

HER OWN WORST ENEMY: THE RELATIONSHIP AMONG FAT TALK, WEIGHT  
TEASING, AND DISORDERED EATING BEHAVIOR

A Thesis  
by  
LAUREN FRANCIS

Submitted to the School of Graduate Studies  
at Appalachian State University  
in partial fulfillment of the requirements for the degree of  
MASTER OF ARTS

December 2019  
Department of Psychology

HER OWN WORST ENEMY: THE RELATIONSHIP AMONG FAT TALK, WEIGHT  
TEASING, AND DISORDERED EATING BEHAVIOR

A Thesis  
by  
LAUREN FRANCIS  
December 2019

APPROVED BY:

---

Denise M. Martz, Ph.D.  
Chairperson, Thesis Committee

---

Rose Mary Webb, Ph.D.  
Member, Thesis Committee

---

Amy Galloway, Ph.D.  
Member, Thesis Committee

---

Rose Mary Webb, Ph.D.  
Chairperson, Department of Psychology

---

Mike McKenzie, Ph.D.  
Dean, Cratis D. Williams School of Graduate Studies

Copyright by Lauren Francis 2019  
All Rights Reserved

## **Abstract**

### **HER OWN WORST ENEMY: THE RELATIONSHIP AMONG FAT TALK, WEIGHT TEASING, AND DISORDERED EATING**

Lauren Francis  
B.A., University of North Carolina Wilmington

Chairperson: Denise M. Martz

Weight teasing is defined as negative remarks regarding one's weight, such as joking or name calling. Fat talk is defined as patterns of discussion, often occurring among female friend groups that degrade the body weight or shape of oneself. Previous literature suggests that weight teasing and fat talk are significantly associated with disordered eating behavior. The purpose of the current study is to assess the moderating effects of fat talk in the relationship between weight teasing and disordered eating in female college students. Researchers hypothesized that the interaction between previous experiences of weight related teasing exhibited by family and/or peers and subsequent engagement in fat talk in the context of conversations with friends and family by the participant would significantly increase the likelihood for individuals to develop disordered eating behaviors compared to if only weight teasing, or only fat talk was reported. A simple moderation analysis was conducted using model one of the PROCESS macro (Hayes, 2013). Fat talk was not found to be a moderating variable in the relationship between weight teasing and

disordered eating behavior. Results indicated that a history of weight teasing, and especially current fat talk, accounted for a significant amount of variance in disordered eating behavior when considering the variables simultaneously. BMI was not found to account for a significant amount of variance in disordered eating behavior. These results provide evidence toward a need for evidence-based interventions that directly target fat talk and weight teasing.

## **Acknowledgments**

I would like to acknowledge everyone who has played a role in my academic accomplishments. I am truly grateful to my family, who have always supported my goals as a student and a professional. I would also like to thank my advisor, Dr. Denise Martz, and the rest of my thesis committee members, each of whom has provided guidance throughout this process. Thank you all for your patience and support.

## Table of Contents

Abstract .....	iv
Acknowledgments.....	vi
List of Tables .....	viii
List of Figures .....	ix
Foreword.....	x
Introduction.....	3
Method .....	14
Results.....	19
Discussion.....	24
References.....	33
Appendix A. Weight Related Abuse Questionnaire (WRAQ) .....	41
Appendix B. Fat Talk Questionnaire (FTQ) .....	42
Appendix C. Family Fat Talk Questionnaire (FTQ).....	44
Appendix D. Eating Disorder Diagnostic Scale (EDDS) .....	45
Appendix E. Appalachian State University Institutional Review Board Notice of Approval .....	47
Appendix F. Consent Form Administered to Participants .....	48
Vita.....	53

## **List of Tables**

Table 1. Descriptive Statistics for Measures.....	51
Table 2. Correlation Coefficients for Study Variables .....	52



## **List of Figures**

Figure 1. Visual representation of moderation research design.....	50
--	----

## **Foreword**

This thesis is written in accordance with the style guidelines presented in the *Publication Manual of the American Psychological Association (6<sup>th</sup> Edition)* in line with the requirements of the Department of Psychology at Appalachian State University.

Her Own Worst Enemy: The Relationship Among Fat Talk,  
Weight Teasing, and Disordered Eating Behavior

Lauren Francis, B.A.

Appalachian State University

## Abstract

Weight teasing is defined as negative remarks regarding one's weight, such as joking or name calling. Fat talk is defined as patterns of discussion, often occurring among female friend groups that degrade the body weight or shape of oneself. Previous literature suggests that weight teasing and fat talk are significantly associated with disordered eating behavior.

The purpose of the current study is to assess the moderating effects of fat talk in the relationship between weight teasing and disordered eating in female college students.

Researchers hypothesized that the interaction between previous experiences of weight related teasing exhibited by family and/or peers and subsequent engagement in fat talk in the context of conversations with friends and family by the participant would significantly increase the likelihood for individuals to develop disordered eating behaviors compared to if only weight teasing, or only fat talk was reported. A simple moderation analysis was conducted using model one of the PROCESS macro (Hayes, 2013). Fat talk was not found to be a moderating variable in the relationship between weight teasing and disordered eating behavior. Results indicated that a history of weight teasing, and especially current fat talk, accounted for a significant amount of variance in disordered eating behavior when considering the variables simultaneously. BMI was not found to account for a significant amount of variance in disordered eating behavior. These results provide evidence toward a need for evidence-based interventions that directly target fat talk and weight teasing.

*Keywords:* disordered eating behavior, fat talk, weight teasing

Her Own Worst Enemy: The Relationship Among Fat Talk,  
Weight Teasing, and Disordered Eating Behavior

Feeding and eating disorders are defined as chronically disturbed eating patterns and behaviors that result in the abnormal ingestion of food, which in turn, damages physical health and other functioning (American Psychiatric Association [APA], 2013). The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5; APA, 2013) recognizes three main eating disorders in addition to the feeding disorder and otherwise specified feeding and eating disorders: anorexia nervosa, bulimia nervosa, and binge-eating disorder. Anorexia nervosa is characterized by a restriction of food that leads to a significantly low body weight compared to other individuals of the same age, sex, and physical development. This disorder also typically involves an extreme fear of weight gain and a disordered way of viewing one's own body weight or shape. Two different types of anorexia nervosa are included in the DSM-5, the restricting type and the binge-eating/purging type. Bulimia Nervosa is described as repeated episodes of binge eating followed by the engagement in compensatory behaviors in order to avoid weight gain. Severity of this disorder is specified based on the number of compensatory behaviors an individual engages in per week. Binge-eating disorder involves repeated episodes of binge eating, which are characterized by eating a markedly large amount of food in a short amount of time as well as a loss of control during binge episodes. Additionally, binge-eating episodes are accompanied by other symptoms such as eating faster than usual, eating past the point of satiation, eating excessive amounts of food even when one is not hungry, feelings of embarrassment due to the amount of food intake, or feelings of disgust or guilt after eating.

Another disorder included in the DSM-5 is referred to as other specified feeding or eating disorder. This diagnosis is used when full criteria is not met for any of the aforementioned disorders, yet symptoms associated with any of these disorders are present and cause clinically significant distress or impairment (APA, 2013). A common factor present in all of the eating disorders is disordered eating behavior. Disordered eating behaviors refer to adverse patterns of eating that have an impact on daily life, which often stem from negative feelings one has surrounding his or her body image (Young-Hyman, 2013). These behaviors, also known as unhealthy weight control behaviors, include, but are not limited to, chronic dieting, frequent binge eating, laxative use, purging, and fasting (Young-Hyman, 2013). If untreated, sub-clinical levels of disordered eating behavior often become diagnosable eating disorders (Zucker, 2017). This, along with several other risks associated with long-term engagement in disordered eating behavior, implies the importance of research surrounding this area of mental health. Additionally, it is important to note that eating disorders, specifically anorexia nervosa, have been found to be among the deadliest disorders in the DSM-5. According to the National Death Index, mortality rates were 3.9% for bulimia nervosa, 4.0% for anorexia nervosa, and 5.2% for unspecified feeding or eating disorder within a calendar year (Crow et al., 2009). These rates are particularly alarming because unspecified feeding or eating disorders, which are often associated with less severe levels of disordered eating behavior, actually have the highest frequencies of death.

An important variable to consider in the study of eating disorders and disordered eating behavior is body mass index (BMI). Research shows that both low and high BMI is often related to disordered eating, especially in females (Burnette, Simpson, & Mazzeo, 2018; Gropper et al., 2014; Robinson, Kosmerly, Mansfield-Green, & Lafrance, 2014). In a

longitudinal study of college students, Gropper et al. (2014) found significant negative relationships between BMI and eating regulation as well as intrinsic motivation related eating regulation in female college students. This finding is understandable, as many individuals who struggle with binge eating tend to have higher BMI compared to those who do not engage in binge eating behaviors. BMI has also been found to be positively associated with other types of unhealthy eating patterns. In another large sample of college students, higher BMI was found to be positively related to disordered eating attitudes and behaviors in female participants (Robinson et al., 2014). Additionally, Burnette et al. (2018) found that having a higher BMI was positively associated with dietary restraint as well as feelings of loss of control during eating in women and that higher BMI was significantly positively related to body dissatisfaction and general eating disorder symptomatology. These findings suggest that women with higher BMIs likely feel pressure to gain control over their weight and that they may use unhealthy means to do so. Having a better understanding of the role of BMI in eating disorders can aid in the development of preventative measures to aid in the reduction of eating disorders in the female population.

Previous research has discovered several factors associated with an increased risk for the development of disordered eating behaviors. One of these factors is body dissatisfaction or negative body image (Adams, Katz, Beauchamp, Cohen, & Zavis, 1993; Presnell, Bearman, & Madeley, 2007; Tylka, 2004). Research consistently shows body dissatisfaction to be a powerful risk factor in the development of disordered eating behavior in girls and young women (Presnell et al., 2007). This public health issue seems to affect young girls and women alike. A community study reported that 46% of adolescent girls endorsed significant distress regarding their body image, while only 12% of adolescent girls described being

satisfied with their bodies (Neumark-Sztainer, Story, Hannan, Perry, & Irving, 2002). Several other studies have reported similar findings. For example, in a sample of fifth, eighth, and twelfth grade students, elevated levels of both body dissatisfaction and disordered eating behavior were found in girls in the eighth and twelfth grade (Adams et al., 1993). Prevalence of these risks in these two age groups of girls were significantly higher than the levels of these risks found in boys in all three of the age groups as well as the girls in fifth grade. These data further convey the importance of considering the risk that body dissatisfaction causes for girls and women in the United States. A risk that may be in some part due to the thin ideal – society’s idealization of an ultra-thin figure for women – which is so heavily endorsed (Presnell et al., 2007).

College-aged women seem to be particularly susceptible to negative body image (Pritchard, Wilson, & Yamnitz, 2007) and disordered eating behavior (Stice & Shaw, 2002). In a large sample of female college students, Pinkasavage, Arigo, and Schumacher (2015) found that 32% had engaged in clinically significant disordered eating behavior. Upward social comparison – comparing oneself to another person who is believed to more physically attractive – was found to be strongly related to maintaining a negative body image and was determined to be significantly associated with disordered eating symptomatology. This was especially true among women who used self-blame and self-distraction as coping mechanisms.

Similarly, there are several other variables that have been found to play a role in the relationship between body dissatisfaction and disordered eating behavior. Bradford and Petrie (2008) reported that depressive affect was a mediating variable in the relationship between body dissatisfaction and disordered eating in a longitudinal study of female



undergraduate students. In this sample, negative body image was positively associated with depressed mood, which was also associated with disordered eating symptoms such as bingeing, purging, and frequent dieting. Additional research has discovered that body surveillance (i.e., behaviors such as self-objectification), neuroticism, and presence of a family member with an eating disorder act as moderators between body dissatisfaction and disordered eating behavior (Tylka, 2004). The interaction between each of these three variables and negative body image significantly increased the likelihood that an individual will display eating disorder symptomology.

### **Weight Teasing**

Unfortunately, body dissatisfaction is not the only variable related to eating disorder symptomology. The experience of weight teasing exhibited by family, peers, or other parties in one's life has also been identified as a risk factor in the development of disordered eating (Haines, Neumark-Sztainer, Eisenberg, & Hannan, 2006; Libbey, Story, Neumark-Sztainer, & Boutelle, 2008; Neumark-Sztainer et al., 2002; Quick, McWilliams, & Byrd-Bredbenner, 2013). Weight teasing is defined as negative remarks, made by others, regarding one's weight, such as joking or name-calling. These remarks are often accompanied by acts of social aggression such as exclusion and bullying (Libbey et al., 2008). Percentages of weight teasing ranging from 45-81% have been reported in the literature (Libbey et al., 2008; Neumark-Sztainer et al., 2002; Quick et al., 2013). Rates are found to be especially high among individuals who are underweight (i.e., "skinny teasing;" O'Hara, Tahboub-Schulte, & Thomas, 2016) as well as those who are overweight, or have a higher BMI (i.e., "fat shaming;" Neumark-Sztainer et al., 2002; Olvera et al., 2017). Specific rates of teasing of underweight individuals are not present within the literature, however rates of weight related

teasing range from 36-60% among individuals who are considered to be overweight or obese (O'Hara, Tahboub-Schulte, & Thomas, 2016; Olvera et al., 2017).

Much of the research illustrates a clear relationship between experiences of weight teasing and disordered eating behaviors. For instance, teasing regarding one's weight was found to be significantly associated with behaviors such as restricting carbohydrates, fasting, laxative use, and purging in a sample of 130 adolescents who were considered to be overweight (Libbey et al., 2008). Other studies have resulted in similar findings. For example, a large sample of young adult women revealed that individuals who previously experienced teasing about being either underweight or overweight were more likely to participate in disordered eating behaviors compared to those who did not report occurrences of weight teasing. These experiences were found to be more common in African American women, women who now have a higher BMI, and women who have been diagnosed with eating disorders (Quick et al., 2013). This study also discovered that 1 in 25 participants who reported previous experiences of weight teasing have been diagnosed with an eating disorder at some point during their life. Further, these results seem to have lasting effects as can be seen in the research done by Haines et al. (2006) in a 5-year longitudinal study of adolescents, which established that weight teasing was significantly associated with binge eating.

The outcomes of weight teasing appear to be similar regardless of the perpetrator. For example, Puhl et al. (2017), in a 15-year longitudinal study, found that weight teasing from peers, family, or both was predictive of higher BMI, eating as a coping strategy, embarrassment about eating too much, unhealthy weight control, dieting, and lower body dissatisfaction. Similarly, research done on a sample of 135 Hispanic and African American

adolescent girls, discovered that peer related weight teasing was positively associated with unhealthy weight control behaviors, bingeing, purging and emotional eating (Olvera et al., 2017). In another study consisting of a sample of 356 adolescent girls who were considered to be overweight or obese, family weight teasing was significantly associated with higher body dissatisfaction, unhealthy weight control behaviors, and binge eating. Girls who were teased by their family members were 10 times more likely to binge eat compared to those who were not teased; those who reported their mother or father talking about their weight “very much” were three times more likely to participate in unhealthy weight control behaviors; and those who reported their mother encouraging them to diet were five times more likely to engage in unhealthy weight control behaviors (Neumark-Sztainer et al., 2010).

Eisenberg, Berge, Fulkerson, and Neumark-Szatiner (2012) completed a longitudinal study, which showed that hurtful weight related comments, made by family members as well as significant others were associated with extreme weight control behaviors, unhealthy weight control behaviors, and binge eating in female participants beyond what was accounted for by BMI. These results imply that negative effects of weight teasing are evident when such teasing is exhibited by family members, peers, or significant others (Eisenberg et al., 2012; Neumark-Sztainer et al., 2010; Olvera et al., 2017; Puhl et al., 2017). Further, based on a sample of overweight and obese adolescents, Libbey et al. (2008) suggested that increased weight control behaviors were associated with increased number of teasing sources as well as teasing frequency. Finally, it was found that the more often they were teased, the more likely they had feelings such as being afraid to gain weight, being afraid of loss of control while eating, and a desire to be thin.

While research has consistently shown weight teasing to be significantly associated with the development of disordered eating behaviors, there are some findings suggesting differently. Contrasting research points out that there was not a significant relationship between weight teasing and disordered eating behavior in overweight and/or obese samples (Brewis, Brennhofer, Van Woerden, & Bruening, 2016). Similarly, according to Haines et al. (2006) weight teasing was not found to be associated with unhealthy weight control behaviors among female participants in a 5-year longitudinal study. The inconsistencies in the literature denote a need for further research regarding the relationship between weight teasing and disordered eating behaviors.

### **Fat Talk**

Another contributor to disordered eating behaviors is the level to which individuals engage in fat talk. Mimi Nichter (2000) defines fat talk as conversations one has with family or peers involving statements that shame her own body shape or weight. Fat talk endorses the thin ideal and is a prevalent form of communication within female friend groups (Bardone-Cone, Balk, Fitzsimmons-Craft, & Goodman, 2016; Cruwys, Leverington, & Sheldon, 2016; Ousley, Cordero, & White, 2008; Rudiger & Winstead, 2013). Some of the most commonly reported topics involved in fat talk consist of conversations regarding dieting and working out (Bardone-Cone et al., 2016). Other common examples of fat talk are declarations such as “I’m so fat” or “my thighs look huge in these shorts” (Nichter, 2000).

Significant positive correlations have been found between higher levels of fat talk and disordered eating in friend groups, beyond what is accounted for by BMI. Specifically, it has been found that both exposure to and engagement in fat talk are both significantly associated with body checking, weight control, and disordered eating behaviors among a sample of

individuals within the normal weight range (Jones, Crowther, & Ciesla, 2014). Additionally, those who were exposed to fat talk were significantly more likely to engage in fat talk within the conversation (Cruwys et al., 2016). This suggests that once individuals are exposed to fat talk, they are more likely to participate in fat talk themselves, and therefore may be at a higher risk for engagement in disordered eating behaviors. The occurrence of fat talk -- in most forms -- seems to promote rumination surrounding negative feelings one may have about his or her body. This ruminative thought process has the potential to turn into co-rumination, or the tendency to extensively discuss problems, concerns, or negative feelings with peers, which has been found to be significantly associated with increases in disordered eating behaviors (Rudiger & Winstead, 2013). Conversely, it has been shown that individuals who have diagnosed eating disorders participate in fat talk significantly more frequently than those who are not diagnosed with an eating disorder, despite participants' current BMI (Ousley et al., 2008).

While the relationship between fat talk and disordered eating behavior seems to be bidirectional in most research, some inconsistencies have been found. Research done by Compeau and Ambwani (2013) suggests that exposure to fat talk reduced food consumption among those who already participate in unhealthy weight control behaviors, but not those who do not have a history of restriction, excessive dieting, or other unhealthy weight control behaviors. Further, although higher levels of negative body talk have been typically found to result in higher instances of disordered eating and weight concerns, this was not found to be the case in one specific type of interaction. According to Bardone-Cone et al. (2016), no negative effects have been reported when fat talk occurs in the form of friends comparing their own bodies to each other. One reason for this may be the type of comments that friends

make to counteract each other's statements. For example, if one woman makes a statement such as "I'm so fat," her friend may say, "No you aren't, I hate my thighs, I wish my body was as perfect as yours." While this would still be considered a form of fat talk, it may also endorse body positivity through affirmation, which has the potential to negate the harmful outcomes that are typically seen when fat talk occurs through reassurance and social support.

Currently, there is a significant body of literature regarding the workings of fat talk as well as how, when, and among which groups of people it most often occurs. Unfortunately, however, there is negligible research on the associations between fat talk and disordered eating behavior. Although some studies have shown clear associations between fat talk and engagement in disordered eating behavior, more research is needed to determine the directionality of this relationship. Much like weight teasing, this is a growing topic in the field of eating disorders that should be further investigated. Continued exploration surrounding this phenomenon could be beneficial in order to gain a better understanding of the increased risk that some individuals face for developing patterns of disordered eating as well as eating disorders.

The purpose of the current study was to bridge the gap in the literature on weight teasing, fat talk, and disordered eating behavior. The current body of literature in these areas shows an association between weight teasing and disordered eating behavior as well as fat talk and disordered eating behavior. There is, however, no published research that identifies possible multiplicative effects of weight teasing and fat talk on the development of disordered eating. Using a correlational design, this study sought to obtain evidence for the way in which fat talk may interact with weight teasing to increase the likelihood of

engagement in disordered eating behaviors. See Figure 1 for a visual representation of this design.

In doing this research, I sought to determine if fat talk works as a moderating factor in the relationship between weight teasing and disordered eating behavior. For the purposes of this study, we proposed that fat talk would be an unhealthy process of recapitulated verbal abuse, previously experienced through weight teasing, in women's current mind and body relationships. It was hypothesized that weight teasing would account for a statistically significant amount of variance in disordered eating behavior, beyond the variance accounted for by BMI. Additionally, it was hypothesized that the addition of fat talk and weight teasing would account for a significantly greater amount of variance in disordered eating behavior, compared to weight teasing alone and beyond the variance accounted for by BMI. Finally, it was hypothesized that the addition of fat talk as a moderating variable in the relationship between weight teasing and disordered eating behavior would account for a significantly greater amount of variance in disordered eating behavior compared to the addition of weight teasing and fat talk and beyond the variance accounted for by BMI.

Further per previous literature, exploratory analyses were run to determine whether there were significant differences between the relationship between fat talk in the conversations with family versus peers and disordered eating behavior. These analyses would also determine whether there were significant differences between the relationship between weight teasing from family versus peers and disordered eating behavior.

## Method

### Participants

In order to obtain a Cohen's  $f^2$  effect size between the .25 and .45 level, with 95% power, an alpha level of .05, and a significant overall model, a power analysis completed using G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009) suggested using a sample size of 119 participants. This range of effect sizes was determined by analyses of effect sizes found in previous research in these subject areas. Current literature on the relationship between weight teasing and disordered eating behavior show moderate to large effect sizes (Menzel et al., 2010).

Participants for the current study were required to be at least 18 years of age. Only women were asked to participate due to the higher rates of disordered eating behavior typically seen in women compared to men. All participants were recruited using the SONA system at Appalachian State University, a subject pool of undergraduate psychology students. Through this system, students received extra credit in their psychology courses for participating. A total of 203 participants were recruited for this study. Validity checks revealed that a number of individuals who completed the study likely engaged in random responding. Participants' responses were removed from the data if they responded incorrectly to any of the validity questions. Overall, 23 participants' responses were removed from the data based on the validity checks (15 removed for validity check 1, 3 removed for validity check 2, and 5 removed for validity check 3). Further, six additional participants' responses were removed from the data because they did not respond to one or more items on the EDDS, making it impossible to score the measure.



The final sample consisted of 174 participants. Participants' ages ranged from 18 to 28 ( $M = 19.38$ ,  $SD = 1.54$ ). In terms of ethnicity, 91.38% of participants identified as White ( $N = 159$ ), 3.45% as Hispanic or Latino ( $N = 6$ ), 2.3% as Asian or Pacific Islander ( $N = 4$ ), 1.72% as Black or African American ( $N = 3$ ), and .57% as other ( $N = 1$ ). Additionally, one participant did not report the race with which she identified. Participants' BMIs, calculated by researchers using participant reported height and weight, ranged from 17 to 48 ( $M = 24.66$ ,  $SD = 5.50$ ). Appalachian State University's Institutional Review Board (IRB) determined that this study involved minimal risks and was therefore exempt from further IRB review on June 18, 2018 (IRB # 18-0274).

## **Materials**

**Demographic Questionnaire.** Participants were asked to report age, race/ethnicity (e.g., White, Black/African American, Hispanic/Latino, Asian/Pacific Islander, Native American, other), and class standing (e.g., first-year, sophomore, junior, senior), height in feet and inches, and weight in pounds. Using participants' height and weight, body mass index (BMI) was calculated. In order to calculate BMI, weight in pounds was converted into weight in kilograms and height in feet and inches was converted into height in meters. BMI was then calculated by dividing weight in kilograms by height in meters squared.

**Weight Related Abuse Questionnaire (WRAQ).** The Weight-Related Abuse Questionnaire is a 15-item measure that assesses participants' experiences of weight related teasing (Salwen & Hymowitz, 2015). This measure has two subscales. The verbal abuse subscale, which has 8 items, considers individuals' experiences of verbal teasing, or bullying because of their weight. The physical abuse subscale, which consists of 7 items, evaluates individuals' experiences of physical bullying due to their weight. This scale does not specific

whether teasing is due to being underweight versus overweight, items simply ask if one has been teased because of their weight. Items are rated on a Likert scale ranging from 0 to 6, in which 0 equals “never” and 6 equals “more than 20 times per year.” Total scores on this measure range from 0 to 90 with larger scores indicating a history of more weight teasing. This scale was shown to have strong concurrent and convergent validity when compared to the Perception of Teasing Questionnaire ( $r = .78$ ; Salwen & Hymowitz, 2015; Thompson, Cattarin, Fowler, & Fisher, 1995). Further, this measure has been commonly used in previous research surrounding weight teasing experiences throughout the lifespan. In the present study, only the Verbal Abuse subscale was used, as the majority of previous research regarding weight teasing focuses solely on experiences of bullying such as negative remarks made about one’s weight, joking, and/or name calling. The Verbal Abuse subscale of this measure was given to participants two separate times during the present study. First, they were asked to recall their experiences of weight teasing in childhood and adolescence from their peers. They were also asked to recall experiences of weight teasing in childhood and adolescence that came from their family members. A composite variable of the responses on these two measures was used as a predictor variable for fat talk and for eating disordered behaviors. Higher scores on these measures were believed to produce higher scores on measures associated with negative body image and disordered eating behavior (Salwen & Hymowitz, 2015). See Appendix A for the WRAQ.

**Fat Talk Questionnaire (FTQ).** The Fat Talk Questionnaire is a 14-item measure that gauges fat talk behavior in girls and women when interacting with their friends (Royal, MacDonald & Dionne, 2013). Items on this questionnaire are rated on a 5-point Likert scale in which 0 equals “never” and 4 equals “always.” Participants were asked to report the

frequency of their participation in fat talk in conversations with their friends following their experiences of weight teasing. Item scores were summed to find a total score. Total scores on this measure range from 0 to 56. Scores on this measure are typically obtained by summing, but for the purposes of the present study, an average was used. Higher scores on this measure suggest higher frequencies of fat talk. Excellent internal consistency has been reported for this scale ( $\alpha = .94$ ). While specific statistics are not reported for the validity of this measure, analyses have shown it to have moderate levels of convergent validity to other scales that measure this construct such as the Fat Talk Scale ( $r = .74$ ; Clarke, Murnen, & Smolak, 2010; Royal et al., 2013). This scale has often been used in previous literature regarding women's engagement in fat talk. For the purposes of the present study, scores on this scale were used as predictor variables. See Appendix B for the FTQ.

**Family Fat Talk Questionnaire (FFTQ).** The Family Fat Talk Questionnaire measures the frequency of individuals' engagement in fat talk during conversations with their family members (MacDonald, Dimitropolous, Royal, Polanco, & Dionne, 2015). This 16-item measure has two subscales, the Factor 2: Self subscale and the Factor 1: Family subscale. For the purposes of this study, only the Self subscale was used. This 8-item subscale measures the specific comments that participants make about their feelings regarding their body shape and weight as well as other comments that could be considered instances of fat talk in conversations with their families. Items are rated on a 5-point Likert scale ranging from 1 to 5, in which 1 equals "never" to 5 equals "always." Factor scores on this subscale range from 8 to 40. Scores on this measure are typically obtained by summing, but for the purposes of the present study, an average was used. Participants were asked to report the frequency of their participation in fat talk in conversations with their families

following their experiences of weight teasing. Analyses of the psychometrics of the Factor 2: Self subscale have shown high levels of internal consistency with a Cronbach's alpha value of .88 (MacDonald et al., 2015). This scale has been used in several studies regarding fat talk behaviors within the family context. For the purposes of the present study, scores on this scale were used as predictor variables. Higher scores on this questionnaire were believed to be related to higher scores on measures associated with negative body image and disordered eating behavior. See Appendix C for the FFTQ.

**Disordered Eating and Body Image.** The Eating Disorder Diagnostic Scale (EDDS) is a 22-item measure used to diagnose anorexia nervosa, bulimia nervosa, and binge-eating disorder (Stice, Telch, & Rizvi, 2000). The formats of the items on this measure are mixed, including a combination of Likert, dichotomous, frequency, and open-ended responses. Participants will be asked to disclose information regarding the way in which they view their bodies as well as any unhealthy eating behaviors they have engaged in within the past three to six months. Participants will be asked to disclose their own participation in maladaptive eating behaviors typically present in anorexia nervosa, bulimia nervosa, and binge eating disorder. Scores on this scale are thought to indicate individuals' overall level of pathological eating symptomatology. Scoring for this measure is done using SPSS syntax, which is provided by the creator of the scale (Stice et al., 2000). This syntax balances the different scales within the measure to create a total eating disorder symptoms composite. Measures of test-retest reliability, done over the period of one week, have reported satisfactory reliability for this scale with a kappa value of .95 for anorexia nervosa, a kappa value of .71 for bulimia nervosa, and a kappa value of .75 for binge-eating disorder (Stice et al., 2000). High levels of internal consistency were also found for the EDDS ( $\alpha = .89$ ; Stice et al., 2000). This

questionnaire was developed with regard to the DSM criteria, and is therefore often used as an aid in the diagnoses of these eating disorders. For the purposes of this study, scores on this scale were used as outcome variables. See Appendix D for the EDDS.

### **Procedure**

Participants signed up for the study through the SONA system, an online participant management tool. They were then provided with an electronic version of the informed consent explaining what would be asked of them during the study and given the contact information for the primary investigator in case any questions were to arise. If consent was provided, participants were given access through an online link, to the previously described questionnaires via Qualtrics, a secure online survey system. Participants were not supervised during testing; however, the same instructions were provided to all participants before beginning the study. Directions informed participants that the study should be completed in a quiet, distraction-free environment, that all questions should be answered as honestly as possible, and that the survey should take less than 30 minutes. The order of the scales was randomized for each participant to reduce potential order effects. Once the session was completed, each participant was directed to a list of resources that could be used by anyone struggling with symptoms related to eating disorders. Finally, participants were thanked for their participation and given course credit via the SONA system.

## **Results**

### **Data Cleaning**

Five participants did not respond to one of the items on the peer version of the WRAQ. Rather than removing these participants, we calculated the mean of the seven items that each participant responded to and inserted the participants' mean score into the missing

item. Similarly, the same process was used for three participants who did not respond to one item each on the FTQ and three participants who did not respond to one item each on the FFTQ.

Regarding participants' responses on the EDDS, any time a participant responded "no" to an "if, then" item, she was not sent to branched items. The items on the branch were scored as a zero for these participants, meaning "no." Additionally, 20 participants did not respond to slider items on the Qualtrics survey. These items required the participant to move the slider to their chosen response. The slider was automatically set to zero, however, the participant was required to click on the slider in order for a response of zero to be recorded. Due to the number of participants that did not respond to these items, we determined that this was likely an issue with the survey website, rather than the participant choosing to skip this item. We recorded these items as a zero for participants who did not respond if these participants had answers for all other test items and passed all of the validity checks.

### **Composite Variables**

Composite variables were created for each predictor variable to be used in data analysis. In order to calculate an accurate composite score for each variable, participants' scores on each measure were calculated as an average score as opposed to a sum of their responses. First, a composite variable was created for weight teasing, which was measured by the family version and the peer version of the WRAQ. This composite variable was calculated by obtaining the average scores of participants on each version of the measure and then calculating the mean of these scores. Similarly, a composite variable was created for fat talk, which was measured by the FTQ and the FFTQ by calculating the mean of the average scores obtained by participants on each of these questionnaires.

### **Descriptive Statistics**

Means and standard deviations of participants' scores on each measure were calculated (see Table 1). Composite means for each scale were found to be normative when compared to those typically represented in the literature (MacDonald et al., 2015; Royal et al., 2013; Salwen & Hymowitz, 2015; Stice et al., 2000). Prior to running analyses on the data related to the hypothesis, we analyzed the data to determine whether there were issues with normality and multicollinearity. To assess multicollinearity, Pearson correlations were conducted to compare each of the predictor variables with one another as well as to compare each of the predictor variables with the outcome variable (see Table 2). Although it seemed that all of the variables did show some level of correlation, none of these moderate correlations were concerning (all below .5). Thus, we determined that multicollinearity was not a problem for this dataset. Further, normality of the data was analyzed by assessing the skewness and kurtosis of the average scores that participants obtained on measures of weight teasing and fat talk, as well as participants' average scores on the measure of disordered eating. The skewness and kurtosis of each of these variables fell within the acceptable range, and therefore, we determined that the assumption of normality was not violated within this sample. Regarding participants' reported experiences and behaviors, 71.3% ( $N = 124$ ) of participants reported experiencing weight-related teasing by family members or peers during their lives and 99.4% ( $N = 173$ ) of participants reported recently engaging in fat talk during conversations with family members or peers.

### **Data Analysis**

In order to test the hypothesis that the relationship between weight teasing and disordered eating behavior would be moderated by fat talk, we used PROCESS SPSS macro

version 3.1 (Hayes, 2013) to conduct a regression analysis. This resulted in a simple moderation analysis using model one of the PROCESS macro. In this analysis, weight teasing was used as the predictor, fat talk was used as the moderator and disordered eating behavior, as measured by the EDDS, was used as the outcome variable. Additionally, BMI was used as a predictor in the analysis. The 95% confidence interval was obtained using 1,000 bootstrap samples.

Overall, the original hypothesis was not supported, indicating that fat talk does not act as a moderating variable in the relationship between weight teasing and disordered eating behavior,  $t(169) = -1.05$ ,  $b = -1.17$ ,  $p = .30$ , 95% CI  $[-3.37, 1.03]$ . Specifically, the analysis revealed that, overall, the model accounted for a significant proportion of variance in disordered eating behavior,  $F(4, 169) = 9.99$ ,  $p < .001$ ,  $R^2 = .19$ . This means that when weight teasing, fat talk, and BMI are considered collectively, they account for 19% of the variance in disordered eating behavior.

Further analysis indicated that fat talk accounted for a significant amount of variance in disordered eating behavior when considering each variable individually,  $t(169) = 2.78$ ,  $b = 3.69$ ,  $p < .001$ , 95% CI  $[1.90, 5.48]$ . Additionally, weight teasing accounted for a significant amount of variance in disordered eating behavior when considering each variable individually  $t(169) = 2.68$ ,  $b = 3.07$ ,  $p < .05$ , 95% CI  $[0.81, 5.34]$ . None of the other variables included in the model were found to account for a significant amount of variance in disordered eating behavior. Specifically, BMI was not found to be a significant predictor of disordered eating behavior,  $t(169) = .06$ ,  $b = .01$ ,  $p = .951$ , 95% CI  $[-0.26, 0.27]$ . Further, the interaction between weight teasing and fat talk did not account for a significant amount of variance in disordered eating behavior beyond that accounted for by any of the variables



individually,  $F(4, 169) = 1.10$ ,  $p = .295$ ,  $\Delta R^2 = .005$ . As previously mentioned, these results do not support the hypothesis, as they suggest that fat talk does not act as a moderating variable in the relationship between weight teasing and disordered eating behavior. Instead, a history of weight teasing and participants' current fat talk appear to be independently predicting risk of eating disordered behaviors.

Additional exploratory analyses were conducted in order to examine the differences in predictive value of peer fat talk and weight teasing compared to family fat talk and weight teasing on disordered eating behavior. All four variables demonstrated statistically significant correlations with disordered eating behaviors: family fat talk ( $r = .334$ ,  $p < .001$ ), peer fat talk ( $r = .396$ ,  $p < .001$ ), family weight teasing ( $r = .294$ ,  $p < .001$ ), and peer weight teasing ( $r = .236$ ,  $p = .02$ ). However, when entered together in a multiple linear regression, peer fat talk accounted for the largest amount of variance in disordered eating behavior,  $t(169) = 2.50$ ,  $b = 0.204$ ,  $p = .01$ , followed by family weight teasing,  $t(169) = 2.02$ ,  $b = 0.197$ ,  $p < .05$ . Family fat talk and peer weight teasing did not contribute to the prediction of disordered eating.

In addition to the multiple regression analysis, a hierarchical regression was used to determine whether peer fat talk accounted for a significant amount of variance in disordered eating behavior beyond that accounted for by family weight teasing. Step 1 of the hierarchical regression contained disordered eating behavior as the outcome variable and family weight teasing as the predictor variable. Family weight teasing was used as the predictor variable in this step of the analysis due to the fact that a lower standardized beta coefficient was found for family weight teasing compared to that of peer fat talk in the previously discussed multiple regression analysis. Step 2 of the hierarchical regression used

peer fat talk as a predictor variable in addition to family weight teasing in order to determine the amount of variance in disordered eating behavior accounted for by peer weight teasing above and beyond the variance accounted for by family weight teasing. Results from this analysis showed that peer weight teasing did account for a significant amount of variance in disordered eating behavior beyond the variance accounted for by family weight teasing  $F(1, 172) = 20.47, \Delta R^2 = .10, p < .001$ , suggesting that engagement in fat talk by participants in the context of conversations with peers outweighs participants' past experiences of weight teasing by family in terms of the amount in which participants reported engaging in disordered eating behavior.

### **Discussion**

The purpose of the present study was to determine whether fat talk acts as a moderating variable in the relationship between weight teasing and disordered eating behavior in female college students. Previous studies have identified a relationship between weight teasing and disordered eating behavior across the weight spectrum (Libbey et al., 2008; Neumark-Sztainer et al., 2002; Olvera et al., 2017), as well as a relationship between fat talk and disordered eating behavior (Ousley et al., 2008). However, to the researcher's knowledge, this was the first study to explore possible multiplicative effects of fat talk and weight teasing on disordered eating, controlling for BMI.

### **Review of Main Findings**

Findings from this study did not support the hypothesis that fat talk would moderate the relationship between weight teasing and disordered eating behavior. These results suggest that the contribution of weight teasing and fat talk in the prediction of eating disordered behaviors is completely independent. However, the results suggest that – together -- weight

teasing and fat talk accounted for a significant amount of variance in disordered eating behavior within the present sample. When each construct was examined individually in relation to disordered eating, BMI, fat talk, and weight teasing were found to be significantly correlated to disordered eating behavior. These results are consistent with previous research identifying fat talk and weight teasing as salient risk factors for disordered eating (Haines et al., 2006; Jones et al., 2014; Libbey et al., 2008; Ousley et al., 2008; Puhl et al., 2017; Quick et al., 2013). Further, the results of the present study indicated that the base rates of weight teasing and fat talk reported by participants in this study were consistent with those in previous literature (Libbey et al., 2008; Neumark-Sztainer et al., 2002; Quick et al., 2013).

When evaluating involvement of family and peers separately in terms of both weight teasing and fat talk results suggested that fat talk in the context of conversations with peers was the strongest predictor of disordered eating. Specifically, fat talk in the context of conversations with peers accounted for significantly more variance compared to experiences of weight teasing by family when the two variables were considered simultaneously. This finding suggests that conversations one has with peers regarding body shape and weight are more likely to predict disordered eating behavior compared to experiences of weight teasing by family members. This indicates that engagement in fat talk in the context of conversations with peers provides a greater risk for the development of disordered eating compared to experiences of weight teasing by family members during one's life. Given the cross-sectional nature of this study, it is difficult to know if excessive fat talk leads to eating disordered behavior or if individuals with such behavior engage in more fat talk conversations with friends as an expression of their distress, or if there are other driving variables involved in each.

**Importance of Findings**

Only two published studies have evaluated the relationship between fat talk and disordered eating behavior (Jones et al., 2014; Ousley et al., 2008). The current study provides additional evidence to suggest that engagement in fat talk increases one's risk for the development of unhealthy eating patterns, further clarifying the potential dangers of this phenomenon. On the surface, fat talk appears to be an innocuous behavior whereby girls and women bond with one another (Nichter, 2000); however due to the alarming rate of nearly 100% at which participants in this study reported participating in fat talk, this poses a serious source of concern because of its strong association with eating disorders (Bardone-Cone et al., 2016; Cruwys et al., 2016; Ousley et al., 2008; Rudiger & Winstead, 2013), which are the most lethal of the psychological disorders (Crow et al., 2009).

Much of the current literature on the influence of weight teasing on disordered eating behavior has been done on samples of overweight and/or obese participants (Haines et al., 2006; Libbey et al., 2008; Neumark-Sztainer et al., 2010). These studies have found weight teasing to be a significant predictor of disordered eating within this population. The body mass indices of the sample used in the current study ranged from underweight to obese indicating that weight teasing puts all individuals at a greater risk for disordered eating behavior despite their body shape and weight.

These findings provide a more comprehensive view of the factors that increase one's risk of engaging in disordered eating behavior. Having this knowledge can help to enhance research and treatment efforts to potentially reduce the prevalence of disordered eating in the college population. Although both peer fat talk and family weight teasing were identified as significant predictors of disordered eating behavior in this study, the results indicate peer fat

talk as a stronger predictor when the two were compared to each other. This suggests that while family weight teasing may influence the development of disordered eating, engagement in fat talk in conversations with peers outweighs this risk. These results are promising from a treatment perspective, as engagement in fat talk is a personal behavior that can be reduced through prevention efforts and/or treatment interventions, whereas limiting one's exposure to weight teasing may prove to be more difficult.

### **Clinical Implications**

Based on the findings of this study, it is clear that interventions are needed to identify and treat fat talk and past experiences of weight teasing in college-aged women. There is currently no evidence-based treatment intervention that specifically targets engagement in fat talk. However, some evidence does exist suggesting the use of body positivity campaigns can help to reduce fat talk on college campuses and in other institutions in which fat talk is prevalent. For example, in a study done at two universities, implementation of Fat Talk Free Week – a marketing campaign that was developed to increase awareness of the negative impacts of fat talk – was shown to significantly reduce fat talk among those in the study sample in the two weeks following the campaign (Garnett et al., 2014). Developing such an intervention will likely increase knowledge of the dangers of fat talk, reduce the engagement in fat talk of those who participate in the intervention, and therefore potentially decrease the risk for future unhealthy eating behaviors that could later lead to diagnosable eating disorders.

The Body Project is a dissonance based preventative intervention for eating disorders that was developed by Carolyn Becker and Eric Stice (2017). This intervention targets several factors that are associated with increased risk for disordered eating behavior and is

considered to be efficacious when compared to alternative interventions. Specifically, the Body Project has been shown to reduce thin-ideal internalization, body dissatisfaction, negative affect, and symptoms of bulimia (Stice, Shaw, Burton, & Wade, 2006).

Both the author of this thesis and lead mentor trained in The Body Project that was sponsored by our university's counseling center – thereby giving us personal experience with the intervention protocol. While the Body Project includes exercises that are specifically related to fat talk, there are currently no published studies that evaluate The Body Project's effectiveness of reducing fat talk. Based on the previously mentioned findings regarding the decrease in risk factors associated with eating disorders after participation in the Body Project, it would likely be beneficial to assess whether the same is true for fat talk. As a preventative intervention, the Body Project has the potential to decrease or even eliminate engagement in fat talk in individuals who participate in the intervention, therefore further diminishing risk factors of disordered eating behavior.

In addition to the use of evidence-based interventions, it may also be helpful to consider the involvement of significant friends and family members in the treatment of disordered eating and eating disorders when addressing engagement in fat talk. Discussions between parents and children regarding weight and body concerns have been found to be significantly associated with increased child self-objectification (Arroyo & Andersen, 2016) and increased negative self-thoughts about appearance in children (Ogle & Damhurst, 2003). Further, parental fat talk has been found to have a negative impact on children's level of body appreciation and ability to eat mindfully in the presence of their parents (Webb, Rogers, Etzel, & Padro, 2018).

Further, Nichter (2000) found that parental engagement in fat talk negatively impacts children by giving the impression that this type of conversation is normative, therefore increasing the likelihood that children will make body-disparaging statements. Similarly, in a study that assessed fat talk behaviors of participants as well as their mothers and friends, Rogers, Martz, Webb, and Galloway (2017) found that college women's engagement in fat talk was significantly predicted by their perceptions of the frequency in which their mother and friends engaged in this behavior. Alternatively, however, higher levels of actual engagement of fat talk by mothers has not been found to be significantly associated with eating pathology in young girls, unless the child is engaging in such conversations herself (Chow & Tan, 2018; Hillard, Gondoli, Corning, & Morrissey, 2016; Lydecker, Riley, & Grilo, 2018). These findings suggest that involving significant others in treatment would allow clients to have a more accurate view of the frequency in which people in their lives engage in fat talk, providing further insight into their behaviors, thoughts, and feelings regarding this phenomenon. Providing information to parents and other significant individuals in clients' lives may also aid in increasing effective social support in multiple environments.

Additionally, it is important to consider clients' use of the internet and social media throughout treatment. Previous studies have found a significant positive relationship between general use of sites such as Facebook, Instagram, and Snapchat and disordered eating behaviors (Saunders & Eaton, 2018). Considering that technology is also an easily accessible means of engaging in fat talk and experiencing weight-related bullying, it may be helpful to determine the frequency in which a client is using social media and viewing media outlets that promote personal internalization of thin-ideal. Doing so will provide pertinent

information regarding one's risk of exposure to both fat talk and weight teasing on a daily basis.

### **Limitations**

There are a few important limitations that must be noted for the present study. Firstly, since participants are being asked to recall their experiences of weight teasing, there is a risk for inaccurate data. It is often difficult for adults to correctly remember specific situations that they experienced in childhood. In reporting occurrences of weight teasing, one may not be able to remember exactly what was said or who said it. For example, participants reported a low amount of weight teasing during their lives. This could have been a result of a tendency to remember less weight teasing experiences than actually occurred. Additionally, based on the data collected in this study, we cannot determine whether experiences of weight teasing were due to participants being overweight versus underweight. This information may be helpful in further clarifying the relationship between weight teasing and disordered eating behavior.

Further, participants who were sensitive about their body image, versus those who were more confident in childhood/adolescence, may have disproportionately remembered incidences of weight teasing based on research suggesting that traumatic events are recalled with more emotional and sensory detail (Crespo, & Fernández-Lansac, 2016). If this were the case, some of the participants may have better remembered weight teasing if they already had body image insecurities. This is different from the assumption that weight teasing drives the insecurity. Most likely, these events and the body image concerns operate dynamically across development. To answer these questions, more longitudinal research is needed.



Another limitation present in this study is a lack of diversity in the sample of participants. All participants were students from Appalachian State University (ASU). This means everyone who engaged in this study had some level of college education. Further, the 91% of the participants in the sample identified as White. For this reason, results from this study may not be generalizable to the overall population.

Finally, it should be noted that the findings in this study do not determine causality. While it is known that experiences of weight teasing and engagement in fat talk are associated with disordered eating behavior, we cannot be certain that these constructs are the reason which individuals develop unhealthy eating patterns. Several other factors such as family history of psychopathology, childhood trauma, and other variables should be considered when assessing risk for disordered eating.

### **Future Directions**

Future studies would likely benefit from taking the limitations mentioned above into consideration. For example, it may be helpful to collect data similar to that collected in this study from a more generalizable sample. This could be done using Amazon's Mechanical Turk (MTurk) to gather data from a wider variety of participant's in terms of age, race, and ethnicity.

Similarly, collecting data from a clinical sample would also be helpful, as previous studies have suggested that both weight teasing and fat talk are more common among individuals who are diagnosed with eating disorders (Ousley et al., 2008; Quick et al., 2013). This information suggests that fat talk and weight teasing, as well as the interaction between the two, may have a stronger impact on women who engage in clinical levels of disordered eating. Confirming this information may aid in developing new intervention strategies to

improved treatment specialized for eating disorders. Finally, because of the known success of The Body Project (Becker & Stice, 2017), it would be valuable in the future to see if this intervention is capable of mitigating the effects of a history of weight teasing and current fat talking on risk for eating disorders.

### **Conclusions**

Overall, the results from this study provide further insight into the risk factors associated with disordered eating behavior. It is clear that both fat talk and weight teasing in multiple contexts are predictive of disordered eating behavior in college-aged women. As researchers and practitioners, it is important for us to take this information into account to further the scope of current assessment and treatment tools used for the treatment of eating pathology. Further, we must be vigilant in the development of new resources that can aid in the fight against eating disorders by targeting these specific factors.

## References

- Adams, P. J., Katz, R. C., Beauchamp, K., Cohen, E., & Zavis, D. (1993). Body dissatisfaction, eating disorders, and depression: A developmental perspective. *Journal of Child and Family Studies, 2*, 37-46.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 5th ed)*. Arlington, VA: American Psychiatric Publishing.
- Arroyo, A., & Anderson, K. K. (2016). The relationship between mother-daughter self-objectification: Identifying direct, indirect, and conditional direct effects. *Sex Roles, 74*, 231-241. doi:10.1007/s11199-015-0554-1
- Bardone-Cone, A. M., Balk, M., Lin, S. L., Fitzsimmons-Craft, E. E., & Goodman, E. L. (2016). Female friendships and relations with disordered eating. *Journal of Social and Clinical Psychology, 35*, 781-805. doi:10.1521/jscp.2016.35.9.781
- Becker, C. B., & Stice, E. (2017). From efficacy to effectiveness to broad implementation: Evolution of the body project. *Journal of Consulting and Clinical Psychology, 85*, 767-782. doi:10.1037/ccp0000204
- Bradford, J. W., & Petrie, T. A. (2008). Sociocultural factors and the development of disordered eating: A longitudinal analysis of competing hypotheses. *Journal of Counseling Psychology, 55*, 246-262. doi:10.1037/0022-0167.55.2.246
- Brewis, A., Brennhofner, S., van Woerden, I., & Bruening, M. (2016). Weight stigma and eating behaviors on a college campus: Are students immune to stigma's effects? *Preventive Medicine Reports, 4*, 578-584. doi:10.1016/j.pmedr.2016.10.005

- Burnette, C. B., Simpson, C. C., & Mazzeo, S. E. (2018). Relation of BMI and weight suppression to eating pathology in undergraduates. *Eating Behaviors, 30*, 16-21. doi:10.1016/j.eatbeh.2018.05.003
- Chow, C. M., & Tan, C. C. (2018). The role of fat talk in eating pathology and depressive symptoms among mother-daughter dyads. *Body Image, 24*, 36-43. doi:10.1016/j.bodyim.2017.11.003
- Clarke, P. M., Murnen, S. K., & Smolak, L. (2010). Development and psychometric evaluation of a quantitative measure of fat talk. *Body Image, 7*, 1-7. doi:10.1016/j.bodyim.2009.09.006
- Compeau, A., & Ambwani, S. (2013). The effects of fat talk on body dissatisfaction and eating behavior: The moderating role of dietary restraint. *Body Image, 10*, 451-461. doi:10.1016/j.bodyim.2013.04.006
- Crespo, M. & Fernandez-Lansac, V. (2016). Memory and narrative of traumatic events: A literature review. *Psychological Trauma: Theory, Research, and Policy, 8*(2), 149-156. Doi:10.1037/tra0000041.
- Crow S. J., Peterson, C. B., Swanson, S. A., Raymond, N. C., Specker, S., Eckert, E. D., & Mitchell, J. E. (2009). Increased mortality in bulimia nervosa and other eating disorders. *American Journal of Psychiatry, 166*, 1342-1346. doi:10.1176/appi.ajp.2009.09020247
- Cruwys, T., Leverington, C. T., & Sheldon, A. M. (2016). An experimental investigation of the consequences and social functions of fat talk in friendship groups. *International Journal of Eating Disorders, 49*, 84-91. doi:10.1002/eat.22446

Eisenberg, M. E., Berge, J. M., Fulkerson, J. A., & Neumark-Sztainer, D. (2012).

Associations between hurtful weight-related comments by family and significant other and the development of disordered eating behaviors in young adults. *Journal of Behavioral Medicine, 35*, 500-508. doi: 10.1007/s10865-011-9378-9

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Garnett, B. R., Buelow, R., Franko, D. L., Becker, C., Rodgers, R. F., & Austin, S. B. (2014).

The importance of campaign saliency as a predictor of attitude and behavior change: A pilot evaluation of social marketing campaign fat talk free week. *Health Communication, 29*, 984-995. doi:10.1080/10410236.2013.827613

Gropper, S. S., Arsiwalla, D. D., Lord, D. C., Huggins, K. W., Simmons, K. P., & Ulrich, P.

V. (2014). Associations among eating regulation and body mass index, weight, and body fat in college students: The moderating role of gender. *Eating Behaviors, 15*, 321-321. doi:10.1016/j.eatbeh.2014.04.002

Haines, J., Neumark-Sztainer, D., Eisenberg, M. E. & Hannan, P. J. (2006). Weight teasing

and disordered eating behaviors in adolescents: Longitudinal findings from project EAT (Eating Among Teens). *Pediatrics, 117*, 209-215.

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process*

*Analysis: A Regression Based Approach*. New York, NY: The Guilford Press

Hillard, E. E., Gondoli, D. M., Corning, A. F., & Morrissey, R. A. (2016). In it together:

Mother talk of weight concerns moderates negative outcomes of encouragement to

- lose weight on daughter body dissatisfaction and disordered eating. *Body Image*, *16*, 21-27. doi:10.1016/j.bodyim.2015.09.004
- Jones, M. D., Crowther, J. H., & Ciesla, J. A. (2014). A naturalistic study of fat talk and its behavioral and affective consequences. *Body Image*, *11*, 337-345. doi:10.1016/j.bodyim.2014.05.007
- Libbey, H. P., Story, M. T., Neumark-Sztainer, D. R., & Boutelle, K. N. (2008). Teasing, disordered eating behaviors, and psychological morbidities among overweight adolescents. *Obesity*, *16*, S24-S29. doi:10.1038/oby.2008.455
- Lydecker, J. A., Riley, K. E., & Grilo, C. M. (2018). Associations of parents' self, child, and other "fat talk" with child eating behaviors and weight. *International Journal of Eating Disorders*, *51*, 527-534. doi:10.1002/eat.22858
- MacDonald, D. E., Dimitropoulos, G., Royal, S., Polanco, A., & Dionne, M. M. (2015). *Family Fat Talk Questionnaire*. Retrieved from PsycTESTS. doi:10.1037/t41821-000
- Menzel, J. E., Schaefer, L. M., Burke, N. L., Mayhew, L. L., Brannick, M. T., & Thompson, J. K. (2010). Appearance related teasing, body dissatisfaction, and disordered eating: A meta-analysis. *Body Image*, *7*, 261-270. doi: 10.1016/j.bodyim.2010.05.004
- Neumark-Sztainer, D., Bauer, K. W., Friend, S., Hannan, P. J., Story, M., & Berge, J. M. (2010). Family weight talk and dieting: How much do they matter for body dissatisfaction and disordered eating behaviors in adolescent girls? *Journal of Adolescent Health*, *47*, 270-276. doi:10.1016/j.jadohealth.2010.02.001
- Neumark-Sztainer, D., Falkner, N., Story, M., Perry, C., Hannan, P. J., & Mulert, S. (2002). Weight-teasing among adolescents: correlations with weight status and disordered

- eating behaviors. *International Journal of Obesity*, 26, 123-131.  
doi:10.1038/sj/ijo/0801853
- Neumark-Sztainer, D., Story, M., Hannan, P. J., Perry, C. L., & Irving, L. M. (2002). Weight-related concerns and behaviors among overweight and nonoverweight adolescents: Implications for preventing weight-related disorders. *Archives of Pediatric Adolescent Medicine*, 156, 171–178.
- Nichter, M. (2000). *Fat talk: What girls and their parents say about dieting*. Cambridge, MA: Harvard University Press.
- Ogle, J. P., & Damhorst, M. L. (2003). Interpersonal approaches to body and dieting. *Journal of Family Issues*, 24, 448-487. doi:10.1177/0192513X02250826
- O'Hara, L., Tahboub-Schulte, S., & Thomas, J. (2016). Weight-related teasing and internalized weight stigma predict abnormal eating attitudes and behaviours in Emirati female university students. *Appetite*, 102, 44-50. doi: 10.1016/j.appet.2016.01.019
- Olvera, N., McCarley, K., Matthews-Ewald, M. R., Fisher, F., Jones, M., & Flynn, E. G. (2017). Pathways for disordered eating behaviors in minority girls: The role of adiposity, peer weight-related teasing and desire to be thinner. *Journal of Early Adolescence*, 37, 367-386. doi:10.1177/0272431615609155
- Ousley, L., Cordero, E. D., & White, S. (2008). Fat talk among college students: How undergraduates communicate regarding food and body weight, shape & appearance. *Eating Disorders*, 16, 73-84. doi:10.1080/10640260701773546

- Pinkasavage, E., Arigo, D., & Schumacher, L. M. (2015). Social comparison, negative body image, and disordered eating behavior: The moderating role of coping style. *Eating Behaviors, 16*, 72-77. doi:10.1016/j.eatbeh.2014.10.014
- Presnell, K., Bearman, S. K., & Madeley, M. C. (2007). Body dissatisfaction in adolescent females and males: Risk and resilience. *The Prevention Researcher, 14*, 3-6.
- Pritchard, M. E., Wilson, G. S., & Yamnitz, B. (2007). What predicts adjustment among college students? A longitudinal panel study. *Journal of American College Health, 56*, 15-21.
- Puhl, R. M., Wall, M. M., Chen, C., Austin, S. B., Eisenberg, M. E., & Neumark-Sztainer, D. (2017). Experiences of weight teasing in adolescence and weight-related outcomes in adulthood: A 15-year longitudinal study. *Preventive Medicine, 100*, 173-179. doi:10.1016/j.ypmed.2017.04.023
- Quick, V. M., McWilliams, R., & Byrd-Bredbenner, C. (2013). Fatty, Fatty, Two-by-Four: Weight-teasing history and disturbed eating in young adult women. *American Journal of Public Health, 103*, 508-515. doi:10.2105/AJPH.2012.300898
- Robinson, A. L., Kosmerly, S., Mansfield-Green, S., & Lafrance, G. (2014). Disordered eating behaviours in an undergraduate sample: Associations among gender, body mass index, and difficulties in emotion regulation. *Canadian Journal of Behavioural Science, 46*, 320-326. doi: 10.1037/a0031123
- Rogers, C. B., Martz, D. M., Webb, R. M., & Galloway, A. T. (2017). Everyone else is doing it (I think): The power of perception in fat talk. *Body Image, 20*, 116-119. doi:10.1016/j.bodyim.2017.01.004



- Royal, S., MacDonald, D. E., & Dionne, M. M. (2013). *Fat Talk Questionnaire*. Retrieved from PsycTESTS. doi:10.1037/t20833-000
- Rudiger, J. A. & Winstead, B. A. (2013). Body talk and body-related co-rumination: Associations with body image, eating attitudes, and psychological adjustment. *Body Image, 10*, 462-471. doi:10.1016/j.bodyim.2013.07.010
- Salwen, J. K., & Hymowitz, G. F. (2015). *Weight-Related Abuse Questionnaire*. Retrieved from PsycTESTS. doi:10.1037/t53883-000
- Saunders, J. F., & Eaton, A. A. (2018). Snaps, selfies, and shares: How three popular social media platforms contribute to the sociocultural model of disordered eating among young women. *Cyberpsychology, Behavior, and Social Networking, 21*, 343-354. doi:10.1089/cyber.2017.0713
- Stice, E., Telch, C. F., & Rizvi, S. L. (2000). *Eating Disorder Diagnostic Scale*. Retrieved from PsycTESTS. doi:10.1037/t01067-000
- Stice, E., & Shaw, H. E. (2002). Role of Body Dissatisfaction in the Onset and Maintenance of Eating Pathology. *Journal of Psychosomatic Research, 53*, 985-993. doi:10.1016/S0022-3999(02)00488-9,
- Stice, E., Shaw, H., Burton, E., & Wade, E. (2006). Dissonance and healthy weight eating disorder prevention programs: A randomized efficacy trial. *Journal of Consultation and Clinical Psychology, 74*, 103-112.
- Fowler, B., & Fisher, E. (1995). The Perception of Teasing Scale (POTS): A revision and extension of the Physical Appearance Related Teasing Scale (PARTS). *Journal of Personality Assessment, 65*, 146-157.

- Tylka, T. (2004). The relation between body dissatisfaction and eating disorder symptomology: An analysis of moderating variables. *Journal of Counseling Psychology, 51*, 178-191. doi:10.1037/0022-0167.51.2.178
- Webb, J. B., Rogers, C. B., Etzel, L., Padro, M. P. (2018). “Mom, quit fat talking—I’m trying to eat (mindfully) here!”: Evaluating a sociocultural model of family fat talk, positive body image, and mindful eating in college women. *Appetite, 126*, 169-175. doi:10.1016/j.appet.2018.04.003
- Young-Hyman, D. (2013). *Disordered eating behaviors in teens with Type 1 diabetes*. Retrieved from <http://www.diabetes.org/living-with-diabetes/parents-and-kids/teens/disordered-eating-behaviors.html>
- Zucker, T. (2017). *Eating disorders vs. disordered eating: What’s the difference?* Retrieved from <https://www.nationaleatingdisorders.org/blog/eating-disorders-versus-disordered-eating>

Appendix A

Weight Related Abuse Questionnaire (WRAQ)

Verbal abuse subscale

1. Someone laughed at you because of your weight.
2. Someone called you names because of your weight.
3. Someone criticized you or put you down because of your weight.
4. Someone yelled at you because of your weight.
5. Someone embarrassed you in front of others because of your weight.
6. Someone forced you to go on a diet because of your weight.
7. Someone harassed you because of your weight.
8. Someone threatened to abandon you because of your weight.

## Appendix B

## Fat Talk Questionnaire (FTQ)

1. When I'm with one or several close female friend(s), I complain that my arms are too flabby.
2. When I'm with one or several close female friend(s), I complain that my stomach is fat.
3. When I'm with one or several close female friend(s), I criticize my body compared to thin models in magazines.
4. When I'm with one or several close female friend(s), I complain that my body is out of proportion.
5. When I'm with one or several close female friend(s), I complain that I hate my whole body.
6. When I'm with one or several close female friend(s), I complain that I am fat.
7. When I'm with one or several close female friend(s), I complain that I should not be eating fattening foods.
8. When I'm with one or several close female friend(s), I complain that I've gained weight.
9. When I'm with one or several close female friend(s), I complain that my clothes are too tight.
10. When I'm with one or several close female friend(s), I complain that I need to stop eating so much.
11. When I'm with one or several close female friend(s), I criticize my body compared to my friends' bodies.
12. When I'm with one or several close female friend(s), I complain that I feel pressure to be thin.

13. When I'm with one or several close female friend(s), I complain that my body is disgusting.

14. When I'm with one or several close female friend(s), I complain that I'm not in shape.

## Appendix C

## Family Fat Talk Questionnaire (FFTQ)

## Factor 2: Self Subscale

1. When I'm with my family members, I complain that my arms are too flabby.
2. When I'm with my family members, I complain that my body is out of proportion.
3. When I'm with my family, I complain that I am fat.
4. When I'm with my family, I complain that I should not be eating fattening foods.
5. When I'm with my family, I complain that my clothes are too tight.
6. I criticize my body compared to my family members' bodies.
7. When I'm with my family members, I complain that I feel pressure to be thin.
8. When I'm with my family members, I complain that I'm not in shape.

Appendix D

Eating Disorder Diagnostic Scale (EDDS)

Please carefully complete all questions.

Over the past 3 months . . .

	Not at all	Slightly	Moderately	Extremely
--	------------	----------	------------	-----------

1. Have you felt fat?	0	1	2	3	4	5	6
-----------------------	---	---	---	---	---	---	---

2. Have you had a definite fear that you might gain weight or become fat?	0	1	2	3	4	5	6
---	---	---	---	---	---	---	---

3. Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
---	---	---	---	---	---	---	---

4. Has your shape influenced how you think About (judge) yourself as a person?	0	1	2	3	4	5	6
--	---	---	---	---	---	---	---

5. During the past 6 months, have there been times when you felt you have eaten what other people would regard as an unusually large amount of food (e.g., a quart of ice cream) given the circumstances? YES NO

6. During the times when you ate an unusually large amount of food, did you experience a loss of control (feel you couldn't stop eating or control what or how much you were eating)? YES NO

7. How many DAYS per week on average over the past 6 MONTHS have you eaten an unusually large amount of food and experienced a loss of control? 0 1 2 3 4 5 6 7

8. How many TIMES per week on average over the past 3 MONTHS have you eaten an unusually large amount of food and experienced a loss of control? 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

During these episodes of overeating and loss of control did you . . .

9. Eat much more rapidly than normal? YES NO

10. Eat until you felt uncomfortably full? YES NO

11. Eat large amounts of food when you didn't feel physically hungry? YES NO

12. Eat alone because you were embarrassed by how much you were eating? YES NO

13. Feel disgusted with yourself depressed, or very guilty after overeating? YES NO

14. Feel very upset about your uncontrollable overeating or resulting weight gain? YES NO
15. How many times per week on average over the past 3 months have you made yourself vomit to prevent weight gain or counteract the effects of eating? 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
16. How many times per week on average over the past 3 months have you used laxatives or diuretics to prevent weight gain or counteract the effects of eating? 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
17. How many times per week on average over the past 3 months have you fasted (skipped at least 2 meals in a row) to prevent weight gain or counteract the effects of eating? 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
18. How many times per week on average over the past 3 months have you engaged in excessive exercise specifically to counteract the effects of overeating episodes? 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
19. How much do you weigh? If uncertain, please give your best estimate. \_\_\_\_\_Ibs
20. How tall are you? \_\_\_\_\_ft \_\_\_\_\_in.
21. Over the past 3 months, how many menstrual periods have you missed? 1 2 3 4 *na*
22. Have you been taking birth control pills during the past 3 months? YES NO



## Appendix E

## Appalachian State University Institutional Review Board Notice of Approval

**To:** Lauren Francis, Psychology  
**From:** Monica Molina, IRB Associate Administrator  
**Date:** 6/18/2018  
**RE:** Notice of IRB Exemption  
**Study #:** 18-0274

**Study Title:** The relationship between weight teasing and disordered eating behavior with fat talk as a moderating factor  
**Exemption Category:** (2) Anonymous Educational Tests; Surveys, Interviews or Observations

This study involves minimal risk and meets the exemption category cited above. In accordance with 45 CFR 46.101(b) and University policy and procedures, the research activities described in the study materials are exempt from further IRB review.

Investigator Responsibilities: All individuals engaged in research with human participants are responsible for compliance with University policies and procedures, and IRB determinations. The Principal Investigator (PI), or Faculty Advisor if the PI is a student, is ultimately responsible for ensuring the protection of research participants; conducting sound ethical research that complies with federal regulations, University policy and procedures; and maintaining study records. The PI should review the IRB's list of PI responsibilities.

To Close the Study: When research procedures with human participants are completed, please send the Request for Closure of IRB Review form to [toirb@appstate.edu](mailto:toirb@appstate.edu).

Websites for Information Cited Above.

1. <http://researchprotections.appstate.edu/sites/researchprotections.appstate.edu/files/IRB20SOP920Exempt%20Review%20Determination.pdf>
2. <http://researchprotections.appstate.edu/sites/researchprotections.appstate.edu/files/PI20Responsibilities.pdf>
3. <http://researchprotections.appstate.edu/human-subjects/irb-forms>

## Appendix F

## Consent Form Administered to Participants

**Consent to Participate in Research**  
*Information to Consider About this Research****Past Experiences and Eating Behaviors*****Principal Investigators:** Lauren Francis and Denise Martz**Department:** Psychology**Contact Information:**

Denise Martz, PhD.

PO Box 32109 Joyce Lawrence Lane Boone, NC 28608

828-262-8953

[martzdm@appstate.edu](mailto:martzdm@appstate.edu)

You are being invited to take part in a research study about past experiences eating behaviors. If you take part in this study, you will be one of about 300 people to do so. By doing this study we hope to learn about how individuals' past experiences affect them now. The research procedures will be conducted on Appalachian State University SONA system using a link to a Qualtrics survey.

You will be asked to respond to several measures that include information that you will be asked to recollect from your past as well as information regarding your current situation. You cannot volunteer for this study if are under 18 years of age. You may also not volunteer to participate if you are a male.

**What are possible harms or discomforts that I might experience during the research?**

To the best of our knowledge, the risk of harm for participating in this research study is no more than you would experience in everyday life.

**What are the possible benefits of this research?**

There may be no personal benefit from your participation, but the information gained by doing this research may help others in the future by helping researchers understand the factors that influence satisfaction levels in relationships.

**Will I be paid for taking part in the research?**

You will not be paid; however, you may earn extra credit in a psychology course by participating in this research.

**How will you keep my private information confidential?**

Your survey information on SONA has been collected by us through Qualtrics in a manner that will keep your identity anonymous. That means that no one, not even members of the research team, will know that the information you gave came from you. Please be aware that members of the research team may be aware that you participated in this research in order to grant you credit. You will be given a participant number, however, in order to keep your specific responses anonymous.

**Who can I contact if I have questions?**

The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact Dr. Denise Martz, one of the Principal Investigators, at 828-262-8953.

**Do I have to participate? What else should I know?**

Your participation in this research is completely voluntary and will be indicated by choosing to proceed and to complete the study questionnaires. If you choose not to volunteer, there will be no penalty and you will not lose any benefits or rights you would normally have. If you decide to take part in the study, you still have the right to decide at any time that you no longer want to continue. There will be no penalty and no loss of benefits or rights if you decide at any time to stop participating in the study.

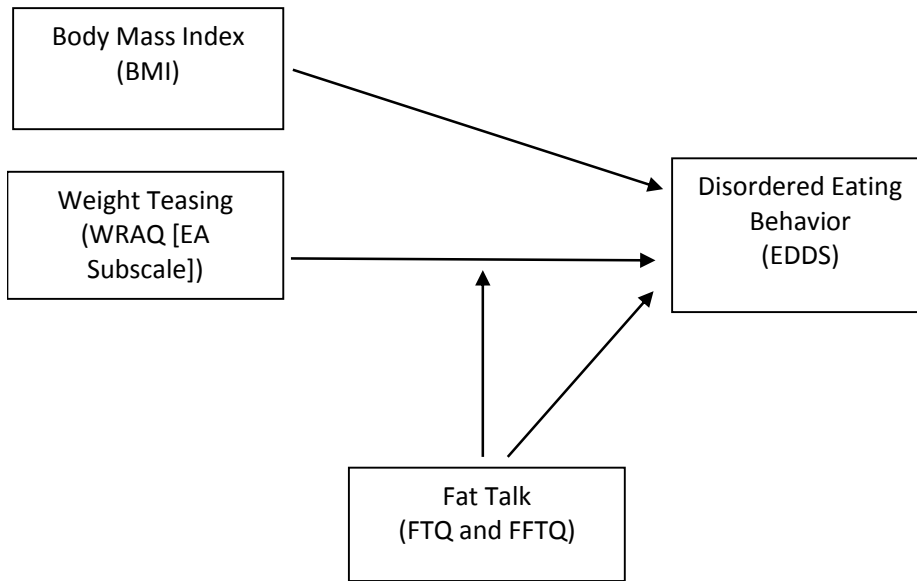


Figure 1. Visual representation of moderation research design.

Table 1

*Descriptive Statistics for Measure*

Measure	<i>M</i>	<i>SD</i>
WRAQ (F)	1.58	0.94
WRAQ (P)	1.51	0.81
FTQ	2.39	0.87
FFTQ	2.08	0.90
EDDS	22.98	9.59

*Notes.* WRAQ (F) = Weight Related Abuse Questionnaire – Family Version. WRAQ (P) = Weight Related Abused Questionnaire – Peer Version. FTQ = Fat Talk Questionnaire. FFTQ = Family Fat Talk Questionnaire. EDDS = Eating Disorder Diagnostic Scale. *M* = Mean. *SD* = Standard Deviation.

Table 2

*Correlation Coefficients for Study Variables*

Variable	BMI	Weight Teasing	Fat Talk	Disordered Eating
1. BMI	1.000	.405**	.322**	.176*
2. Weight Teasing		1.000	.417**	.326**
3. Fat Talk			1.000	.400**
4. Disordered Eating				1.000

*Notes.* Weight Teasing = Mean of WRAQ – Family Version and WRAQ – Peer Version scores, Fat Talk = Mean of FTQ and FFTQ scores. BMI = Body Mass Index. Disordered Eating = Eating Disorder Diagnostic Scale Score. \*  $p < .05$ . \*\*  $p < .001$

### **Vita**

Lauren Francis was born in Brooklyn, New York, to Antoinette and Michael Francis. She began her undergraduate studies at University of North Carolina Wilmington in the fall of 2012 and majored in psychology. She was awarded the Bachelor of Arts degree in the fall of 2016. In the fall of 2017, she began her graduate studies in Clinical Psychology at Appalachian State University (ASU), working towards a Master of Arts degree. During her graduate studies, she engaged in multiple research opportunities. Additionally, she completed her practica at the ASU Counseling Center and the ASU Psychology Clinic; and she completed her internship at Chrysalis Center for Counseling and Eating Disorder Treatment in Wilmington, North Carolina. Ms. Francis intends to pursue a career in clinical work, particularly with individuals with eating disorders and body image concerns.