

‘ALMOND MOMS’: ASSOCIATIONS BETWEEN DIET TALK AND FEMALE COLLEGE  
STUDENTS’ WELLBEING

by

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## ABSTRACT

Currently, the term “Almond Mom” has gone viral as celebrity parents were seen overly restricting their child’s choice of food and implementing extreme dieting practices. The “Almond Mom” aligns with authoritarian parenting, which is a parenting style that shows high levels of demandingness and low levels of warmth and responsiveness towards their child. The authoritarian parent creates unrealistic expectations for their child, which can lead to lower self-esteem and depressive symptoms. According to previous literature, it has also been found that negative family food talk and parental commentary can lead to disordered eating. Nearly all research focuses on the direct relationship of negative diet talk and wellbeing. However, little is known about the possible interventions that could buffer the effects of diet talk. To address this gap, 820 female college students ( $M_{age} = 24.7$  years;  $SD = 5.47$ ) were asked to complete a set of surveys with the following themes: disordered eating, orthorexia nervosa, depressive symptoms, self-esteem, family food talk, parental commentary, and parental warmth. The results showed that negative food self-talk and negative commentary from the mother were positively associated with disordered eating, whereas fathers’ negative commentary was positively associated with lower self-esteem. It was also found that fathers’ parental warmth had a negative relationship with depressive symptoms regardless of the presence of family food talk, but that it had little effect on the students’ depressive symptoms in the presence of high food talk. The results of this study indicate the need for parents to educate themselves on disordered eating and for research on possible interventions of diet talk within the family dynamic.

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After the COVID-19 Pandemic, social media platforms, such as TikTok and Instagram began exposing celebrity parents for overly controlling their child's diets, coining the term "Almond Mom," and brought more awareness towards disordered eating. According to the DSM-V (APA, 2013), feeding and eating disorders (EDs) are disorders associated with consistent disturbances in eating, resulting in altered absorption or consumption of food and impairment in psychosocial functioning and physical health. The prevalence of EDs among female college students sharply increased from 31.8% to 51.8% between 2018 and 2021 (Tavolacci et al., 2021). Given this increase, it is critical that researchers identify factors that can explain the onset of EDs. Researchers have found that parenting styles are associated with adolescent weight, physical exercise, and the types and portions of foods children eat (Berge, et al., 2009). However, most studies have examined the effects of maternal figures on a person's eating patterns, but less is known about the impact of paternal figures. The present study examined the associations between family-level factors and college women's eating behavior and whether parenting behaviors could serve as a protective factor.

**Eating Disorders and Orthorexia Nervosa**

According to the National Eating Disorders Association, individuals are diagnosed with three different types of EDs, which are anorexia nervosa, bulimia nervosa, and binge-eating disorder, based on the symptomology (NEDA.org). In particular, anorexia nervosa and bulimia nervosa are two of the EDs that place thinness and maintaining a slim figure as a determinant of self-esteem (Tavolacci et al., 2015). Anorexia and bulimia have behavioral similarities and differences that impact the course of treatment. Anorexia nervosa is based on food restriction,

causing a significant reduction in body weight, whereas bulimia nervosa consists of repeated episodes of binge eating within a 2-hour period and purging to avoid weight gain. The purging behavior may include misuse of laxatives, self-induced vomiting, excessive exercise, or fasting. Bulimia and anorexia are similar in that both involve a form of purging because anorexia is divided into two categories, which are the restricting type and the binge-eating/purging type (APA, 2013). However, recognizing the difference between the EDs and the different risk factors are crucial to providing the necessary treatment and therapy.

The DSM-V (APA, 2013) highlights several risk factors that increase the chances for someone having an eating disorder, which include a history of anxiety disorder, excessive obsessive behaviors, and the internalization of thinness. Other factors include low self-esteem, depressive symptoms, and experiencing high stress or a traumatic event. There are also particular genetic and environmental risk factors that increase a person's chance of being diagnosed with an eating disorder. Genetically, individuals are more likely to develop an eating disorder if their parents or other relatives have had the disorder (APA, 2013). People also have an increased risk of developing an eating disorder when living in a culture that values thinness, and it is worsened when they already struggle with social anxiety, low self-esteem, and an anxiety disorder (APA, 2013).

One population that is particularly vulnerable to mental health problems includes college students. According to Eisenberg and colleagues (2013), 13.5% of college women and 3.6% of college men show symptoms of EDs. College students experience multiple stressors, including the transition into adulthood, academic stress, and economic difficulties, which increases the risk of developing a mental health problem (Tavolacci et al., 2021). In addition to consistent, daily stress, living in an environment that values thinness, which includes higher education

institutions, can trigger disordered eating behaviors. According to Grossbard and colleagues (2011), the college students' social environment heightens the awareness to the expectations in appearance and attractiveness, increasing the risk to partake in unhealthy habits such as disordered eating. The increasing pressure of living up to body expectations within the college environment increases the risk for students to engage in these unhealthy habits that can later lead to worse consequences.

EDs affect individuals' physical, cognitive, and social well-being. Physically, bulimia nervosa can lead to a loss of dental enamel, potassium depletion, electrolyte depletion, and menstrual irregularities, while people with anorexia nervosa may have a sharp decrease in heart rate, brittle nails, gastrointestinal issues, and a depletion of potassium (APA, 2013). Some of the cognitive implications of EDs include deficiencies in psychomotor coordination, long-term memory, tactile-perception, attention, and learning (Lena et al., 2004, p. 100). EDs also worsen a person's social skills as these individuals may feel dissatisfaction with their social network and an increase in anxiety difficulty (Lazaro et al., 2010, p. 399). These outcomes can be worsened when the EDs are co-occurring with another psychological disorder (APA, 2013). Overall, EDs can negatively impact the well-being of college-aged individuals, and it is critical to identify precipitating factors.

Not all forms of disordered eating align with the DSM-V definition of feeding and eating disorders as it can manifest in the concept of "clean eating." According to Ambwani (2019), dieting and "clean eating" are detrimental to one's mental health if the individual chooses to overly restrict themselves from different foods, including those that provide necessary nutrients. People who engage in special diets (i.e., paleo and pescatarian diets), without the diagnosis of a chronic illness or the need for weight loss to support better physical health, have a higher risk of

developing an ED. Dieting behavior is complex because it is based on the individual's goal. Some people will engage in slightly modifying their diet to consume more nutritious foods, restrict certain food groups, or restrict all foods. When people engage in "clean eating," they eat non-processed, organic, home-cooked foods, which may involve removing gluten, dairy, and grains from their diet. This new category of eating behaviors is known as orthorexia nervosa (ON), which is the hyper fixation on eating healthy, 'pure' foods. Although orthorexia nervosa is not an official disorder in the DSM-V, it can have the same damaging effects as other EDs on the person's overall health and well-being (Ambwani, 2019).

Ambwani (2019) investigated the definitions of clean eating and orthorexia nervosa and examined the associations between clean diet attitudes and ED symptomatology. The study concluded that clean eating is perceived as consuming organic, environmentally friendly foods and eliminating all forms of fast or sugary foods; however, the dietary content of a clean diet is uncertain. These findings indicate the potential harm associated with clean eating attitudes as these attitudes were found to be closely related to the attitudes in EDs and the fear of gaining weight. The "clean eating" study highlighted gaps in orthorexia nervosa research, which include investigating diagnostic criteria, psychopathology, comorbidity, and the effects of ON (Ambwani, 2019). In addition to these limitations, there is also little research into the environmental factors that impact the development of orthorexia nervosa.

### **Almond Moms and Authoritarian Parenting**

Parents impact many aspects of their children's development, such as mental health and self-esteem, which is reflected in the child's daily behaviors as they grow older (Mendez, 2022). According to Baumrind (1960), there are three parenting styles that influence children's development in different ways. Authoritative parenting consists of a responsive and warm

approach, which results in children who are successful and happy. In contrast, authoritarian parenting is comprised of low levels of support and high levels of obedience, producing a child who is obedient, proficient, and lacks social competence and self-esteem (Mendez, 2022). Consistent with authoritarian parenting, an ‘Almond Mom’ heavily ingrains their diet culture ideal and ideology of thinness onto their children through strict diet restrictions that frame food as a reward (Balantekin et al., 2020). Parenting can have immediate and long-term impacts on children’s development, especially in the child’s relationship with food.

Recent research shows that parenting styles also impact a child’s eating behaviors (Balantekin et al., 2020; Van der Horst et al., 2017). Throughout human development, children mirror their caregiver’s behaviors, including feeding behaviors, and the way that caregivers interact with their child can determine their children’s eating behaviors (Van der Horst et al., 2017). Previous research has also shown how certain parental feeding strategies (e.g., modeling the consumption of healthy foods such as fruits and vegetables) influence their children’s diet quality, body weight, and energy intake (Van der Horst et al., 2017). According to a study conducted on parenting and feeding styles, authoritarian and authoritative parents are equally likely to make healthy foods accessible to their children and to reduce unhealthy foods within the child’s diet. However, authoritarian parents were found to utilize high levels of pressure for weight control (Van der Horst et al., 2017).

Similarly, Balantekin and colleagues (2020) distinguished between authoritative and authoritarian parenting regarding eating behaviors and food talk between parents and their children from infancy to adolescence. Authoritative parents provide appropriate monitoring of their child’s eating, while introducing a healthy balance of all foods and a feeding routine. Conversely, authoritarian parenting emphasized overt control on the child’s food intake,



excessive tracking of what foods the child consumed, and using food as a reward. Throughout the review, the researchers recognized that authoritative parenting was positively related to healthier eating behaviors in children from infancy to adolescence (Balantekin et al., 2020). These two studies underscore the importance of researching the impact of parenting styles on a child's eating behaviors and mental health. This research is essential as it sheds light on how better understanding familial dynamics and their impact on eating behaviors can allow individuals to cultivate healthier connections with food and their own mental well-being. It also highlights the need to study the influence of parenting styles and food talk on the college population as it can lead to the disordered eating behaviors of orthorexia nervosa.

### **Negative Body Talk, Food Talk, and Disordered Eating**

When investigating environmental factors that contribute to eating behaviors it is critical to examine an individual's family. In a study on eating attitudes, it was found that the family plays a role in one's risk of being affected with orthorexia nervosa. Using interviews about body image and eating among college students, White and colleagues (2021) concluded that the participants who had disclosed their eating disorder had direct or indirect experience with their family regarding their body and weight. A direct experience include parents framing foods as "good" or "bad." For instance, parents framed fried foods as "bad," while salads are "good" (White et al., 2021). Other forms of direct experiences include parents making direct comments on their child's weight, pressuring them to lose weight. Indirect experiences of negative body and food talk within the family includes when parents made body and food comments about themselves and their own eating behaviors (White et al., 2021). Through this modeling of negative eating behaviors and commentary, the children were more likely to engage in disordered eating.

In addition to the relationship of disordered eating and negative body and food talk among the family, researchers have also explored the association between maternal parenting, excessive restriction of foods and their children's eating behaviors. Francis and Birch (2008) examined the relationship between a daughter's eating behaviors and a mother's preoccupation with their own eating and weight. The study showed that daughters were encouraged to lose weight and restrict their foods more often when mothers were more focused on maintaining a healthy body. Francis and Birch (2008) also found that the daughters were more likely to internalize their mothers' encouragement to control their weight. In a separate study, the role of father commentary on their daughters' weight has been linked to weight dissatisfaction and idealization of thinness in adolescence and adulthood (Siegal et al., 2021). Based on the results found by Francis and Birch (2008) and Siegal et al. (2021), daughters reflect their parents' desire for a healthier body, leading to excessive preoccupation with food restriction and weight loss, which is in line with the disordered eating of orthorexia nervosa. In another study conducted by Bauer and colleagues (2013), 23.3% of girls whose parents frequently commented on their bodies engaged in extreme disordered eating and weight control behaviors in comparison to the 4.2% of girls whose parents never commented on their bodies. The result of previous literature highlights the importance of needing to broaden the impact of family and their commentary towards a person's eating behaviors, body, and weight.

### **Self-Esteem and Depressive Symptoms**

Based on previous literature, the dynamic between parents and the child could determine the wellbeing of the child throughout their development. In a longitudinal study analyzing the outcomes of Baumrind's (1960) parenting styles, authoritarian parenting was associated with lower self-esteem (Pinquart, 2019). The low levels of self-esteem are associated with

authoritarian parenting because the lower parental warmth and high levels of demandingness reduce the level of self-confidence within the child. In another study, Barton and Kirtley (2011) analyzed the gender differences in parenting styles and its influence on daughters' or sons' behaviors in college. Previous research had found that authoritative parenting lessened student anxiety, whereas authoritarian parenting increased student anxiety (Barton and Kirtley, 2011). Barton and Kirtley (2011) found that maternal parenting has a stronger influence on their children's development and that mothers impact the overall wellbeing of their daughters more than their sons. Regarding authoritative parenting, a student's anxiety is counteracted by a mother's parenting when the father displays more authoritarian parenting behaviors. Together, these findings emphasize the importance of analyzing familial dynamics and the gender differences between parents in regard to their parenting styles. It also highlights that there is little research that examines fathers' parenting styles and the potential for fathers to protect against the negative effects of mothers' parenting.

Additionally, previous literature has found that negative parental commentary is associated with several detrimental effects. According to Bauer and colleagues (2013), negative body talk and food talk from both the mothers and fathers are significantly associated with self-esteem and depressive episodes. It was concluded that the more the parents negatively commented on their child's body and weight, the lower their child's self-esteem and the higher the prevalence of depressive symptoms. The results of Bauer and colleagues (2013) indicate the impact that parents have on their child's wellbeing regarding the way that their child views food and their body. This also highlights the importance to compare the effects of the mothers' commenting behavior and the fathers' commenting behavior to analyze which parent has a higher influence on their child's views on diet and bodies. Expanding literature on this

comparison allows to address the gaps in possible interventions to the negative effects of negative diet and body talk within the family dynamic.

### **Parental Warmth and Mental Health**

According to previous literature, it has been found that positive parenting and parental warmth are associated with better outcomes for their child. In a study, it was found that receiving parental warmth at the ages of 13 and 14 years was negatively associated with depressive symptoms for females in later years (Lloyd et al., 2016). The findings of Lloyd and colleagues (2016) indicates how creating an environment where the parent is responsive and supportive to their child, decreases the risk of experiencing depressive symptoms when they are older because of the self-reliance and self-confidence that they gained from the positive relationships within their family. It highlights the importance to recognize how positive parenting could improve the wellbeing of a child when in the midst of negativity. It also shows how positive parenting should be analyzed regarding the negative effects of diet talk and negative parent commenting behaviors on their child.

### **Current Study**

The purpose of the current study was to examine associations between specific parenting behaviors and women's eating behaviors. Specifically, the current study focused on the amount of negative food talk and body talk that occurred within the family. It was expected that higher levels of these behaviors would be associated with poorer mental health (self-esteem and depressive symptoms) and greater disordered eating behaviors. The second aim of the current study was to explore whether positive parenting could serve as a protective factor against the harmful effects of negative food and body talk. It was hypothesized that parental warmth does

serve as a protective factor against negative talk and that mothers, compared to fathers, would have a stronger protective influence.

## METHODS

### **Participants**

The present study included college female students ( $n = 820$ ). Inclusion criteria required participants to be 17-23 years old ( $M = 19.9$  years,  $SD = 1.59$  years), understand English, and identify as a cisgendered female. Participant demographics, including ethnicity and students' currently living situation, are shown in Table 1.

Table 1.  
*Frequency and Percentage of Participant Characteristics*

|                         | <i>N</i> | <i>Percent</i> |
|-------------------------|----------|----------------|
| <b>Age</b>              |          |                |
| 18                      | 288      | 35.1           |
| 19                      | 227      | 27.7           |
| 20                      | 153      | 18.7           |
| 21                      | 118      | 14.4           |
| 22                      | 24       | 2.9            |
| 23                      | 2        | .2             |
| 24                      | 5        | .6             |
| 25                      | 3        | .4             |
| <b>Ethnicity</b>        |          |                |
| Asian/Asian American    | 38       | 4.6            |
| Black/African American  | 31       | 3.8            |
| Hispanic/Latino         | 103      | 12.6           |
| White/European American | 601      | 73.3           |
| Mixed ethnicity         | 47       | 5.7            |
| <b>Living Situation</b> |          |                |
| At home with parent(s)  | 39       | 4.8            |

|                               |     |      |
|-------------------------------|-----|------|
| At school in a dorm           | 506 | 61.7 |
| At school in my own apartment | 251 | 30.6 |
| Other                         | 24  | 2.9  |

## Procedure

Participants were recruited through the Department of Psychology's online research participation website, SONA Systems. When participants signed up for the study, they were asked to complete a survey that included items from different measures analyzing mental health, eating attitudes, parent behavior, and orthorexia nervosa. All participants provided electronic informed consent. After completing the surveys, all participants were compensated with hours that serve as credit for psychology courses.

## Measures

**Family Attitudes.** The present study used the Family Fat Talk Questionnaire (FFTQ; MacDonald, 2015) to assess familial attitudes towards fatness and one's body. The inventory includes 16 items that are answered using a 5-point Likert scale (1= *never*, 2= *rarely*, 3= *sometimes*, 4= *often*, 5= *always*). A sample question was "When I'm with my family, I complain that I should not be eating fattening foods" Items were summed to create a score representing family talk about fatness, self-talk about fatness, and a total score. This questionnaire has good reliability (Cronbach's alpha = .94).

**Parental Comments.** The Parental Comments Scale (PCS; Rodgers, 2009) utilizes 18 items to analyze the frequency of parents commenting on their child's body. Half of the items referenced the participant's mother and the other half were about the participant's father. The inventory is on a 5-point Likert scale (1= *never*, 2= *rarely*, 3= *sometimes*, 4= *often*, 5= *always*) with higher scores indicating that their parents always tell them the statement. Some of the statements include "You look great, but you could look even better if you lost some weight," "If

you eat that you'll get fat," and "Your health is what is important not your weight." Items about the mother were summed to create scores representing positive comments ( $\alpha = .82$ ), negative comments ( $\alpha = .92$ ), and comments about the importance of weight ( $\alpha = .88$ ). Similar scores were calculated for fathers' positive comments ( $\alpha = .86$ ), negative comments ( $\alpha = .90$ ), and importance of weight ( $\alpha = .88$ ).

**Disordered Eating.** The current study utilized the Eating Attitudes Test (EAT-26; Garner et al., 1982) to measure general disordered eating patterns. This inventory consists of 36 items divided into three sections; however, only 26 items assessing eating attitudes and habits were used in the current study. Participants answered each question using a 6-point Likert scale (1= *always*, 2= *usually*, 3= *often*, 4= *sometimes*, 5= *rarely*, 6= *never*). Participants rated statements such as "I am terrified about being overweight," "I find myself preoccupied with food," and "Other people think that I am too thin." One item was reverse scored, and items were summed to create a total score. Internal consistency for the present study was .92.

**Orthorexia Nervosa.** The English-Dusseldorf Orthorexia Scale (EDOS; Barthels et al., 2015) was used to measure symptoms of orthorexia nervosa. The measure includes 10 items and uses a 4-point Likert scale (1= *this does not apply to me*, 2= *applies to me a little*, 3= *applies to me somewhat*, 4= *this applies to me*). The scale includes statements such as "I can only enjoy eating foods considered healthy," "I find it difficult to go against my personal dietary rules," and "eating healthy food is more important to me than indulgence/ enjoying the food." Items were summed and a high score indicates greater symptoms. The internal consistency for the scale was .89.

**Self-Esteem.** The present study used the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) to measure the participants' self-esteem. The inventory includes 10 items, with

a 4-point Likert scale (0= *strongly disagree*, 1= *disagree*, 2= *agree*, 3= *strongly agree*). Five items were reverse coded and the sum of the 10 items was calculated. A higher score denotes higher levels of self-esteem. The internal consistency for the scale was .91.

**Mental Health.** The present study used the Inventory of Depressive and Anxiety Symptoms (IDAS; Watson et al., 2007) to examine the participants' depressive symptoms and overall well-being. The general depression scale includes 20 items on a 5-point Likert scale (1= *not at all*, 2= *a little bit*, 3= *moderately*, 4= *quite a bit*, 5= *extremely*). Two items were reverse coded and then items were summed, and a high score indicates greater depressive symptoms ( $\alpha = .93$ ). Participants' well-being was also assessed by summing 8 items ( $\alpha = .93$ ).

**Parental Warmth.** The Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965) was utilized to determine the mothers' and fathers' levels of warmth and acceptance. The survey includes 10 items that used a 3-point Likert scale (1= *not like*, 2= *somewhat like*, 3= *a lot like*) where the lowest scores indicate that the participant's mother or father is not like the description. Participants rate their parents' behaviors on statements such as, "... makes me feel better after talking over my worries with her/him," "...cheers me up when I am sad," and "... makes me feel like the most important person in her life". Items were summed to create separate scores for mother warmth/acceptance and father warmth/acceptance. This questionnaire has good internal consistency (Mother  $\alpha = .92$ ; Father  $\alpha = .93$ ).

## RESULTS

### **Associations between Family Factors and Student Eating Behaviors**

The correlation of all variables was examined (Table 1). Next, a series of linear regressions were conducted to examine the study research questions. The association between negative food self-talk and disordered eating was  $b = .74$  ( $SE = .07$ ),  $p < .001$ , indicating that as



negative food self-talk increased, the severity of disordered eating also increased. However, there was no significant association between negative family food talk and severity of disordered eating ( $p = .20$ ). Negative personal comments from mothers were positively associated with the severity of disordered eating,  $b = .37$  ( $SE = .08$ ),  $p < .001$ ; however, the relationship between negative personal comments from fathers and disordered eating was not significant ( $p = .10$ ).

The association of negative food and body talk with orthorexia nervosa was examined next. A positive association was found between negative food self-talk and orthorexia nervosa,  $b = .31$  ( $SE = .04$ ),  $p < .001$ . The relationship between orthorexia nervosa and the predictor variables of negative food family talk ( $p = .34$ ), negative personal comments from mothers ( $p = .20$ ), and the negative personal comments from fathers ( $p = .35$ ) were not significant.

## CORRELATIONS OF DIET TALK, DISORDERED EATING, AND PARENTING

*Table 1.* Results of Pearson's correlations between disordered eating, orthorexia nervosa, depressive episodes, self-esteem, and food talk, personal comments, general importance, and warm parenting.

| Variable                            | 1      | 2      | 3      | 4      | 5     | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13    | 14 |
|-------------------------------------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|-------|----|
| 1. Disordered Eating Total Score    | —      |        |        |        |       |        |        |        |        |        |        |        |       |    |
| 2. Orthorexia Nervosa               | .60**  |        |        |        |       |        |        |        |        |        |        |        |       |    |
| 3. Depressive Episodes              | .36**  | .16**  |        |        |       |        |        |        |        |        |        |        |       |    |
| 4. High Self-Esteem                 | -.27** | -.07   | -.68** |        |       |        |        |        |        |        |        |        |       |    |
| 5. Negative Food Self-Talk          | .51**  | .36**  | .36**  | -.28** |       |        |        |        |        |        |        |        |       |    |
| 6. Negative Family Food Talk        | .36**  | .18**  | .32**  | -.26** | .54** |        |        |        |        |        |        |        |       |    |
| 7. Positive Personal Comments (M)   | -.07   | .04    | -.08*  | .16**  | -.04  | -.09** |        |        |        |        |        |        |       |    |
| 8. Positive Personal Comments (F)   | -.08*  | < -.01 | -.08*  | .13**  | .038  | -.04   | .58**  |        |        |        |        |        |       |    |
| 9. Negative Personal Comments (M)   | .39**  | .20**  | .21**  | -.15** | .44** | .46**  | -.41** | -.17** |        |        |        |        |       |    |
| 10. Negative Personal Comments (F)  | .27**  | .14**  | .19**  | -.18** | .28** | .36**  | -.16** | -.12** | .49**  |        |        |        |       |    |
| 11. General Importance Comments (M) | .38**  | .22**  | .30**  | -.21** | .40** | .54**  | -.29** | -.12** | .68**  | .37**  |        |        |       |    |
| 12. General Importance Comments (F) | .22**  | .10**  | .21**  | -.18** | .22** | .38**  | -.13** | -.13** | .36**  | .73**  | .42**  |        |       |    |
| 13. Warm Parenting Behavior (M)     | -.14** | -.05   | -.29** | .32**  | -.07  | -.16** | .39**  | .16**  | -.24** | -.11** | -.31** | -.11** |       |    |
| 14. Warm Parenting Behavior (F)     | -.11** | .04    | -.28** | .24**  | -.03  | -.16** | .17**  | .42**  | -.12** | -.22** | -.15** | -.26** | .29** | —  |

Note: \*  $p \leq .05$ , \*\*  $p \leq .01$ . (M) is mothers, (F) is fathers.

### **Associations between Family Factors and Student Mental Health**

Furthermore, negative food and body talk and their relationship to college students' self-esteem were analyzed. It was found that negative food self-talk was negatively associated with self-esteem,  $b = -.17$  ( $SE = .03$ ),  $p < .001$ . Similarly, negative family food talk was found to have a negative relationship with self-esteem,  $b = -.10$  ( $SE = .03$ ),  $p < .001$ . The association between negative personal comments from fathers and self-esteem was also significant,  $b = -.10$  ( $SE = .05$ ),  $p < .031$ . Together, these findings suggest that negative talk and comments were associated with lower levels of self-esteem. In contrast, the association of negative personal comments from mothers and self-esteem was not significant ( $p = .32$ ).

The association of negative food and body talk with student depressive symptoms was analyzed. The association between the variables of negative food self-talk and depressive episodes was positive,  $b = .50$  ( $SE = .08$ ),  $p < .001$ . Similar to self-talk, negative family food talk had a positive association with depressive symptoms,  $b = .30$  ( $SE = .07$ ),  $p < .001$ . With respect to parental comments, negative personal comments from both mothers ( $p = .80$ ) and fathers ( $p = .28$ ) were not significant predictors of depressive symptoms.

### **Parental Warmth in the Relationship between Family Factors and Student Mental Health**

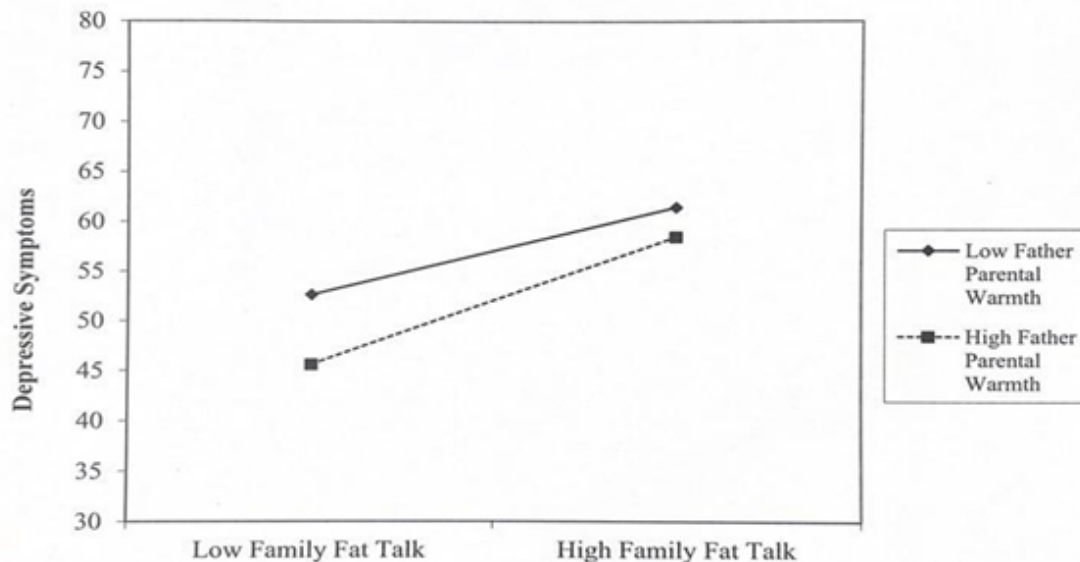
A moderated regression was conducted to evaluate the role of parental warmth in the relationship between negative family food talk and self-esteem. It was found that mothers' warm parenting behavior does not significantly moderate the relationship between negative family food talk and self-esteem ( $p = .79$ ). Similarly, fathers' warm parenting behavior has no significant role in the relationship between negative family food talk and self-esteem ( $p = .18$ ).

The role of parental warmth in the relationship between negative family food talk and depressive symptoms was also analyzed. Mothers' warm parenting behavior does not

significantly moderate the relationship between negative family food talk and depressive episodes ( $p = .82$ ). However, the relationship between negative family food talk and depressive episodes was moderated by fathers' warm parenting behavior ( $b = .03$  ( $SE = .01$ ),  $p = .01$ ), indicating that high parental warmth can lower depressive symptoms in the presence of negative family fat talk (Figure 1).

**Figure 1**

*Effect of Family Fat Talk on Depressive Symptoms as moderated by Father Parental Warmth.*



A moderated regression was conducted to evaluate the role of parental warmth in the relationship between negative personal comments from mothers and self-esteem. Mothers' ( $p = .51$ ) and fathers' parental warmth ( $p = .10$ ) does not have a significant role in moderating the relationship between negative personal comments from mothers and self-esteem. In parallel, mothers' ( $p = .57$ ) and fathers' parental warmth ( $p = .35$ ) does not significantly moderate the relationship between negative personal comments from fathers and self-esteem.

The relationship between depressive episodes and negative personal comments from mothers and fathers as moderated by parental warmth was evaluated. It was found that mothers' ( $p = .75$ ) and fathers' ( $p = .10$ ) warm parenting behaviors have no significant interaction in the relationship between mothers' negative personal comments and depressive episodes. Similarly, mothers' ( $p = .24$ ) and fathers' ( $p = .68$ ) warm parenting behavior have no significant interaction in the relationship between fathers' negative personal comments and depressive episodes.

### DISCUSSION

The current study examined the relationship between negative food and body talk and female college students' wellbeing (e.g., the severity of disordered eating, orthorexia nervosa, self-esteem, and depressive symptoms). The study also explored the role of parental warmth in the relationship between negative family food talk and self-esteem and the relationship with personal body comments from the mother or father, self-esteem, and depressive symptoms.

Consistent with Francis and Birch (2008), the results of this study showed that negative food self-talk was associated with higher levels of orthorexia nervosa and the severity of disordered eating. These findings highlight how daughters may internalize broader negative commentary to meet Western cultural expectations of women's bodies (Langdon-Daly & Serpell, 2017). Through the pressure of cultural ideals, these women are encouraged to engage in weight-controlling behaviors. The current study also found that family food talk was not significantly associated with orthorexia nervosa or the severity of disordered eating. Although it was expected to be associated, it is possible that the relationship was mediated by other factors such as positive family boundaries, quality relationships with their caregivers, or individual resilience against disordered eating (Langdon-Daly & Serpell, 2017). Through this mediation, the family system allowed daughters to develop a more positive image of eating and bodies.

Negative food self-talk and family food talk were associated with lower self-esteem and higher levels of depressive symptoms. Drawing from Bauer and colleagues (2013), an environment or family dynamic that consists of continuous negative food talk can lead to individuals experiencing lower levels of self-worth and higher levels of depressive symptoms. Additionally, the current study aligns with previous literature that found that negative personal comments from mothers about one's body or diet was positively associated with the severity of disordered eating (White et al., 2021). Personal body and food commentary, particularly from mothers, impact daughters and their relationship with their bodies and food because of how daughters look up to their mothers in regard to appropriate behaviors (Bauer et al., 2013). Listening to feedback from individuals of the same gender may also allow daughters to feel in tune or find ways to achieve societal beauty standards (Varnagiryte & Perminas, 2022). Through modeling behavior, daughters may gain an understanding that disordered eating behaviors and negative food commentary are considered to be normal, which can lead to the development of an eating disorder or other health issues. As the daughter considers negative body and food commentary as ordinary, they may also transmit these ideals to future generations, creating a harmful chain that normalizes disordered eating.

The current study also sought to understand the role of negative personal comments from fathers as most research has been conducted on the mother-daughter relationship. It was found that higher levels of negative comments from fathers about one's body or diet were associated with lower self-esteem. The result of this significant relationship can be explained by how fathers can play a role in their daughter's femininity. According to Hooper and Dallos (2012), a father's acknowledgement can help the daughter feel more attractive, validated in her identity as a woman, and competent. The significant relationship between fathers' commentary and their

daughters' self-esteem levels is valuable because it contributes to the conversation on how much fathers have an impact on their daughters' overall development and wellbeing.

Previous research has highlighted the importance of parenting warmth in promoting children's psychological wellbeing. In the current study, I explored whether parental warmth could protect daughters from the harmful effects of negative body talk. Although parental warmth did not moderate associations between negative family food talk and self-esteem, there was a significant finding with respect to associations between negative body commentary and depressive symptoms. High levels of father warmth were overall associated with lower levels of daughters' depressive symptoms, regardless of the presence of family fat talk. I expected that when families engaged in more fat-related talk, that father warmth could help buffer against negative impacts on mental health because of how fathers' support and promotion of agency empower their daughters (Steinheilber et al., 2020). Unfortunately, this did not seem to be the case as levels of depression were similar when fat talk levels were high. Consistent with Lloyd et al. (2016), individuals seem to experience lower levels of depressive symptoms in the presence of more parental warmth, but the parental warmth from only one parent may not be strong enough to buffer the negative effects of high negative family food talk. This also indicates that both the mother and father need to show higher levels of parental warmth if there is a higher prevalence of negative family food talk.

The current study has multiple clinical implications that not only contribute to the growing literature about disordered eating, but also broaden awareness on the negative effects of negative food and body talk. The findings of this study increase awareness for college-aged women on how negative commentary about diets or bodies may impact their current behaviors with food and their own mental-health. Through these findings, college-aged women can gain an

understanding that internalizing negative food and diet talk can lead them to normalize and engage in disordered eating. The current study also contributes to the growing knowledge among healthcare professionals about external factors that increase the risk of developing disordered eating habits or developing Orthorexia Nervosa. Through this, healthcare professionals can develop the proper therapies that encourage resilience to support individuals found with Orthorexia Nervosa or disordered eating behaviors. Additionally, universities can utilize this data to develop programs that support college-aged women and their well-being as they transition into college and continue their higher education. In a study, Grammer and colleagues (2020) identified functional and effective screening and preventative tools that support college students who run the risk of developing disordered eating or have been diagnosed with an eating disorder. For instance, one screening platform is the Healthy Body Image (HBI) Program, which is an online platform that differentiates the students between “low risk” and “high risk” in developing disordered eating. The “low risk” group is given a plan centered around increasing fruit/vegetable consumption, healthy weight management for students with a normal weight, and weight loss for overweight students. The “high risk” group is provided with preventative intervention and self-help treatment that will inhibit the progression of symptoms aligned with eating disorders (Grammer et al., 2020). Implementing preventive programs and proper screening tools within universities will allow for higher education institutions to provide support to their college students during this transformative period of their life and help them develop healthy eating habits.

With respect to parenting, the current study can also motivate parents to educate themselves on disordered eating and how they should approach raising their children to build a healthy relationship with food and their bodies. One way for parents to encourage healthy eating



is by allowing their child at a young age to model their own behaviors with food (Grønhøj & Gram, 2019). For instance, the child should be encouraged to go grocery shopping and prepare healthy meals with their parents. Through modeling healthy interactions with food, parents are teaching their children how to obtain nutritious recipes and foods, which will benefit them when they move away for college. Another way parents can teach their children to build a healthy relationship with food is by not labeling foods as “good” or “bad.” By removing negative or positive connotations to foods, children will learn how to balance out their meals and increase their intake of foods that are more nutritious for their bodies while also enjoying foods that may not have high nutritional value (White et al., 2021). Additionally, parents need to learn how to decentralize the role of societal beauty and thin-body ideology from their daughters’ lives, which can be done by encouraging dialogue about positive body image, health, and self-expression. (Siegal et al. 2020). Decentralizing thinness and beauty standards will allow for their daughters to feel more comfortable with themselves and focus on maintaining a healthy balance with food.

Moreover, the findings in the study contribute to literature showing how parental warmth serves as a potential intervention to overall depressive symptoms. According to the results of the current study, depressive symptoms were overall lower when the father gave parental warmth to their daughter, regardless of the amount of negative diet and body talk. However, the small change in depressive symptoms when comparing low and high father parental warmth in the presence of high negative family food talk indicates the need to find other potential interventions to the effects of negative diet and body talk. The significant relationships within the study also bring light on the urgency to continue researching the role of fathers on their daughter’s perception of food, their bodies, and disordered eating habits.

Several limitations were found with respect to the design of the study. First, the study relied entirely on self-report measures and there could be a self-report bias wherein the participants could have completed the surveys with false answers to be seen as more socially acceptable. Another limitation is the demographics of the study sample demographic. The sample was mostly White, cisgender female, and predominantly from a higher socioeconomic background. The study also excluded participant data who reported having only one parent. In future research, the variables of the current study should be analyzed through a multicultural lens, which could compare the role of individualistic cultural values and collectivistic cultural values within the relationships of diet talk, disordered eating, and wellbeing. It is also recommended that future studies include college-aged men within the sample to create a gendered comparison between men and women and whether the gender of the parent providing parental warmth matters regarding negative food talk and depressive symptoms. Daughters from single-parent households should also be examined as the impact of parental warmth from a single parent may result as a stronger or weaker buffer to the relationship of negative family food talk and depressive symptoms. Finally, future research should include observational data to assess interactions between parents and their adult children. Including an interview assessment of mental health would also strengthen the study design.

REFERENCES

- Ambwani, S. (2019). Is #cleaneating a healthy or harmful dietary strategy? Perceptions of clean eating and associations with disordered eating among young adults. *Journal of Eating Disorders*, 7, doi: 10.1186/s40337-019-0246-2.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5 ed.), doi: 10.1176/appi.books.9780890425596.
- Balantekin, K.N., Anzman, F.S., Francis, L.A., Ventura, A.K., Fisher, J.O., & Johnson, S.L. (2020). Positive parenting approaches and their association with child eating and weight: A narrative review from infancy to adolescence. *Pediatric Obesity*, 15(10). doi: 10.1111/ijpo.12722.
- Barthels, F., Meyer, F., Pietrowsky, R. (2015). The Dusseldorf Orthorexia Scale-construction and evaluation of a questionnaire to record orthorexic eating behavior. *Journal of Clinical Psychology and Psychotherapy*, 44, 97-105, doi: 10.1026/1616-3443/a000310.
- Bauer, K.W., Bucchianeri, M.M., Neumark-Sztainer, D. (2013). Mother-reported parental weight talk and adolescent girls' emotional health, weight control attempts, and disordered eating behaviors. *Journal of Eating Disorders*, 1(45), doi: 1.1186/2050-2974-1-45.
- Berge, J.M., Wall, M., Loth, K., & Neumark-Sztainer, D. (2010). Parenting style as a predictor of adolescent weight and weight-related behaviors. *Journal of Adolescent Health*, 46(4). doi: 10.1016/j.jadohealth.2009.08.004.
- Eisenberg, D., Nicklett, E., Roeder, K., & Kirz, N. (2011). Eating disorder symptoms among college students: prevalence, persistence, correlates, and treatment-seeking. *Journal of American College Health*, 59(8). doi: 10.1080/07448481.2010.546461.
- Francis, L.A. & Birch, L.L. (2008). Maternal Influences on Daughters' Restrained Eating

- Behavior. *Health Psychology*, 24(6), 548-554. doi: 10.1037/0278-6133.24.6.548
- Garner, D.M. et al., (1982). The eating attitudes test (EAT-26). *Psychological Medicine*, 12, 871-878, <https://www.eat-26.com/>.
- Grammer, A.C., Fitzsimmons-Craft, E.E., Laing, O., De Pietro, B., & Wilfley, D.E. (2020). Eating disorders on college campuses in the United States: Current insight on screening, prevention, and treatment. *Current Psychopharmacology*, 9(2), 91-102, doi: 10.2174/2211556009999200416153022.
- Grønhøj, A. & Gram, M. (2019). Balancing health, harmony and hegemony: Parents' goals and strategies in children's food related consumer socialization. *International Journal of Consumer Studies*, 44(1), 77-88, doi: 10.1111/ijcs.12547.
- Grossbard, J.R., Neighbors, C., & Larimer, M.E. (2011). Perceived norms of thinness and muscularity among college students: what do men and women really want? *Eating Behaviors*, 12(3), 192-199, doi: 10.1016/j.eatbeh.2011.04.005.
- Hooper, A., & Dallos, R. (2012). Fathers and daughters: Their relationship and attachment themes in the shadow of an eating disorder. *Contemporary Family Therapy: An International Journal*, 34(4), 452-467. doi: 10.1007/s10591-012-9204-8.
- Langdon-Daly, J. & Serpell, Lucy (2017). Protective factors against disordered eating in family systems: a systematic review of research. *Journal of Eating Disorders*, 5(12). doi: 10.1186/s40337-017-0141-7.
- Lloyd, B., Macdonald, J.A., Youssef, G.J., Knight, T., Letcher, P., Sanson, A., & Olsson, C.A. (2016). Negative reactivity and parental warmth in early adolescence and depressive symptoms in emerging adulthood. *Australian Journal of Psychology*, 69. doi:10.1111/ajpy.12129.

- MacDonald, D.E., Dimitropoulos, G., Royal, S., Polanco, A., & Dionne, M.M. (2015). The family fat talk questionnaire: development and psychometric properties of a measure of fat talk behaviors within the family context. *Body image, 12*, 44-52, doi:10.1016/j.bodyim.2014.10.001.
- National Eating Disorders Association. (2023). *Statistics and Research on Eating Disorders*. NEDA: Feeding hope. [https://www.nationaleatingdisorders.org/statistics-research-eating-disorders?gclid=Cj0KCQjwTJKqBhCaARIsAN\\_yS\\_k6kOckrOjep28KAifLXm37IFS\\_TU\\_8osvblhBaA2aCqW3lDA\\_2BGsaAvPfeALw\\_wcB](https://www.nationaleatingdisorders.org/statistics-research-eating-disorders?gclid=Cj0KCQjwTJKqBhCaARIsAN_yS_k6kOckrOjep28KAifLXm37IFS_TU_8osvblhBaA2aCqW3lDA_2BGsaAvPfeALw_wcB).
- Pinquart, M. & Gerke, D.C. (2019). Associations of parenting styles with self-esteem in children and adolescents: a meta-analysis. *Journal of Child and Family Studies, 28*, doi: 10.1007/s10826-019-01417-5.
- Rosenberg, M. (1965). Rosenberg self-esteem scale (RSES). *APA PsycTests*. doi: 10.1037/t01038-000.
- Schaefer, E.S. (1965). Child's report of parent behavior inventory (CRPBI). *APA PsycTests*. doi: 10.1037/t06333-000
- Siegal, J.A., Winter, V.R., & Cook, M. (2020). "It really presents a struggle for females, especially my little girl": Exploring fathers' experiences discussing body image with their young daughters. *Body Image, 36*, 84-94, doi: 10.1016/j.bodyim.2020.11.001.
- Steinhilber, K.M., Ray, S., Harkins, D. A., Sienkiewicz, M.E. (2020). Father-daughter relationship dynamics & daughters' image, eating patterns, and empowerment: An exploratory study. *Women and Health, 60*(10), doi: 10.1080/03630242.2020.1801554.
- Tavolacci, M.P., Grigioni, S., Richard, L., Meyrignac, G., Dechelotte, P., Ladner, J. (2015). Eating disorders and associated health risks among university students. *Journal of*

*nutrition education and behavior*, 47(5), doi: 10.1016/j.jneb.2015.06.009/.

Tavolacci, M.P., Ladner, J., & Dechelotte, P. (2021). COVID-19 pandemic and eating disorders among University Students. *Nutrients*, 13(12), doi: 10.3390/nu12124294.

Van der Horst, K., & Sleddens, E. (2017). Parenting styles, feeding styles and food-related parenting practices in relation to toddlers' eating styles: A cluster-analytic approach. *PLoS One*, 12(5), doi: 10.1371/journal.pone.0178149.

Vargagiryte, E. & Perminas, A. (2022). The impact of appearance comments by parents, peers and romantic partners on eating behaviour in a sample of young women. *Health Psychology Report*, 10(2), doi: 10.5114/hpr.2021.111294.

White, M., Berry, R., Sharma, A., & Rodgers, R.F. A qualitative investigation of Orthorexia Nervosa among U.S. students: Characteristics and sociocultural influences. *Appetite*, 162, doi: 10.1016/j.appet.2021.105168.