with them. Because of this, they may strive to change something about themselves. One way to do this is to control the amount of food they eat. When changing the amount of food they eat, their weight may also change. The weight change may be one way to seek their parent's approval and acceptance (Bäck, 2011; Koskina & Giovazolias, 2010; Tetley et al., 2014; Zachrisson & Skårderud, 2010). It could also be a proximity-seeking behavior to show their parents that they need them but aren't sure how to vocalize this need (or their parents have not been responsive to their requests in the past). By not eating, the person may begin to lose weight. When a parent realizes that they have begun to lose weight, they may try to help their child in their recovery and therefore get more time with their parent. The child's act of losing weight may be a way for the child to communicate to their parent that they need them.

Therefore, body satisfaction can be viewed as a protective factor for women with insecure attachment patterns with their mother and father. How then, do women develop body satisfaction that can potentially help buffer them from disordered eating symptoms? One such avenue that has had much research done on it is the media. Numerous research studies have shown that exposure to very thin models can increase the frequency of disordered eating practices (Gauvin & Steiger, 2012). One way to help combat this is the "body positive movement" (Bustle, 2015). The body positive movement seeks to show that "all bodies are

good bodies”, regardless of race, gender, size, or shape and that all bodies are “worthy of self-love”. This includes a push for the media to incorporate more diverse bodies in advertising. Québec, Canada, has recently taken steps to incorporate more diverse bodies in advertising through the Québec Charter for a Healthy and Diverse Body Image (Gauvin & Steiger, 2012). The Québec Charter has seven steps to increase diversity in the media and also promote healthy body images and eating habits versus very thin body images. While there has not been any formal research done regarding whether the Charter has increased Canadian citizen’s positive body image, polls conducted among the general public show that Canadian citizens believe that the Charter could help raise awareness of body image and disordered eating.

One result that was interesting in this study was how impactful the avoidant attachment style was for female participants and disordered eating. Previous research has shown that females who suffer from anorexia nervosa tend to have an avoidant attachment style (Tetley et al., 2014). Other researchers have hypothesized that because the avoidant attachment style is associated with distancing behaviors, eating pathology may be a way for females to avoid feeling comforted by food or to provide a substitute for the avoidant attachment relationship with parents (Ty & Francis, 2013). Additionally, with avoidant attachment, the person sees their caregiver as rejecting and may resort to perfectionism to avoid rejection (Dakanalis, Alix Timko, Assunta Zanetti, et al., 2014). Food and eating may be one way to achieve this perfectionism.

With male participants, Hypotheses 1, 2, and 3 were not supported. Disordered eating was not associated with insecure attachment patterns. Body dissatisfaction was not associated with insecure attachment patterns. Finally, body dissatisfaction was not found to mediate the

relationship between insecure attachment and disordered eating due to the previous hypotheses not being supported.

The results found in this study do not support the results found in Koskina and Giovazolias' (2010) research study, which found that insecure attachment was correlated with disordered eating patterns. Koskina and Giovazolias (2010) also found that body dissatisfaction mediated the relationship between romantic attachment patterns and disordered eating. However, it is important to note that Koskina and Giovazolias had 100 male participants, whereas this sample only had 40 male participants. In this research study, the statistical power may not have been strong enough to find statistically significant results (Cohen, 1992).

While females are often preoccupied with thinness, males are often preoccupied with having defined muscle mass. When this begins to have a significant impact on a person's life, it can turn into muscle dysmorphia, which is a form of body dysmorphic disorder (American Psychiatric Association, 2013). People with muscle dysmorphia may view themselves as much smaller than they actually are and may believe that they have a lack of muscle when in fact they are quite muscular (Baghurst & Kissinger, 2009). It's interesting to note that while women are more concerned about becoming smaller, men are often concerned about becoming bigger. In fact, researchers first proposed to call muscle dysmorphia reverse anorexia due to the similarities between muscle dysmorphia and anorexia nervosa (Grieve, 2007, Leone, Sedory, & Gray, 2005; Murray, Maguire, Russell, and Touyz, 2012). This could be attributable to the cultural values Western society has placed on men to be powerful and strong.

While attachment relationships may still be important to the development of body dissatisfaction and disordered eating among men, because this research study did not support these findings, looking at other ways muscle dysmorphia can develop may be useful. Grieve (2007) states that there are four categories of areas that can contribute to the development of muscle dysmorphia. These include: socio-environmental, emotional, psychological, and cognitive factors. Several researchers have found associations between muscle dysmorphia and depression (emotional), anxiety (emotional), perfectionism (cognitive), body dissatisfaction (emotional), obsessive-compulsive disorder (emotional and cognitive), and body dysmorphic disorder (Baghurst & Kissinger, 2009; Chandler, Pitt Derryberry, Grieve, & Pegg, 2009; Grieve, Truba, & Bowersox, 2009). Sport participation is another factor that may contribute to the development of muscle dysmorphia due to the emphasis on how increased muscle mass can better sport performance.

There have been debates surrounding what diagnostic classification muscle dysmorphia should fall under. Researchers debate about whether it should fall under an eating disorder, body dysmorphic disorder, or obsessive-compulsive disorder (Suffolk, Dovey, Goodwin, & Meyer, 2013). Chandler et al. (2009) make the case that muscle dysmorphia should be classified under obsessive-compulsive disorder because different types of anxiety accounted for 73% of the variance in the symptoms of muscle dysmorphia. Several research studies have shown that obsessive-compulsive disorder and body dysmorphic disorder have high rates of comorbidity, ranging from 3% to 37% (Conceição Costa et al., 2012). Conceição Costa et al. (2012) found the rate of comorbidity in their sample was 12.1%. Perhaps sources of anxiety can attribute to disordered eating for males more than attachment relationships. A

self-report measure of anxiety may have captured more of the relationship and variance with disordered eating in this study rather than body dissatisfaction.

It is also important to look at how the media can also impact males. Historically, it hass been assumed that men are immune to the pressures that the media puts on males to look a certain way (Grieve, 2007). However, over the past 20 years, the rates of muscle dysmorphia have increased (Murray & Griffiths, 2015). Mirroring this increase, male models have become more muscular and even action figures that male children play with have become more muscular and their bodies and muscles have become unattainable (similar to how Barbie's body proportions are unattainable for women). Therefore, the media may also impact males similar to how the media has impacted females.

Considering that this research study has further supported research studies that find that attachment relationships are associated with disordered eating symptoms, a logical way to treat disordered eating in females would include some type of family therapy. As stated before, family-based therapy is an evidence-based practice for females with disordered eating patterns (Kosmerly, Waller, & Lafrance Robinson, 2015; Murray & Griffiths, 2015). It is important to note that clinicians should not view the attachment relationship as the cause of the disordered eating; instead, clinicians can view the attachment relationship as a valuable resource for treating the disordered eating patterns. Additionally, clinicians may also want to focus on how to build up the client's body self-esteem, perhaps through body positive statements. Emotionally focused therapy (Johnson, Maddeaux, & Blouin, 1998) has been empirically validated for individuals with eating disorders and their families. Emotionally focused therapy works to help parents to become more responsive and accessible for their

child, which fosters a sense of the family being a safe haven and creates a more secure bond. When this happens, the child is able to get nurturance and comfort from their family, rather than their relationship with food.

For males, it may also be a good idea to include some form of family therapy for treating eating disorders or muscle dysmorphia. This is supported through the logic that eating disorders in males develop through similar mechanisms that eating disorders develop in females (Murray & Griffiths, 2015). Family-based treatment has been shown to be effective for treating muscle dysmorphia in case studies. In general, vastly more research needs to be conducted on muscle dysmorphia and how to treat it, due to their being no large-scale studies in treating muscle dysmorphia in the literature reviews.

This study has several limitations. The first is that it is a cross-sectional study and therefore it is impossible to infer causation. To overcome limitations of correlation and causation, longitudinal studies may be able to shed more light on precipitating factors that may lead to the development of disordered eating patterns. Additionally, the participants in this study were taken from undergraduate psychology classes in a mid-sized Midwestern university. Therefore, generalization to other populations is extremely limited because the results may not be representative of people from other age groups, geographical locations, and ethnicities. This study was also entirely self-report and may not reflect the intricacies and nuances regarding relationships. It would be difficult for a self-report measure of nine questions to conceptualize parent's relationships.

These findings are important for women because they shed more light on the importance of relationships with females and the correlation with disordered eating.

Additionally, body dissatisfaction can be an important protective factor for disordered eating. This also highlights the importance of the media and the image the media portrays of women. Perhaps more education regarding the effects of photo retouching and how advertisements are not realistic can help women's body image become more realistic. Finally, the body positive movement may also help women realize that there is a difference between self-worth as a person and how a person's body looks. It would be interesting to conduct research on the effects of the body positive movement to see if this movement has a positive impact on women's self-esteem and body image.

These findings are important for men because although no statistically significant results were found, more research needs to be done. Perhaps examining the relationship between anxiety and disordered eating would explain more of the variance in this sample. The importance of studying muscle dysmorphia is underscored considering the increase in muscle dysmorphia throughout the recent years (Murray & Griffiths, 2015). More research, including more studies using larger samples, is needed to understand this phenomena and how to treat it using evidence-based practices.

Table 1

Demographic Information of Participants

Variable	*n*	%	*M(SD)*
Gender			
Male	40	24.7	
Female	122	75.3	
Marital Status			
Single	141	87.0	
In a relationship	7	4.3	
Married	8	4.9	
Divorced	2	1.2	
Engaged	2	1.2	
Widowed	1	.6	
Ethnicity			
Caucasian	131	80.9	
African American	13	8.0	
Asian	9	5.6	
Latino/Hispanic	3	1.9	
Hmong	3	1.9	
Mixed	1	.6	
Age			21.57(5.65)

Table 2

Mean, Standard Deviation, and Range for Measures

Measure	*M(SD)*	Range
EAT-26 Total Score		
Male	*5.05(5.97)*	0 - 130
Female	*7.65(8.15)*	0 - 130
BSQ-16B Total Score	*47.97(19.35)*	16 - 96
BDS Total Score	*27.69(10.81)*	9 - 54
ECCRS-Mother Anxiety		
Male	*1.32(.71)*	1 - 7
Female	*1.43(1.08)*	1 - 7
ECCRS-Mother Avoidance		
Male	*2.53(1.29)*	1 - 7
Female	*2.54(1.61)*	1 - 7
ECCRS-Father Anxiety		
Male	*1.41(.85)*	1 - 7
Female	*1.77(1.48)*	1 - 7
ECCRS-Father Avoidance		
Male	*3.05(1.58)*	1 - 7
Female	*3.29(1.75)*	1 - 7

Table 3

Pearson-Product Moment Correlations for All Study Variables–Females

Measure	1	2	3	4	5	6
1. EAT 26 Total Score	--					
2. BSQ 16-B	.583**	--				
3. ECCRS Mother Anxiety	.211*	.197*	--			
4. ECCRS Mother Avoidance	.437**	.298**	.558**	--		
5. ECCRS Father Anxiety	.161	.138	.431**	.267**	--	
6. ECCRS Father Avoidance	.358**	.301**	.207*	.443**	.554**	--

**: Correlation is significant at the 0.01 level (2-tailed).
*: Correlation is significant at the 0.05 level (2-tailed).

Table 4

Pearson-Product Moment Correlations for All Study Variables–Males

Measure	1	2	3	4	5	6
1. EAT 26 Total Score	--					
2. BDS	.398*	--				
3. ECCRS Mother Anxiety	-.150	.247	--			
4. ECCRS Mother Avoidance	-.146	.004	.318*	--		
5. ECCRS Father Anxiety	-.151	.142	.727**	.309	--	
6. ECCRS Father Avoidance	-.015	.136	.175	.207	.559**	--

**: Correlation is significant at the 0.01 level (2-tailed).
*: Correlation is significant at the 0.05 level (2-tailed).

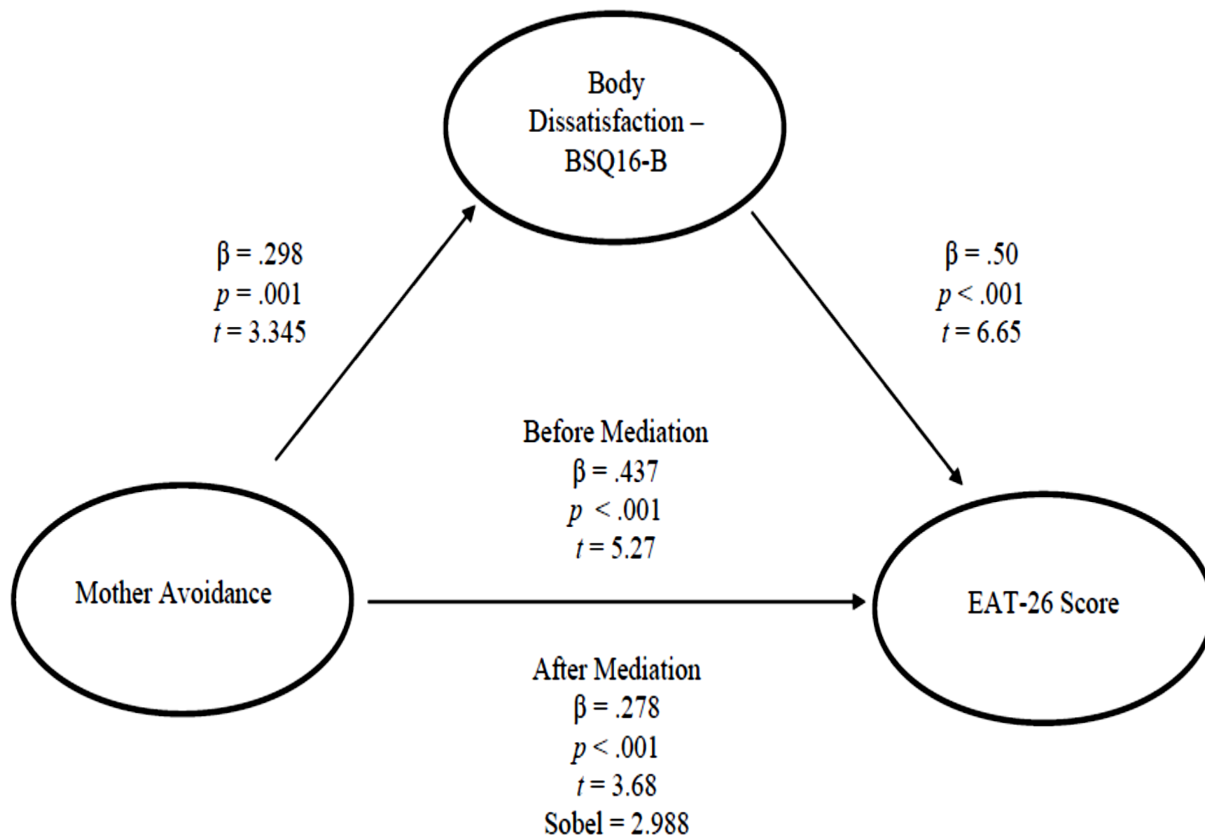

Figure 1. Test of the Mediation Model–Females and Mother Avoidance

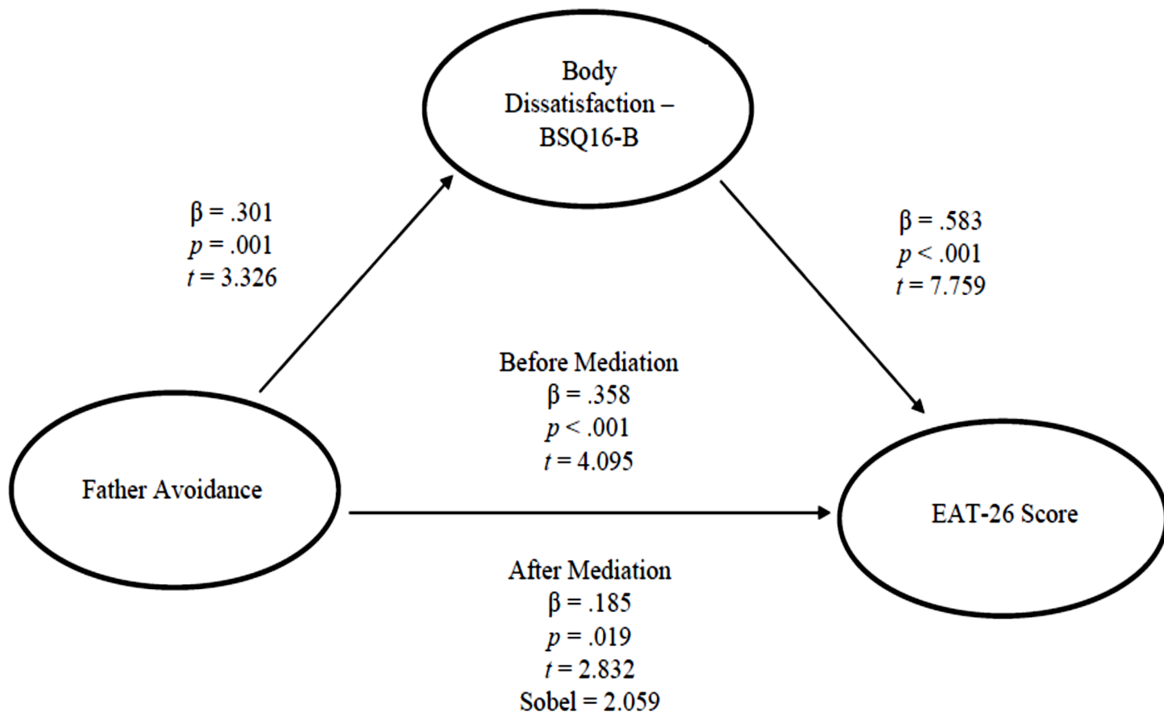

Figure 2. Test of the Mediation Model–Females and Father Avoidance

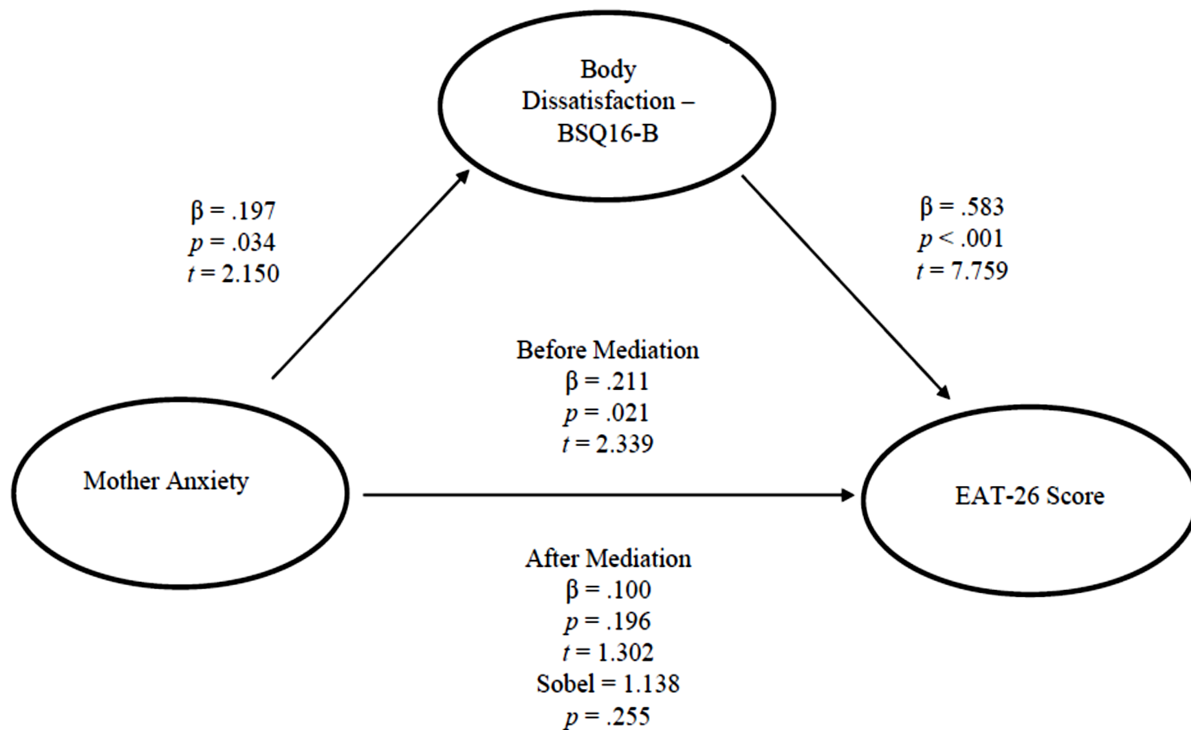

Figure 3. Test of the Mediation Model–Females and Mother Anxiety

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Appendix A: Consent to Serve as a Participant in Research

1. I hereby consent to take part in research directed by Dr. Jennifer Connor and Rachel Biegel, and sponsored by St. Cloud State University. Dr. Connor is an Associate Professor and Rachel Biegel is a master's student in the Department of Community Psychology, Counseling, and Family Therapy. I understand that other persons will assist Dr. Connor and Rachel Biegel in conducting research.
2. Further, I understand that:
    a. *Purpose*. The purpose is to study disordered eating and relationships.
    b. *Requirements*. My part of this research will be to complete a paper and pencil survey designed to measure the way I relate to others and eat food. Surveys will be completed by groups of students in university classrooms.
    c. *Time needed*. The total time required will be approximately 15 minutes.
    d. *Voluntary participation*. My participation is completely voluntary. Even after I begin participating, I will be free to stop at any time. I have the right to stop after I have started participating, or I have the right to decide not to participate at all in this study. Although the researchers ask that I try to answer every item, I understand that I can skip anytime that I simply do not wish to answer. (I do not need to give a reason for skipping any item). In no case will there be a negative effect for my non-participation or non-completion.
    e. *New developments*. I will be told of any new information that develops during the course of this research that might affect my willingness to participate in the study.

f. *Risks.* The amount of risk has been determined to be no greater than that encountered in daily life or during routine psychological surveys.

g. *Benefits*. I will receive a debriefing sheet that explains more about disordered eating and relationships. General benefits will come for myself and others in the form of an increased scientific understanding of how relationships can impact disordered eating.

h. *Protections*. I understand that the following precautions have been taken for my protection: (1) no part of the surveys will ask for my name or other identifying information, my responses will remain completely anonymous; (2) no questionnaire asks me to describe specific incidents; (3) I am free to discontinue my participation at any time for any reason; (4) although the researchers would like me to answer every item, I am free to skip any question or item that I find too sensitive or stressful; (5) when the results of this study are published, only aggregate data (for example, group averages) will be reported.

3. My questions about this research have been answered. If I have further questions, I should contact:

   a. Dr. Jennifer Connor, 202E Brown Hall, office phone: 320.308.4176, email: jjconnor@stcloudstate.edu

   b. Rachel Biegel, email: rabiegel@stcloudstate.edu

   c. Institutional Review Board, The Office of Research and Sponsored Programs, phone: 320.308.4932

Appendix B: Demographic Questionnaire

1. What is your gender?
2. How old are you?
3. How much do you weigh?
4. How tall are you?
5. What year in school are you?
6. What is your ethnicity?
7. What is you marital status?

Appendix C: Eating Attitudes Test (EAT-26)

Eating Attitudes Test (EAT-26)©

Instructions: This is a screening measure to help you determine whether you might have an eating disorder that needs professional attention. This screening measure is not designed to make a diagnosis of an eating disorder or take the place of a professional consultation. Please fill out the below form as accurately, honestly and completely as possible. There are no right or wrong answers. All of your responses are confidential.

Part A: Complete the following questions:

1) Birth Date Month:	Day:	Year:	2) Gender:	Male	Female
3) Height Feet :	Inches:			☐	☐
4) Current Weight (lbs.):	5) Highest Weight (excluding pregnancy):				
6) Lowest Adult Weight:	7: Ideal Weight:				

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

Part C: Behavioral Questions: In the past 6 months have you:		Never	Once a month or less	2-3 times a month	Once a week	2-6 times a week	Once a day or more
A	Gone on eating binges where you feel that you may not be able to stop? *	☐	☐	☐	☐	☐	☐
B	Ever made yourself sick (vomited) to control your weight or shape?	☐	☐	☐	☐	☐	☐
C	Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?	☐	☐	☐	☐	☐	☐
D	Exercised more than 60 minutes a day to lose or to control your weight?	☐	☐	☐	☐	☐	☐
E	Lost 20 pounds or more in the past 6 months	Yes ☐		No ☐			

* Defined as eating much more than most people would under the same circumstances and feeling that eating is out of control

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Appendix D: BSQ-16B

We should like to know how you have been feeling about your appearance over the **PAST FOUR WEEKS**. Please read each question and circle the appropriate number to the right. Please answer all the questions.

OVER THE PAST FOUR WEEKS:	Never	Rarely	Sometimes	Often	Very often	Always
1. Have you been so worried about your shape that you have been feeling you ought to diet?	1	2	3	4	5	6
2. Have you been afraid that you might become fat (or fatter)?	1	2	3	4	5	6
3. Has feeling full (e.g. after eating a large meal) made you feel fat?	1	2	3	4	5	6
4. Have you noticed the shape of other women and felt that your own shape compared unfavourably?	1	2	3	4	5	6
5. Has thinking about your shape interfered with your ability to concentrate (e.g. while watching television, reading, listening to conversations)?	1	2	3	4	5	6
6. Has being naked, such as when taking a bath, made you feel fat?	1	2	3	4	5	6
7. Have you imagined cutting off fleshy areas of your body?	1	2	3	4	5	6
8. Have you not gone out to social occasions (e.g. parties) because you have felt bad about your shape?	1	2	3	4	5	6
9. Have you felt excessively large and rounded?	1	2	3	4	5	6
10. Have you thought that you are in the shape you are because you lack self-control?	1	2	3	4	5	6
11. Have you worried about other people seeing rolls of fat around your waist or stomach?	1	2	3	4	5	6
12. When in company have your worried about taking up too much room (e.g. sitting on a sofa, or a bus seat)?	1	2	3	4	5	6
13. Has seeing your reflection (e.g. in a mirror or shop window) made you feel bad about your shape?	1	2	3	4	5	6
14. Have you pinched areas of your body to see how much fat there is?	1	2	3	4	5	6

15. Have you avoided situations where people could see your body (e.g. communal changing rooms or swimming baths)?.................................. 1 2 3 4 5 6

16. Have you been particularly self-conscious about your shape when in the company of other people?.. 1 2 3 4 5 6

BSQ-16B © Evans & Dolan, 1993. Non-profit-making reproduction *unchanged* authorised, see http://www.psyctc.org/tools/bsq/

Appendix E: Male Body Dissatisfaction Scale

1. I think my chest is just the right size.
   always 1 2 3 4 5 6 never

2. I think my thighs are just the right size.
   always 1 2 3 4 5 6 never

3. I like the shape of my buttocks.
   always 1 2 3 4 5 6 never

4. I think my stomach is just the right size.
   always 1 2 3 4 5 6 never

5. I think my chest is too small.
   always 1 2 3 4 5 6 never

6. I feel satisfied with the shape of my body.
   always 1 2 3 4 5 6 never

7. I think my biceps are just the right size.
   always 1 2 3 4 5 6 never

8. I think my thighs are too small.
   always 1 2 3 4 5 6 never

9. I think that my biceps are too small.
   always 1 2 3 4 5 6 never

Appendix F: Experiences in Close Relationships-Relationship Structures Questionnaire (ECR-RS)

This questionnaire is designed to assess the way in which you mentally represent important people in your life. You'll be asked to answer questions about your parents or parental figures. Please indicate the extent to which you agree or disagree with each statement by circling a number for each item.

Please answer the following questions about your mother or a mother-like figure

----

1. It helps to turn to this person in times of need.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

2. I usually discuss my problems and concerns with this person.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

3. I talk things over with this person.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

4. I find it easy to depend on this person.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

5. I don't feel comfortable opening up to this person.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

6. I prefer not to show this person how I feel deep down.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

7. I often worry that this person doesn't really care for me.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

8. I'm afraid that this person may abandon me.
   strongly disagree 1 2 3 4 5 6 7 strongly agree

9. I worry that this person won't care about me as much as I care about him or her.
strongly disagree 1 2 3 4 5 6 7 strongly agree

Please answer the following questions about your father or a father-like figure
----

1. It helps to turn to this person in times of need.
strongly disagree 1 2 3 4 5 6 7 strongly agree

2. I usually discuss my problems and concerns with this person.
strongly disagree 1 2 3 4 5 6 7 strongly agree

3. I talk things over with this person.
strongly disagree 1 2 3 4 5 6 7 strongly agree

4. I find it easy to depend on this person.
strongly disagree 1 2 3 4 5 6 7 strongly agree

5. I don't feel comfortable opening up to this person.
strongly disagree 1 2 3 4 5 6 7 strongly agree

6. I prefer not to show this person how I feel deep down.
strongly disagree 1 2 3 4 5 6 7 strongly agree

7. I often worry that this person doesn't really care for me.
strongly disagree 1 2 3 4 5 6 7 strongly agree

8. I'm afraid that this person may abandon me.
strongly disagree 1 2 3 4 5 6 7 strongly agree

9. I worry that this person won't care about me as much as I care about him or her.
strongly disagree 1 2 3 4 5 6 7 strongly agree

Appendix G: IRB Approval Form

Institutional Review Board (IRB)

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
ST. CLOUD STATE UNIVERSITY.

Administrative Services 210
Website: stcloudstate.edu/osp ***Email: osp@stcloudstate.edu***
Phone: 320-308-4932

Name: Rachel Biegel
Address 155 16th Ave. SE
St. Cloud, MN 56304 USA
Email: rabiegel@stcloudstate.edu

IRB PROTOCOL DETERMINATION:
Expedited Review-1

Project Title: Disordered Eating, Attachment, and Body Dissatisfaction in Undergraduate Students

Advisor Jennifer Connor,Mick Mayhew, Kathy Mahew

The Institutional Review Board has reviewed your protocol to conduct research involving human subjects. Your project has been: **APPROVED**

Please note the following important information concerning IRB projects:

- The principal investigator assumes the responsibilities for the protection of participants in this project. Any adverse events must be reported to the IRB as soon as possible (ex. research related injuries, harmful outcomes, significant withdrawal of subject population, etc.).

- For expedited or full board review, the principal investigator must submit a Continuing Review/Final Report form in advance of the expiration date indicated on this letter to report conclusion of the research or request an extension.

-Exempt review only requires the submission of a Continuring Review/Final Report form in advance of the expiration date indicated in this letter if an extension of time is needed.

- Approved consent forms display the official IRB stamp which documents approval and expiration dates. If a renewal is requested and approved, new consent forms will be officially stamped and reflect the new approval and expiration dates.

- The principal investigator must seek approval for any changes to the study (ex. research design, consent process, survey/interview instruments, funding source, etc.). The IRB reserves the right to review the research at any time.

Good luck on your research. If we can be of further assistance, please contact the Office of Research and Sponsored Programs at 320-308-4932 or email lidonnay@stcloudstate.edu. Use the SCSU IRB number listed on any forms submitted which relate to this project, or on any correspondence with the IRB.

Institutional Review Board:

Linda Donnay
IRB Administrator
Office of Research and Sponsored Programs

St. Cloud State University:

Marilyn Hart
Interim Associate Provost for Research
Dean of Graduate Studies

OFFICE USE ONLY

SCSU IRB# 1504 - 1863	**Type:** Expedited Review-1	**Today's Date:** 10/26/2015
1st Year Approval Date: 10/26/2015	**2nd Year Approval Date:**	**3rd Year Approval Date:**
1st Year Expiration Date: 10/25/2016	**2nd Year Expiration Date:**	**3rd Year Expiration Date:**