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General Anxiety and Overeating in Undergraduate Students

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ABSTRACT

Existing research on the relations between anxiety and overeating is multifaceted, contradictory, and often focused on clinical, non-diverse populations. This is an exploratory study to clarify the relationship between anxiety and eating behaviors in a group of undergraduate students with a wide range of weights and mental health statuses. Specifically, this study primarily assesses relationships among general anxiety and overeating patterns. The overeating patterns assessed are binge-eating, uncontrolled eating, and emotional eating. This study supplements the primary research focus by adding the following variables: self-regulation, cognitive restraint, body mass index (BMI), and body satisfaction. Through an online questionnaire, 390 male and female participants aged 18-62 anonymously answered 73 questions. Results supported the study's primary hypothesis of a significant, positive relationship between overeating patterns and general anxiety in both male and female undergraduate students. In women, results fully supported the second hypothesis that body satisfaction is negatively correlated with each of the following variables: general anxiety, overeating patterns, and cognitive restraint. In men, results supported the second hypothesis except body satisfaction had no significant correlation with uncontrolled eating and cognitive restraint. The main findings paired with the additional results indicate that general anxiety is strongly associated with disordered overeating patterns. These findings add to the existing literature and may enhance public awareness surrounding the relationship between unhealthy eating patterns and mental health while providing a better understanding of obesity as it relates to anxiety.

Keywords: Overeating, anxiety, mental health, binge eating, eating behavior

Introduction

The current research was designed to better understand the relationship between anxiety and overeating in a sample of diverse undergraduate students. Existing research shows criteria for one or more anxiety disorders is met in approximately 65% of patients with eating disorders (DeBoer & Smits, 2013). The current research will supplement this statistic by analyzing which overeating patterns are

significantly associated with general anxiety. Overeating is an important topic to research because recent studies have found that a steady increase of calorie intake impacts weight gain more than a lack of physical activity (Swinburn et al., 2009). Understanding the factors leading to weight gain is becoming more important as obesity rates rise. Obesity is defined as having a body mass index of 30 kg/m² or higher (Hurt

et al., 2010). In 2017, the obesity rate in every American state was at least 20% (Center for Disease Control and Prevention, 2017).

Reducing obesity rates in America is critical because being overweight is linked to numerous medical and financial issues. For example, obesity is associated with health conditions, such as type 2 diabetes, hypertension, cancer, high cholesterol, and liver disease, that pose grave threats to overall health, including premature death (Hurt et al., 2010). These conditions cause Americans to spend over \$150 billion annually to alleviate obesity-related health issues (Hurt et al., 2010).

Anxiety also has a devastating impact on the mental health of many American adults. The Anxiety and Depression Association of America (2013) reported that generalized anxiety disorder (GAD) impacts over 6.8 million adults in the United States. GAD is characterized by difficulty controlling excessive amounts of worry that cannot be explained by another disorder (American Psychiatric Association, 2013). The apprehension must also be accompanied by symptoms including agitation, weariness, irritability, trouble staying focused, muscle tension, or sleep problems occurring for at least six months (American Psychiatric Association, 2013). When individuals experiencing anxiety overeat, it can be particularly detrimental to health because anxious individuals tend to prefer food that is high in calories, sugars, and damaging fats (Dallman, 2010).

College students are an important group to study because individuals ages 18 to 29 report having poorer mental health than all other age groups and college students are at a high risk for developing anxiety and poor eating habits (Brenan,

2020). Conley et al. (2018) found that college students experienced an increase in depression, anxiety, and stress during their first semester of school. Additionally, bad eating habits are often formed between ages 18-25, which puts college students at risk for weight gain (Stok et al., 2018). However, according to Kliemann et al. (2018), college students can consistently choose healthier food options and reduce weight changes if they enter college with pre-established self-regulation skills.

The relationship between anxiety and overeating is acknowledged by the American Psychiatric Association (2000); the DSM-IV-TR states that psychological disturbances, such as anxiety, may cause periods of distressed eating. Furthermore, previous studies indicate that individuals who binge eat are more likely to have psychological disorders such as depression, generalized anxiety disorder, panic attacks, and suicide attempts (Grucza et al., 2007). Additionally, a 2007 study on obese individuals found that both men and women had considerable comorbidity among obesity, binge-eating disorder, and anxiety disorders (Guerdjikova et al., 2007). This comorbidity may exist because sometimes, when individuals are experiencing psychological distress while maintaining an appetite, they resort to overeating as a coping mechanism (Mitchell & Mussell, 1999). In fact, binge-eating has been used as an unhealthy, short-term solution for decreasing anxiety (Fairburn et al., 1986).

This study's results are stratified by gender because previous research has shown women and men differ in relation to anxiety and overeating. McLean et al. (2011) found that anxiety disorders are more common and debilitating in women than in men. This indicates women may show a stronger correlation between anxiety and overeating

than men. Additionally, men and women appear to have similar binge-eating disorder symptoms, but the psychological aspects of the disorder may differ. For example, binge-eating women reported higher body dissatisfaction and binge-eating men reported more drug abuse (Barry et al., 2002). Additionally, men appear to use alcohol and drugs to relieve anxiety symptoms more often than women (Vesga-López et al., 2008).

Despite the large quantity of promising research, little has been done to determine the significance of the relationship between general anxiety and overeating patterns in populations that may not have clinical conditions. Much of the research is outdated or focused on specific types of mental health disorders and populations. For example, research done by Mestre et al. (2016) found that general anxiety in women was significantly associated with high calorie intake, but all the participants were twins, which is not representative of the larger population of the United States.

Additionally, similar research on emotional overeating showed significant associations between emotional overeating and binge frequency, but the participants were all overweight and previously diagnosed with binge-eating disorder (Masheb & Grilo, 2005). Individuals who struggle with emotional eating can be obese or a normal weight, so the opportunity to investigate overeating patterns in samples of normal-weighted people does exist (Frayn et al., 2018). Dingemans and van Furth (2012) advocate the need to conduct further research on overeating patterns and mental health in non-obese individuals, as the severity of binge-eating disorder symptoms is not dependent on BMI.

Furthermore, in relation to emotional eating, two studies from the late 20th century reported conflicting results. Abramson and Wunderlich (1972) found no significant differences between different moods and amount eaten at a meal. Telch and Agras (1996) found that obese individuals, both with and without binge-eating disorder, consumed significantly more calories after being exposed to stimuli that negatively altered their emotional state. However, these two studies are outdated and offer differing conclusions regarding mood and emotion's impact on eating.

Additionally, research by Masheb and Grilo (2005) did not separate anxiety as a variable but lumped it into the larger category of emotional overeating alongside five additional emotions. Literature reviews analyzing eating disorders with a variety of other psychological disorders have been conducted, but they show that modern research primarily focuses on binge-eating and depression, leaving the relationship between anxiety and overeating underrepresented despite the high comorbidity between binge-eating and anxiety (Rosenbaum & White, 2013).

Body satisfaction is assessed in the current research because, among adolescents, a high level of generalized anxiety disorder was significantly related to high levels of body image dissatisfaction (Vannucci & Ohannessian, 2018). Moreover, body dissatisfaction has been associated with binge-eating (Lewer et al., 2017). Therefore, previous research indicates possible relationships among anxiety, body dissatisfaction, and binge-eating.

Cognitive restraint is included in the current research to understand its relationship to body satisfaction levels and

compare it to the relationship between binge-eating and body satisfaction levels. Cognitive restraint occurs when an individual purposefully and consistently inhibits the amount of food eaten because of motivators other than being full or feeling satiated (Anglé et al., 2009). Previous research relating to cognitive restraint by Herman et al. (1987) found that when a female dieter was hungry, inducing anxiety could increase the amount eaten. However, if a non-dieting woman was already hungry, inducing anxiety could decrease appetite. Finally, if a non-dieter was not hungry to begin with, there was no effect of anxiety on appetite or amount eaten. A different study by Polivy et al. (1994) found that restrained eaters consumed more after they experienced anxiety related to self-esteem no matter how good or bad the food tasted.

In summary, there are substantial gaps in modern research on general anxiety and overeating in adults. First, many of the relevant prior studies were conducted over 20 years ago, rendering them less applicable to the current population due to societal changes related to food intake and body satisfaction. Rehm et al. (2016) found that changes in society's food intake included increased consumption of saturated fats, whole grains, sugar-sweetened beverages, nuts, seeds, and legumes in U.S. adults from 1999 to 2012. In addition, Karazsia et al. (2017) indicate societal changes in body satisfaction, such as women becoming more satisfied with their bodies in relation to thinness over time. Second, research done within the last 10 years seldom focuses on general anxiety and overeating. When relations between general anxiety and overeating were evaluated, the samples were not representative of a diverse population. Although the relationship between anxiety and overeating has been acknowledged, these studies focused on selective groups

like twins, children, women, or clinical populations like obese individuals and diagnosed binge eaters. Therefore, to fill this gap, the current study's primary hypothesis is that there is a positive relationship between general anxiety and overeating patterns such as binge-eating, emotional eating, and uncontrolled eating. The second hypothesis is that there is a negative relationship between body satisfaction and general anxiety, overeating patterns, and cognitive restraint.

Method

Participants

Participants included 390 undergraduate college students from a large Southeastern university. There were 303 females and 78 males. The participants were 62.8% Caucasian, 16.4% African American, 7.2% Hispanic, 6.5% Asian, 5.9% multiple races, 1.0% unreported, and 0.3% Native Hawaiian/Pacific Islander. For inclusion, participants had to be over 18 years old, speak fluent English, be enrolled in an undergraduate degree, and must have lived in the United States for more than 10 years. Although 501 individuals originally started the questionnaire, 111 participants were removed due to one or more of the following: not providing consent, not being an undergraduate student, not living in the United States for more than 10 years, getting distractor questions wrong (distractor questions ask the participants to select a specific response; not selecting that response indicates a lack of attention), not completing more than half of the survey, or taking an unreasonably short amount of time to complete the survey (participants took an average of 30 minutes to complete the survey). After the 111 participants were removed, 390 remained. Participant demographics are presented in Table 1.

Table 1*Participant Demographics*

Demographic	Women	Men
Mean BMI (SD)	25.9 (6.1)	25.3 (5.4)
Mean Age (SD)	21.2 (5.2)	21.6 (4.8)
Mean GPA (SD)	3.4 (0.4)	3.4 (0.4)

Measures

The self-report assessment consisted of four standardized questionnaires measuring aspects of eating behavior, anxiety, and demographics. The current

researchers measured internal consistency by calculating Cronbach's alpha for each scale, which can be referenced in Table 2. Because the study's results are broken down by gender, the scales' reliabilities were also broken down by gender to determine how well each scale worked for men and women.

Table 2*Scale Reliability*

Scale	Items	Cronbach's α for	
		Women	Men
TFEQ-R18	18	.860	.815
BES	16	.914	.879
SREBQ	5	.740	.536
STAI	20	.940	.948

Note. $0.9 \leq \alpha$ is excellent, $0.8 \leq \alpha < 0.9$ is good, $0.7 \leq \alpha < 0.8$ is acceptable, $0.06 \leq \alpha < 0.7$ is questionable, $0.5 \leq \alpha < 0.6$ is poor, and $\alpha < 0.5$ is unacceptable.

The Three Factor Eating Questionnaire-Revised 18-item (TFEQ-R18; Karlsson et al., 2000) examined dysfunctional eating behaviors such as cognitive restraint, emotional eating, and uncontrolled eating. Cognitive restraint occurs when an individual purposefully and consistently inhibits the amount of food eaten because of motivators other than being full or feeling satiated (Anglé et al., 2009). Emotional eating occurs when an individual feels a negative emotion, and eating is the

first response (Anglé et al., 2009). According to Anglé et al. (2009), uncontrolled eating is characterized by feeling unable to stop excessive eating. Uncontrolled eating is different from emotional eating because uncontrolled eating may not have started in response to a negative emotion, and emotional eating is not necessarily out of control. An example of a question asked in the TFEQ-R18 is, "When I feel lonely, I console myself by eating." The participants can respond

Definitely True, Mostly True, Mostly False, or Definitely False. Participants responded to all survey items in the TFEQ-R18 using a 4-point Likert scale where higher numbers indicate more dysfunctional eating.

The Binge Eating Scale (BES; Gormally et al., 1982) contains 16 questions that identify whether a participant binge eats, and if so, what mood is experienced before and after the binge. The BES asks participants to select an option that best describes how they feel out of a group of multiple-choice options. An example of the options given in one question is, "I usually know whether or not I'm physically hungry. I take the right portion of food to satisfy me.", "Occasionally, I feel uncertain about knowing whether or not I'm physically hungry. At these times, it's hard to know how much food I should take to satisfy me.", and "Even though I might know how many calories I should eat, I don't have any idea what is a 'normal' amount of food for me."

Binge-eating is defined as consistently eating an excess amount of food without controlling the intake amount, and it often results in negative physical or psychological repercussions (National Eating Disorders Association, 2018). It is important to note that binge-eating differs from Bulimia Nervosa in that bingers do not purge or restrict calories to counteract the impact of the bingeing episode (Center for Behavioral Health Statistics and Quality, 2016). Binge-eating differs from uncontrolled eating in that binge-eating is a recognized mental health disorder in the DSM-5, indicating severe negative physical or psychological impacts, and uncontrolled eating is not a clinically defined term (American Psychiatric Association, 2013) and therefore does not automatically imply accompanying negative physical or psychological impacts. Scores on the BES

range from 0 to 46. A score less than 17 indicates the absence of bingeing behavior, a score between 18 and 26 is a moderate level of bingeing, and a score over 27 indicates severe bingeing.

The Self-Regulation of Eating Behavior Questionnaire (SREBQ; Kliemann et al., 2016) has five questions, but only four out of the five are shown if the participant reports the intention to have a healthy diet. Each question is answered using a 5-point Likert scale. An example of a question asked in the SREBQ is, "I easily get distracted from the way I intend to eat." Self-regulation refers to the participant's ability to commit to their eating goal, resist tempting foods, and adjust eating habits to stay focused on the eating goal. When scoring the SREBQ, a total mean score of less than 2.8 indicates a low level of self-regulatory skills, 2.8 to 3.6 is a medium level of self-regulatory skills, and anything over 3.6 is a high level of self-regulatory skills.

The State-Trait Anxiety Inventory for Adults was used to operationalize general anxiety (STAI; Spielberger, 1977). The trait form of the STAI measures the degree to which a participant has long-lasting anxiety (apprehensive expectation) as a natural characteristic. Each question is answered using a 4-point Likert scale. Distributing example questions asked in the STAI is not permitted. The STAI scores range from 20-80 with scores below 40 indicating insignificant levels of anxiety. Scores from 40 to 60 indicate a medium level of anxiety and scores above 60 indicate a high level of anxiety. The survey concluded with two body satisfaction questions and 15 demographic questions. Two body satisfaction questions were created for this study. One directly asked the participants how satisfied they were with

their body image, and the other asked how often they wore clothes to hide their body shape. Responses to the two questions were significantly correlated for women ($r(301) = .65, p < .001$) and men ($r(76) = .56, p < .001$). However, we decided to use only the first question as an indicator for body satisfaction because it was more direct and clearer than the second question.

Procedure

An online, anonymous questionnaire was used to obtain the results. The IRB-approved survey was open from December of 2018 to March of 2019. It was primarily made available to students enrolled in Introduction to Psychology course through SONA Systems. The Department of Psychological Science requires all Introduction to Psychology students to participate in a certain number of studies or participate in an alternative activity. Therefore, any participant who took the survey through SONA received class credit as an incentive. Anonymity was maintained

because students are given automatic credit through SONA, and when they clicked the link to go from SONA to the Qualtrics study neither their name nor their IP address was collected. The study was also made available to students via the KSU daily student news emails and the D2L pages of various professors. With the exception of one professor who gave extra credit to students who participated, students who did not take the survey through SONA received no incentive.

Results

Descriptive statistics for men and women were similar. Overall, the sample was comprised of overweight, moderately anxious participants who maintained a moderate level of body satisfaction. On average, participants displayed no binge-eating tendencies but did report moderate levels of dysfunctional eating. The descriptive statistics are displayed in Table 3.

Table 3

Descriptive Statistics

Variable	Women [Mean (SD)]	Men [Mean (SD)]
General Anxiety	48.5 (12.0)	43.6 (12.8) **
Binge Eating	12.5 (9.5)	9.2 (7.0) **
Cognitive Restraint	14.4 (4.0)	13.4 (3.8) *
Emotional Eating	7.2 (2.7)	6.4 (2.6) *
Uncontrolled Eating	20.4 (5.7)	20.4 (5.3) n. s.
Self-Regulation	2.9 (0.4)	2.9 (0.4) n. s.
BMI	25.9 (6.1)	25.3 (5.4) n. s.
Body Satisfaction	2.6 (1.1)	2.8 (1.0) n. s.

* $p < .05$ (2-tailed)

** $p < .01$ (2-tailed)

Results from independent samples *t*-tests indicated that men and women differed in general anxiety, binge-eating, cognitive restraint of eating, and emotional eating.

Hypothesis 1: General Anxiety Related to Overeating Patterns

The correlation coefficients between overeating patterns and general anxiety are presented in Table 4. All correlations were significant for both female and male participants.

Table 4

General Anxiety and Overeating Patterns: Correlations

Variable	General Anxiety	
	Women	Men
Binge Eating	.555**	.307**
Emotional Eating	.361**	.258*
Uncontrolled Eating	.325**	.366**

* $p < .05$ (2-tailed)

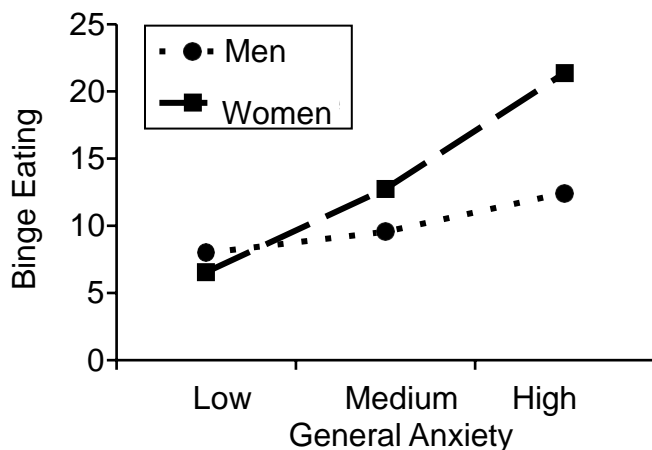
** $p < .01$ (2-tailed)

In both men and women, all overeating patterns increased as general anxiety increased; binge-eating, emotional eating and uncontrolled eating had significant, positive correlations with anxiety. Examining the first hypothesis, a 2 (sex) by 3 (anxiety) factorial ANOVA revealed significant main effects for both sex and anxiety on binge-eating. Overall, women experienced more binge-eating ($M = 12.51$, $SD = 9.46$) than the men ($M = 9.15$, $SD = 6.96$), $F(1, 371) = 8.75$, $p < .01$, $\eta^2 = 0.02$. Regarding anxiety, the significant main effect revealed a linear relationship

between anxiety and binge-eating with participants' binge-eating increasing as anxiety level increased, $F(1,371) = 18.61$, $p < .001$, $\eta^2 = 0.09$). This effect was driven by the significant interaction effect between anxiety and gender, $F(2,371) = 5.57$, $p < .05$, $\eta^2 = 0.03$. Specifically, for women, as anxiety increased from low to medium ($M_{dif} = 6.12$, $p < .001$) and from medium to high ($M_{dif} = 8.64$, $p < .001$) binge-eating increased significantly. Contrastingly, there was no difference in binge-eating in men across anxiety levels (Figure 1).

Figure 1

Analysis of Variance: Representation of the Significant Interaction Effect of General Anxiety and Gender on Binge-Eating



Note. The Binge Eating Scale results are categorized as follows: non-binging is a score of less than or equal to 17, moderate binging is a score of 18-26, and severe binging is a score of 27 or greater. Note that those with high general anxiety report binge-eating behaviors that qualify as moderate binging.

Hypothesis 2: The Relationship Among Body Satisfaction, General Anxiety, Overeating Patterns, and Cognitive Restraint

Out of 158 participants (40.51%) who reported being slightly or not at all satisfied with their body image, 132 were women and 26 were men. Out of the 303 women who participated, 43.56% self-

reported low body satisfaction. Out of the 78 men who participated, 33.33% self-reported low body satisfaction. See Table 5 for correlation coefficients. In women, body satisfaction had a significant negative correlation with general anxiety, binge-eating, uncontrolled eating, emotional eating, and cognitive restraint. In men, body satisfaction had no significant correlation with cognitive restraint and uncontrolled eating.

Table 5

Body Satisfaction, General Anxiety, Cognitive Restraint, and Overeating Patterns: Correlations

Variable	Body Satisfaction	
	Women	Men
General Anxiety	-.630**	-.579**
Binge Eating	-.613**	-.414**
Cognitive Restraint	-.283**	-.177
Emotional Eating	-.442**	-.338**
Uncontrolled Eating	-.374**	-.215

** $p < .01$ (2-tailed)

Non-Hypothesized Results (Exploratory Analysis)

Binge-eating had a positive correlation with emotional eating and uncontrolled eating in both men and women. In addition, women displayed a significant

positive correlation between cognitive restraint and binge-eating. Men, however, had no significant correlation between cognitive restraint and binge-eating. Reference Table 6 for correlation coefficients.

Table 6

Binge-Eating, Cognitive Restraint, and Overeating Patterns: Correlations

Variable	Binge Eating	
	Women	Men
Cognitive Restraint	.311**	.208
Emotional Eating	.610**	.585**
Uncontrolled Eating	.702**	.542**

** $p < .01$ (2-tailed)

In women, BMI was positively correlated with all of the dysfunctional eating patterns examined, but for men BMI was only positively correlated with binge-eating, cognitive restraint, and emotional eating. In men and women, self-regulation had a significant negative correlation with

both BMI and binge-eating. In women but not in men, self-regulation had a significant positive correlation with general anxiety. In men but not in women, self-regulation had a significant positive correlation with cognitive restraint. See Tables 7 and 8 for detailed results.

Table 7

BMI, General Anxiety, Cognitive Restraint, and Overeating Patterns: Correlations

Variable	BMI	
	Women	Men
General Anxiety	.275**	.031
Binge Eating	.457**	.400**
Cognitive Restraint	.129*	.233*
Emotional Eating	.404**	.318**
Uncontrolled Eating	.295**	.211

* $p < .05$ (2-tailed)

** $p < .01$ (2-tailed)

Table 8

Self-Regulation, General Anxiety, Binge-Eating, Cognitive Restraint, and BMI: Correlations

Variable	Self-Regulation	
	Women	Men
General Anxiety	.296**	.019
Binge Eating	-.552**	-.502**
Cognitive Restraint	.056	.249*
BMI	-.304**	-.273*

* $p < .05$ (2-tailed)

** $p < .01$ (2-tailed)

Discussion

Hypothesis 1: General Anxiety Related to Overeating Patterns

The data supported the first hypothesis of a positive relationship between general anxiety and overeating, emotional eating, and uncontrolled eating in women and men. The current study's findings on the positive relationship between general anxiety and overeating were consistent with findings by Fairburn et al. (1986), Mitchell and Mussell (1999), the

American Psychiatric Association (2000), and Grucza et al. (2007). The positive relationship differs from the findings of Abramson and Wunderlich (1972), Polivy et al. (1994), and Herman et al. (1987).

Hypothesis 2: The Relationship Among Body Satisfaction, General Anxiety, Overeating Patterns, and Cognitive Restraint

The data supported the second hypothesis of a negative relationship between body satisfaction and anxiety,

binge-eating, emotional eating, uncontrolled eating, and cognitive restraint in both men and women. The two exceptions are that male participants' body satisfaction level had no significant correlations with cognitive restraint and uncontrolled eating. The current results support a 2017 review (Lewer et al.) showing that body dissatisfaction was associated with binge-eating and a 2018 study (Vannucci & Ohannessian) showing that high anxiety was associated with low body satisfaction in adolescents.

In conclusion, there was a significant positive correlation between anxiety and binge-eating in women and men. Women with high BMIs had an increased likelihood of reporting dysfunctional eating habits. Overeating patterns, anxiety, and cognitive restraint were correlated with lower body satisfaction. In men, cognitive restraint was only significantly correlated with BMI and self-regulation. Overall, women experienced more binge-eating than men. Additionally, as anxiety increases from low to medium to high, binge-eating significantly increases in women. Contrarily, men experienced no significant difference in binge-eating across anxiety levels.

Our results indicate that women are more strongly impacted by the relationships between eating habits, anxiety, and weight than men. These results support research done by McLean et al. (2011) stating that anxiety is more debilitating for women than men and research by Barry et al. (2002) stating that women report higher body dissatisfaction. Starting in adolescence, women experience higher adverse impacts of societal body image standards than men (Hargreaves & Tiggemann, 2004). Once in college, women still display more negative feelings about body image than men (Muth & Cash, 2006). Based on these studies, the

gender differences in the current research may exist because women are experiencing higher levels of body dissatisfaction than men and are choosing to respond to their anxiety and/or body dissatisfaction by self-medicating with food while men may be choosing to turn to drugs and alcohol instead (Vesga-López et al., 2008). Women's strong feelings of body dissatisfaction may interact with unhealthy emotions and eating patterns that evolve into overeating as a coping mechanism.

Conclusion and Future Directions

The current findings clarify the association between anxiety and overeating in a diverse sample by finding significant correlations between overeating patterns and anxiety in undergraduate students. Understanding why individuals gain weight within this age range can help target the obesity issue by creating well-informed programs that can eventually slow and stop increasing obesity rates.

The study's strengths include a large sample size and highly reliable questionnaires. By identifying some relationships between overeating patterns and anxiety, it provides a strong foundation for future research. However, the study does have limitations such as being a self-report design and drawing from a convenience sample. Another limitation is the lack of a categorical measure to assess which participants eat more, which eat less, and which do not change their eating when they are anxious. The current study has low external validity because the sample was taken from one southeastern college; it cannot be applied to the general population of the United States of America. Finally, the SREBQ had poor scale reliability for males, which could be explained by the low number of items combined with variability

of responses. Future research opportunities include understanding what third variables exist that contribute to anxiety and overeating, how overeating interacts with state anxiety, why men and women differ in relation to overeating and anxiety, and whether overeating typically starts before or after the onset of anxiety.

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