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Eating Disorder Symptoms, Body Image Attitudes, And Risk Factors
In Non-Traditional And Traditional Age Female College Students

A thesis
presented to
the faculty of the Department of Psychology
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Master of Arts in Clinical Psychology

by
Jennifer E. Caldwell
December 2005

Dr. Peggy Cantrell, Chair
Dr. Chris Dula
Dr. Jon Ellis

Keywords: Eating Disorders, Age, Body Image, Etiology, Women

ABSTRACT

Eating Disorder Symptoms, Body Image Attitudes, And Risk Factors In Non-Traditional And Traditional Age Female College Students

by

Jennifer E. Caldwell

This study investigates whether there are certain age groups in college that are more susceptible to eating problems and the contributing factors for eating disorders. The participants were 144 college women divided into traditional and non-traditional age groups. The EDI-2, BSI, RSE, and additional items were administered. The results show that non-traditional age college women were as likely to have eating disorder symptoms and more likely to possess body dissatisfaction than traditional age college students. The data support body dissatisfaction, aging concerns, perfectionism, depression, anxiety, and having children as potential risk factors for eating disturbances. This study suggests that there are high prevalence rates of eating disturbances in all college female age groups, but that the highest prevalence may actually be in older women. It is imperative that clinicians and others working in colleges realize these issues can affect students of all ages.

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CHAPTER 1
INTRODUCTION

Eating Disorders Across the Life Span

Eating disorders are a concern not only for sufferers but also for health care providers and educators. Such disorders are increasingly present in our thin-obsessed society and can cause both psychological and medical problems for men and women with these issues. Many of these problems may originate from our society's thin ideal, which is most evident in media images. For instance, American women have an average height and weight of 5'4" and 140 pounds (Rader Programs, n.d.; Marcus, 2000), while American models have an average height and weight of 5'11" and 117 pounds (Rader Programs, n.d.). Moreover, television stars have an average height and weight of 5'7" and 100 pounds (Marcus). This large discrepancy between what society puts forth as the ideal look for women and what women actually look like could lead to eating disturbances that develop in the hope of attaining the thin ideal.

The two most prominent eating disorders, anorexia nervosa and bulimia nervosa, have been identified in all age groups (Cohen, 2002) and both sexes, although 90% of cases are female (Rader Programs, n.d.) and are most prevalent among adolescent and early adult women. However, they are no longer seen as disorders of only young women. According to the DSM-IV-TR (American Psychiatric Association, 2000, p. 583), anorexia nervosa is defined as "a refusal to maintain a minimally normal body weight," while bulimia nervosa is defined as "repeated episodes of binge eating followed by inappropriate compensatory behaviors such as self-induced vomiting; misuse of laxatives,

diuretics, or other medications; fasting; or excessive exercise.” Both disorders include “a disturbance in perception of body shape and weight” (American Psychiatric Association, 2000, p. 583).

The exact number of people in America who suffer from one of these disorders is unknown, but their point prevalence is estimated to be between 1% and 6% of the population (Rader Programs, n.d.). According to Rader Programs (n.d.), anorexia affects 0.5% to 2% of people living in the United States, while bulimia is found in 1% to 4%. In a survey of 300 American women between the ages of 14 and 50, 0.7% responded that they are or have been anorexic, and 10.3% stated that they currently or had been bulimic (Pope, Hudson, & Yurgelun-Todd, 1984). In another study, Rand and Kuldau (1992) found bulimia to be present in 1.1% of adults over the age of 18, which is an alarming statistic considering that there are almost 218 million adults living in the United States (U.S. Census Bureau, 2004). Variance in these numbers may be due to a variety of factors, but there is enough convergence to assume these disorders occur with regularity in significant numbers. As will be shown later, there are spikes in these rates for adolescents.

Eating Disorders in Young Children

Eating disorder symptoms can appear even in very young children. Stice, Agras, and Hammer (1999) found that specific traits of babies evaluated before they are one month old predicted eating troubles in the first five years of life. They investigated eating troubles, including shyness or reservation when eating with others, hiding food, overconsumption of certain foods, and nausea or vomiting in response to overindulgence, in children who were followed from infancy to age five. The researchers found that eating

troubles can occur in children during their first years of life, and that they were at higher risk for eating disturbances each year beyond the initial problem identification. They also postulated that eating troubles could increase throughout the rest of childhood. It was shown that increased weight of the children's' mothers was related to increased shyness or reservation about eating with others. Overweight fathers and mothers who tended to overeat, had bulimic tendencies, higher weight, and a lack of satisfaction with their bodies were more likely to have children who hid food. Mothers who restricted their food intake and/ or pursued a thin figure were more likely to have children who overindulged on food. It was suggested that this tendency might be due to the children also idealizing a thin figure, dieting to obtain this, and then overeating in response to diet-induced hunger, or modeling of parental eating behaviors. In addition, infants with a higher body weight were more likely to overeat as children (Stice et al., 1999).

Although not typical, eating disturbances can be present in girls before their first menstrual cycle. Fabian and Thompson (1989) found that eating troubles in this age group closely resemble problems in older age groups in that eating problems are more likely in those that have been teased, are depressed, or who have low self-esteem and, especially in younger girls, low satisfaction with their bodies. Gallelli, Solanto, Hertz, and Golden (1997) found that anorexia in premenarchal girls is much like the condition found in older patients. In their sample of 15 girls who were being seen for anorexia, 26% of them also had a co-occurring anxiety disorder, the most frequent co-morbid psychological disorder observed. In a study of over 200 children ages 8 to 10, Shapiro, Newcomb, and Loeb (1997) demonstrated that young children can internalize a thin ideal and also present with maladaptive eating attitudes and eating disorder symptoms,

including distress over body size, appearance, and dieting. Sands, Tricker, Sherman, Armatas, and Maschette (1997) discovered that girls who wanted to be slimmer were more likely to rate themselves as having a larger body shape than other children. Girls as young as 10 and 11 years old are already aware of the thin ideal that is present in our society. One gender difference that was found was that girls ages 10 and 11 were already more likely than same-age boys to be trying to lose weight. These findings suggest that ideas about body image begin to be formed before the onset of adolescence.

Eating Disorders in Adolescents

Eating disorders pose a threat to the well being of adolescents. The prevalence of fully diagnosable eating disorders has been approximated to be as high as 11% of adolescents attending high school (Rader Programs, n.d.). In their sample of 435 adolescent girls, Wertheim, Koerner, and Paxton (2001) observed that the motivation to be slim, restrictions in diet, and bulimic symptoms were well established by seventh grade and that these factors continue to increase in stability, especially in the case of bulimic symptoms, through late adolescence. When comparing different age groups, taunting about body weight was a predictor of bulimic symptoms in 10th grade girls, while the motivation to be thin was a predictor of bulimic symptoms in eighth grade females. In seventh grade females, dissatisfaction over body shape was a predictor of later restrictions in diet, and being taunted about weight predicted future bulimic symptoms. The findings of Wertheim et al. (2001) do support the idea that the eating attitudes and behaviors of adolescents are influenced by a number of factors and that eating patterns may become ingrained as early as the eighth grade.

According to Tiggemann's (2001) study of 306 high school girls' priorities and free time, low body satisfaction and maladaptive eating behaviors were best predicted by their having placed an increased importance on being thin. Another significant predictor of maladaptive eating attitudes and behaviors was an increased emphasis on being popular with other girls. An additional significant predictor was spending much of their leisure time socializing, which highlights that female peers may often be influenced by each other to accept eating disordered attitudes and behaviors. The greater the perceived importance of being thin and the greater the amount of leisure time spent viewing television significantly predicted lower levels of self-esteem in adolescents. However, body satisfaction and self-esteem were increased if girls placed a significant importance on sport activities and for girls who were involved in playing a sport (Tiggemann, 2001).

In a sample of over 400 girls in the 6th through 10th grade, Gralen, Levine, Smolak, and Murnen (1990) found that if early adolescent girls were not yet used to the idea of puberty and menstruation, and they began dating, they were more likely to diet and display maladaptive eating patterns than other girls their age. When girls entered high school, poor body image and differences between what they wanted their bodies to look like compared to how they actually looked were found to be related to eating disorder symptoms. In addition, girls in high school in comparison to younger adolescent girls were more likely to diet (Gralen et al.). Hermes and Keel (2003) found that girls in later stages of puberty have higher body weights, greater levels of discontent about their bodies, higher motivation to be thin, and increasing acceptance of the slim ideal than girls in earlier stages of puberty, likely due to changing body shape. Issues connected with pubertal development appear to be related to the occurrence of maladaptive eating beliefs

in adolescent girls. However, pre-pubertal and girls in the early stages of puberty are also conscious of the thin ideal (Hermes & Keel). Adams, Katz, Beauchamp, and Cohen (1993) found that girls in the 8th and 12th grades favored the thin ideal figure instead of more average figures. Females in these age groups were also found to be unhappier with their body shapes than their male counterparts, and to display more eating disorder symptoms than males and younger females. In addition to eating disorder symptoms, girls in the 8th and 12th grades also had higher levels of depression than younger girls and boys of the same age groups (Adams et al.).

Puberty has been found to be associated with maladaptive eating attitudes and behaviors. In their study of 16,114 children between the ages of 9 and 14, Field et al. (1999) found that 4.2% of girls at the age of 9 years incorrectly perceive themselves as fat, while 19% of girls at the age of 14 years incorrectly view themselves as heavy. At the age of 9 years, 20% of females and 17% of males were attempting to become slimmer. As they get older, girls, especially those who are overweight, are more likely than younger girls and boys their age to attempt to become slimmer and diet often. In addition, purging is uncommon among children between the ages of 9 and 12 years, but at age 13 years, girls begin to purge much more often than boys. Binging every month also increases from less than 1% of girls at the age of 9 years to almost 4% of girls at the age of 14. The increase in both purging and binging is associated with adolescent development. Regardless of age, girls who have begun puberty more frequently attempt to lose weight than girls who have not entered puberty. Girls who begin menstruating at earlier ages are also more likely to purge, which may be due to their earlier increased body weight that sets them apart from peers. Children who are above their recommended

weight, regardless of pubertal status, are also more likely to purge or binge on food every month (Field et al.).

In their study of over 4,500 high school students, Tomori and Rus-Makovec (2000) found that eating disturbances were fairly prominent, and that girls overall displayed less satisfaction with their weight and were more likely to want to lose weight than boys. Girls dieted more often and, especially those that considered themselves as large, chose more aggressive ways to diet. A total of 13.8% of girls and 7.8% of boys had binged on food, and 1.1% of girls and 0.1% of boys in high school met diagnostic guidelines for bulimia. Girls with greater lower body satisfaction were more likely to have a greater amount of conflict with their parents, lower perceived emotional support from their family, a greater frequency of using prescriptions for psychological conditions, and increased idealism about suicide, than were girls with higher body satisfaction. Boys with higher levels of body dissatisfaction were more likely to have conflicted relationships with parents, smoked large amounts of cigarettes, increased idealism about suicide, and to have made suicide attempts. Those with lower levels of body satisfaction, especially girls, were found to be more depressed and to have less self-esteem. Students who binged often were more likely to perceive their home life in a negative way, smoke a greater amounts of cigarettes, get drunk, use drugs, have prescriptions for psychological conditions, avoid talking about problems, think about committing suicide, attempt suicide, be depressed, and have decreased self-esteem, than those who did not binge or did not binge often (Tomori & Rus-Makovec).

In a study of over 81,000 9th and 12th grade high school students, Croll, Neumark-Sztainer, Story, and Ireland (2002) discovered that 56% of girls in the 9th grade

and 28% of boys in the 9th grade stated that they engaged in maladaptive eating actions, such as purging. These percentages increased by the 12th grade to 57% of girls and 31% of boys. Binging on food was two times more likely in girls than boys. Going without food or a meal was the most prevalent method used to regulate body weight. These maladaptive behaviors were most prevalent in adolescents living with one parent. The adolescents who displayed maladaptive eating behaviors had more worry about their appearance, less academic success, lower self-esteem, lower emotional health, and felt more disconnected from their family and school. It was also found in this study that girls who smoked or drank alcohol often had an increased risk for maladaptive eating habits and that boys who smoked or consumed alcohol often or binged on alcohol were more likely to display maladaptive eating behaviors (Croll et al.).

In an examination of almost 700 15-year-old high school students in Norway, researchers found that 1% met criteria for binge eating disorder, and another 1% met criteria for either bulimia or anorexia nervosa (Rosenvinge, Borgen, & Børresen, 1999). In addition, 3.5% of the adolescents were considered to be in danger of developing an eating disorder because of current maladaptive attitudes regarding food and body weight, and almost another 1% of the students met most of the criteria for bulimia, except for the number of purging incidents. Almost 5% of the 15-year-old girls thought that a diet could be an answer to their individual troubles (Rosenvinge, et al.).

Adolescent males are also at risk for eating disorders. American men face the pressure of our society's muscular ideal, which is evident when looking at weight statistics for men. Similar statistics were used to support the thin ideal present in women. For instance, men in the United States have an average height of 5'9.5" and weigh an

average of 191 pounds. Since 1960, men have gained an average of almost 25 pounds (Health on the Net Foundation, 2004). However, “the average *Playgirl* centerfold man has shed about 12 lbs. of fat, while putting on approximately 27 lb. of muscle over the past 25 years” (University of California- Los Angeles, n.d.). Like the thin ideal for women, there is a large discrepancy between what men are supposed to look like according to the media and what they usually look like. For example, male models are usually between 5’11” and 6’2” and 140 to 165 pounds (SoYouWanna, 1999-2000), which is very different from the average man’s height and weight.

After comparing 40 male adolescents with eating disorders to females with eating disorders in the same age group, Eliot and Baker (2001) found the development and treatment results of eating disorders to be similar for both genders. However, Furham and Calnan (1998) suggest that notable gender discrepancies exist in relation to the development of eating disturbances. For instance, these researchers found that the majority (69%) of 143 young men between the ages of 16 and 18 years are unhappy with their body weight, which is a similar prevalence to body dissatisfaction found in young women. However, 38% of these young men desired to add weight to achieve their perception of the ideal body, while 31% preferred to decrease their weight. This finding differs from body dissatisfaction in women, because most women who are dissatisfied with their bodies desire to lose weight in order to achieve the thin ideal. The young men who had a history of high body weight were at an increased risk of seeing themselves as weighing too much. When men desire to increase their weight, it is to achieve the body ideal for men, which is to have more muscle and bulk. Those men who have a high aspiration to increase their body weight are less likely to have bulimic symptoms or be

perfectionistic than other men. Low levels of body satisfaction in young men are best predicted by height, participating in exercise to be healthy or for more tone, bulimic symptoms, and anxiety over adulthood, but low body satisfaction is not related to current weight status or low self-esteem. However, the researchers found that low self-esteem is connected to eating disorder symptoms (Furnham & Calnan). Similarly, Howat and Saxton (1988) observed that bulimic symptoms were much more common in high school girls than boys, and these symptoms tend to be greatest in the 11th grade and among Caucasian students during high school.

Eating Disorders in College Students

The prevalence of eating disorders on college campuses is widespread and represents a current major health crisis for higher education students. Most cases of eating disorders are reported in traditional college-age adults. The majority (86%) of people who are afflicted with an eating disorder report that the illness began prior to their twentieth birthday (Rader Programs, n.d.). Nations (1989) found that by their first year in college, 1.9% of the 947 women in his study had a history of an eating disorder diagnosis, and 3.3% had seen a health care worker because of an eating disturbance. In addition, around 15% of the women displayed maladaptive eating patterns that could signal the development of an eating disorder, and over 50% of the women in their first year of college thought that being slim was necessary for attractiveness. Approximately 44% of the women were on a diet and saw themselves as overweight even though people told them otherwise. While the occurrence of an eating disorder such as bulimia is present in only approximately 1% of all adults over the age of 18, the occurrence is much

higher for young women in the overall population between the ages of 18 and 30 with the rate of occurrence being 4.1% (Rand & Kulda, 1992).

Prevalence rates can be even higher when specifically studying young women attending college. When compared to women who exercise regularly and women that are ages 39 through 65, the women who were traditional-age (18 to 30) college students identified themselves as having more embarrassment over their bodies, more concern over how they look, and more eating disturbances (Greenleaf, 2001). Prouty, Protinsky, and Canady (2002) found that 17% of the 578 undergraduate and graduate women surveyed admitted to enough symptoms of bulimia and/ or anorexia to warrant a diagnosis of an eating disorder. Most of these women were between the ages of 18 and 21, and they were more likely to report that they were Christians and in a sorority. In addition, the majority of the college women reported that they would choose to seek the help of a friend before going to other sources of assistance, which could be negative if their friends are also struggling with eating and body issues.

The occurrence of bulimic symptoms in young college adults in their late teens to early 20s ranges from 19 to 30% (Rader Programs, n.d.). In their study of almost 300 college females, Coric and Murstein (1993) found a prevalence rate for clinical bulimia of around 11%. Those that were suspected of having bulimia were more depressed, lonely, and anxious than those without the condition or college students who binged or purged. The students with bulimia also displayed less self-esteem and were overly focused on their figure and weight.

During college, more women than men and more Caucasian than African Americans admit to bulimic symptoms, and these tendencies seem worse during students'

freshman year (Howat & Saxton, 1988). Striegel-Moore, Silberstein, Frensch, and Rodin (1989) examined the rate of bulimia in college freshmen at the start and close of the year. The occurrence remained unaltered during both times at 3.8% for women and 0.2% for men. However, the likelihood of eating disorder symptoms becoming more severe in women during the year went up if they became more depressed over their weight, saw themselves as less attractive, rated themselves to be under a lot of stress, became less satisfied with their weight, or thought they had become less effective. Edwards-Hewitt and Gray (1993) also observed that Caucasian college students more commonly display bulimic symptoms and binge on food more often than African American college students, and college students originally from the Southern region of the United States report more body satisfaction than students originally from other regions of the United States.

After questioning almost 2,000 college freshmen, the rate of bulimic symptoms was found to be 4%, while 2% could have been given a diagnosis of bulimia (Pyle, Neuman, Halvorson, & Mitchell, 1991). Another 1% of the students had bulimia that involved bingeing and purging every week. The researchers also observed a lower incidence of bingeing but a greater incidence of purging in those that did not meet the criteria for bulimia when compared to an earlier sample. When trying to distinguish between those with and without bulimia, anxiety about being overweight and the perception of being overweight did not make this distinction adequately in the college students. However, worrying about losing restraint when eating was more sufficient in differentiating between those with and without the condition of bulimia. In another study, Pyle, Mitchell, Eckert, and Halvorson (1983) found that 2.1% of over 1,300 freshmen in college fulfilled the standards necessary for a diagnosis of bulimia and also binged on

food every week. The women in college who qualified for a diagnosis of bulimia were compared to women seeking professional assistance for bulimia. The women in college were more likely to fast, while the other women purged more often to regulate their weight. Katzman, Wolchik, and Braver (1984) found that 7.2% of women in college binge more than seven times on a monthly basis, and women in general were more likely to describe their eating patterns as bingeing. In addition, around 4% of the female college students that they surveyed met the clinical standards for a diagnosis of bulimia.

Halmi, Falk, and Schwartz (1981) conducted a study that assessed the rate of bulimia in a wider age range of college students. Their ages ranged from 14 to 67 years of age, and 13% of the students met the diagnostic criteria for bulimia. Most of the students identified as having bulimia were women (87%), and they were more likely to have been overweight at a previous age or on the threshold of being above average in their body weight. In their survey of college samples, Pope, Hudson, and Yurgelun-Todd (1984) discovered that between approximately 1% and 4% of female college students meet the guidelines for a past or current diagnosis of anorexia. College students diagnosed with anorexia are less satisfied in general with life and have less positive feelings than college students who display some maladaptive eating attitudes or behaviors but have no diagnosis or college students who have healthy eating attitudes and behaviors (Kitsantas, Gilligan, & Kamata, 2003). Undergraduates with a diagnosis of anorexia and those with symptoms of this condition display more negative feelings than college students without these symptoms. Those students that have less satisfaction socially or with themselves are likely to have anorexia or display some symptoms of the condition, while high satisfaction in these areas are more commonly seen in those with no symptoms of the

disorder. Not surprisingly, the college students with a diagnosis of anorexia engage in more practices to regulate their weight than all the other college students, and those with symptoms of anorexia but no diagnosis engage in more weight regulation practices than those with no symptoms, which may be connected to their increased drive for control and perfection and their decreased ability to correctly assess their weight. The college students diagnosed with anorexia are less likely to seek assistance from their families than all other college students.

Cooley and Toray (2001b) evaluated 225 female college freshmen over a seven-month period. Most of the women (72%) increased in body weight during their freshman year of college. The average weight increase was about five pounds. However, 94% of the women wanted to lose weight even prior to their weight increase. Maladaptive eating attitudes and behaviors were stable in the freshman women and increased to a small extent during the year. So, the prediction of bulimic symptoms or food restriction at the end of the seven months was best determined by the extent of bulimic symptoms or food restriction at the start of the year. The college women that displayed more symptoms of bulimia or food restraint were less likely to be satisfied with their bodies and felt less effective. They were also more self-aware in social situations and overall reported more energy. Those that had more symptoms of bulimia were more likely to feel less confident in their ability to stop eating when they were in a negative mood or rewarding themselves by eating. Those college women who weighed more were not at a greater risk for developing bulimic or restrictive symptoms. In fact, the women who were overweight but not dissatisfied with their bodies were less likely to have bulimic symptoms or engage in food restriction, which demonstrates that body dissatisfaction from not meeting one's

ideal figure, rather than weight status, more clearly predicts eating disturbances. The freshmen that had reported the least body satisfaction when starting college or greater alcohol consumption were the most likely to have worsening symptoms of bulimia or food restriction during their first year of college. The women who felt the least effective were also more likely to have their bulimic symptoms get worse during their freshman year of college (Cooley & Toray, 2001b).

In a later study, Cooley and Toray (2001a) tracked college females beginning their first year of college over a 36-month time period. They found that bulimic symptoms and especially food restriction in the undergraduate women did not change much throughout the 36 months. The college women did usually experience a small increase in weight, which averaged a little over five pounds. However, during this time, the college women reported that what they considered to be a perfect weight for them had also went up by almost five pounds. An increase in bulimic symptoms was more likely if the college student became less satisfied with her body, thought of herself as less efficient, developed more insecurity in public, or developed a more negative mood. An increase in food restriction was more likely if the student became less satisfied with her body (Cooley & Toray, 2001a).

Although more common in women, men attending college are not exempt from maladaptive eating attitudes and behaviors. For instance, Franco, Tamburrino, Carroll, and Bernal (1988) found that 3.5% of the college males in their study displayed an above average score of 20 and higher on the EAT-26, and these same men were more likely involved in body building and to have been significantly overweight at a previous age. Although over half of the men identified themselves as being close to their ideal body

size, the findings suggest men that are overly focused on their outward appearance are more likely to develop an eating disorder. O’Dea and Abraham (2002) found that 18% of the male college students whom they questioned ate just twice a day, and around 20% were so concerned about their bodies that they frequently restricted their amount of eating, like by dieting or adhering to their own particular regulations on what and how much to eat. Many of the undergraduate men (18%) had trouble regulating their weight, and 8% of them fulfilled the necessary criteria for an exercise disorder even though they felt that there was nothing wrong with their exercise patterns. In addition, 9% of the college men admitted to maladaptive eating patterns, and 22% thought that bingeing on food was an issue for them. Almost 20% of the men had a poor perception of their bodies, and these men were also more likely to have negative opinions about their psychological state and body weight and shape. Despite these rather large percentages of college men that reported maladaptive eating attitudes and behaviors, no one in the male sample had received any professional treatment for eating disorder symptoms. This finding may be due to the later than average start of eating problems in this sample because the mean onset was at 24-years-old for these male college students (O’Dea & Abraham, 2002).

Some motives for exercising in men are related to attitudes associated with eating disorders (Furnham & Calnan, 1998). For example, when men exercise to become more attractive, adjust their weight, be more fit and healthy, and/ or increase tone, then they are more likely to have a strong motivation to be thinner and be perfectionistic. If men exercise solely to tone their bodies, then they are also more likely to have lower levels of body satisfaction and higher levels of eating problems. Surprisingly, if men exercise to

become more fit, then they are at a higher risk to have lower body satisfaction than other men. The reasons to exercise that are not connected with more problematic eating attitudes and behaviors are exercising for fun and exercising to regulate affective states.

In their study of 471 traditional age higher education students, Nelson, Hughes, Katz, and Searight (1999) found that 20% of college women and 10% of college men displayed some symptoms of anorexia, such as being overly focused on the fear of being fat. Their findings lend further support to the belief that symptoms of anorexia are frequently found among undergraduate women and more widespread among men attending college than previously reported by researchers. The female students with eating disturbances had a more negative self-concept, greater emotional disturbance, and a higher drive to achieve. The male college students that presented with eating disturbances were most likely to be under emotional distress and more psychologically distant from their fathers.

Eating Disorders in Middle Age and Older Adults

For women in their 30s and beyond, the occurrence of late onset eating disorder attitudes and behaviors is not as well documented. Some researchers have found these problems to decline after college. For instance, Heatherton, Mahamedi, Striepe, and Field (1997) found that 10 years after completing an initial survey in college, female participants displayed fewer eating disorder symptoms in the follow-up survey, as well as less dissatisfaction with their bodies, even though many women were still displeased with their figures and wanted to be smaller. Although the men in the initial survey did not commonly restrict their food or have eating disorder symptoms during college, they frequently increased in body size after college. In addition, unlike the women in the

study, men were more likely to restrict their food intake or have eating disturbances 10 years after college. The researchers suggested that eating disturbances decrease after college but noted that many adults continue to be dissatisfied with their bodies.

Many researchers are now directing their attention to eating disorders that begin after adolescence and college. In fact, there seems to be a growing incidence of late onset eating disturbances. After looking at three groups of clients seeking treatment for an eating disorder, Beck, Casper, and Andersen (1996) found that 11 of them (around 1%) developed an eating disorder beyond 40 years of age with the latest onset that they observed beginning at 77 years of age. For those who developed an eating disorder later in life, the mean late onset age was 56 years, but the mean age of these clients presenting for treatment was 60. In their study of the incidence of bulimia in 2,115 adults from the overall population, Rand and Kuldau (1992) noted that there were more people in their 40s and beyond with this disorder than they had predicted. In fact, out of the 1.1% of all adults with bulimia, they observed that almost 35% of the cases were in people age 46 and older.

In further support of the increasing rates of eating disturbances in middle age, Hay (1998) found that bingeing on food and reducing food intake was more frequently found in those in their early to middle 30s than in any other group age 16 and over. In addition, the people who purged were more likely to be between the ages of 35 and 44. Most of the 38 cases (77%) of bulimia and binge eating disorder assessed occurred in people who were older than 25. This suggests that late onset cases of eating disorders are becoming more prevalent, especially in middle age women. In fact, the researcher observed that eating disturbances in middle age people existed more frequently than predicted. Beck et al.

observed that eating disorders can begin at later ages than previously thought, but many of these cases can be more difficult to identify and treat because of other physical and psychological problems that are also occurring. Treatment in these age groups may need to address personal crises, like grief, emotional disturbances, and body dissatisfaction (Beck et al.).

Weight concerns continue and may become an even greater problem in middle age. In a study of 72 men and women between the ages of 35 and 55, 87% of women and 59% of men had attempted in the past to decrease their weight (Ziebland, Robertson, Jay, & Neil, 2002). Most of them agreed that successful weight regulation required a lot of sacrificing on their part. When asked about the reasons behind the common increase in weight during middle age, they commonly mentioned being inactive, hormone fluctuations, eating because of emotional reasons in women, and alcohol consumption in men.

Middle age women still struggle with body image issues. Weight level during middle age significantly affects women's views of their bodies, and any past or current eating disturbances are also reflected in middle age body image views (Donaldson, 1995). Moore and Keel (2003) also found that the tendency in women of older ages to weigh more than young women resulted in less satisfaction with their bodies and exercising mainly to regulate body weight. The decline in body satisfaction and the focus on body weight seen in women of older ages may also be attributable to their awareness of society's ideal of being slim at a younger age when it was not challenged on its effects on health or its unattainable nature for many women. Also, older women may have not been as focused on thinness while they were growing up, but now, as the thin ideal has

infiltrated society, they are developing body image issues. Older women may feel like they have to compete with the younger and often slimmer appearance of younger women.

Kellett, Trimble, and Thorley (1976) gave an account of a post-menopausal woman with late-onset anorexia at age 52, which demonstrates that the occurrence of eating disorders in middle age is not a new pattern. In this case, the anorexia seemed to develop in response to her daughter's getting married. Her symptoms were much like that of many others suffering with anorexia. For example, she was primarily focused on her figure and trying to lose weight through restricting her food intake and purging, which eventually made her frail and negatively impacted her ability to manage life pressures. So, in the 1970s, clinicians were encouraged to realize that anorexia could be developed in any life stage, and the diagnosis therefore should be contemplated when assessing women in middle age and beyond. Oyewumi (1981) documented another example of the occurrence of anorexia in a woman going through menopause; in this case, the woman was 39 when she was being treated for an eating disorder. In 1994, Fornari, Kent, Kabo, and Goodman observed three examples of anorexia occurring in women who were in their early to late 30s. They suggested that the development of anorexia might occur in women in any age group because of the stress related to signs of growing older or changing life occurrences.

Tobin, Molteni, and Elin (1995) reported on two women in their 40s who developed late onset anorexia in order to illustrate the pattern of usual occurrences in those who acquire an eating disorder during middle age. The authors state that those with a late onset eating disorder have a history of being traumatically abused by one or more relatives and then having a period with little distress, which involves manic behavior and

binging, as well as being significantly overweight. Then, the onset of eating disturbances occurs after a medical emergency that takes place subsequent to turning 30. The medical problem disrupts the manic behavior and feeling of well being that the person has had. This distress brings about eating disorder symptoms such as not eating, purging, and a significant decline in weight. During this time and while in treatment, the women that the authors observed with a late onset eating disorder also displayed dissociative experiences, self-harm that signifies childhood abuse, and the restriction of their diet to deal with their traumatic experiences (Tobin et al.). In an evaluation of two middle age women who developed anorexia while in their late 30s and early 40s, Gupta (1990) attributes their eating disorders to their ongoing overly close and needy reliance on their parents. Both women were able to appear independent despite this until they started visibly aging and their parents' physical wellbeing decreased, which prompted their families to want them to become more self-reliant. As a result, the women were faced with the long overdue undertaking of becoming true individuals, which should occur in adolescence. Their way of dealing with the situation, according to the author, was to acquire anorexic symptoms. Gupta suggests that these women were merely experiencing adolescence during middle age.

However, middle age women face many unique challenges that can contribute to added stress, such as menopause, children moving out of their home, taking care of their aging parents, financial difficulties, and possible changes to their marital status (Conn, 1997). The caretaking of aging parents is most often seen as the top stressor, while menopause resulted in most women worrying about their appearance and sexuality. These challenges can be met with positive or negative reactions such as various addictions.

Eating disorders can be considered addictive actions. After questioning almost 400 middle age women who were employed in college administration careers, menopause and changes to marital status, such as becoming a widow or getting divorced, were the challenges most likely to relate to later eating disorders. In addition, a combination of challenges makes addictive actions, such as eating disorders, more likely to occur. Thompson (1996b) suggests that the increase in the development of eating disorders in women of older age groups is related to a variety of reasons, including a poor self-concept, the Western thin ideal that is expected of all women, the feeling that the only thing they can control is what they eat, an empty nest for some mothers, and the higher incidence of divorce. Those that stay married may also be at risk because people who are married more commonly diet than those who are single (Hay, 1998).

Another concern for middle age women, which is exacerbated by the Western ideal of beauty, is the effect of aging on physical appearance. Gupta and Schork (1993) found that men and women who displayed increased worry over the effect of age on their appearance were also more likely to have increased motivation to be thin. Those women who agreed that decreasing body size was related to appearing younger were more likely to have increased motivation to be slim and lower satisfaction with their figures. The researchers suggest that the importance that Western culture places on youthful appearance could impact the upcoming etiology of eating disorders. In a study of 101 middle aged women, Weiller (2000) observed that many were overly focused on their appearance, which included the amount of attention on looks and weight status and exercising mainly for regulating weight and the upkeep of one's appearance. The significant focus on appearance that was seen in middle age women may be related to

Western society's emphasis on looking young, and the visible signs of aging that accompany middle age may result in poor body image for many, particularly women. The women who were overly focused on their looks were usually much more self-absorbed and sad, and they also exhibited more eating problems than other middle age women.

In Japan, Inagaki, Horiguchi, Tsubouchi, Miyaoka, Uegaki, and Seno (2002) described two women who did not develop anorexia until they were in their 40s to 50s. The middle age women did not display concern about getting older or becoming less attractive or desirable. Instead, the eating disorders resulted from depression over the death of a loved one, divorce, or concern about upcoming circumstances. The researchers found that the symptoms of anorexia are comparable despite age differences in onset, but when comparing adolescents and those in middle age, there are most likely important distinctions in body and eating attitudes that contribute to the development of the disorder.

In addition, those who develop anorexia beyond age 40 have a reduced likelihood of improving their condition (Inagaki et al., 2002). An example of the persistence of anorexia in late onset cases and the occurrence of late onset anorexia in men can be found in Riemann, McNally, and Meier (1993). In this article, the authors describe and assess a man who has suffered from anorexia for 20 years beginning at the age of 52. The man continually in that time weighed much less than he should, worried about getting fat, and thought he was overweight despite weighing less than 95 pounds. He had a history of purging, using laxatives, and engaging in too much exercise.

Additional accounts of the complexity of late onset anorexia are found in Hall and Driscoll (1993), which describes two women who developed anorexia in their late 40s

and mid 50s who have been struggling with the disorder for 12 and 9 years, respectively. In addition to anorexia, the women were also depressed and displayed less self-knowledge than early onset cases. Both women subsequently died due to complications of anorexia. In addition, Vandereycken and Pierloot (1983) found that women with anorexia who displayed the symptoms of bingeing and especially those that purged were more likely to develop the disorder and present for treatment at a later age than other women with anorexia who did not binge or purge. Along with being older in their onset of anorexia, they also displayed the symptoms of the disorder for a greater period of time, and, like the previously mentioned cases, they were more likely to have a poor prognosis in treatment (Vandereycken & Pierloot).

Eating Disorders in the Elderly

Eating disturbances can present at any point in the human life span. Elderly persons are not exempt from eating disorders. Bartlett, Shrimanker, and Ballard (2000) found that 24% of elderly patients in full-time care fell below adequate weights for their height, and 12% of those between the ages of 70 and 96 scored significantly high on the Eating Attitudes Test. The elderly persons with maladaptive eating beliefs did not incorrectly assess their bodies, but they did feel extremely guilty and ashamed when they felt that they had ate too much.

Mermelstein and Basu (2001) described a woman who was not identified as having anorexia until she was 92, which is the latest age that a person has been first identified as having an eating disorder. Because of her late age, her eating disorder was overlooked for some time, which added to the potential health concerns that accompany anorexia. Despite being hungry, she often refused to eat and was overly focused on food.

She was overly concerned with her body shape and felt overweight after eating undersized portions of food. She was significantly underweight; at almost six feet tall, she weighed less than 100 pounds. In addition, she excessively exercised in the facility in order to regulate her body weight and used certain foods as laxatives. She had displayed body image concerns in the past following a pregnancy, but she had not suffered from actual eating disturbances previously. Her case was assessed as truly late onset of anorexia without depression, and it was partially in response to her desire to be cared for by her daughter and avert becoming a caretaker to her son after his divorce. The elderly woman desired to return to a dependent phase in the life cycle. She was fairly responsive to traditional treatment that is used with traditional age eating disorder clients. Unlike other elderly cases of tardive anorexia, this case was more like the commonly reported adolescent cases. The researchers encourage clinicians to remember this case as a demonstration that eating disorders can occur throughout the life span and as a reminder that an overlooked eating disorder can have a detrimental effect on a person's well being, especially when it is developed in old age (Mermelstein & Basu, 2001).

Hill, Haslett, and Kumar (2001) described a woman at the age of 72 who developed anorexia in this late stage of life in response to the grief over the death of her husband. The researchers assert the case demonstrates that DSM criteria should be expanded to include a wider range of clients because late onset of eating disorders can appear in the elderly. Hill et al. also suggest that eating disorders in people of old age are harder to recognize, and if the client is depressed along with having eating disturbances, treatment needs to be more assertive. In addition, Hsu and Zimmer (1988) demonstrated that both anorexia and bulimia could occur in the elderly through their assessment of five

women between the ages of 57 and 72 that had an eating disorder. All of the elderly women were afraid of becoming fat, and many of them thought that their eating disorder was related to a current loss or history of eating problems. The researchers stressed the importance of looking at the possibility of an eating disorder in elderly clients who are purging or decreasing in body weight. Wills and Olivieri (1998) further demonstrate the presence of eating disorders in old age by presenting six persons between the ages of 67 and 84 with anorexia. Five of the cases were in women. The study shows that old age changes some aspects of anorexia, but the main challenge continues to be the person's focus on staying underweight. The researchers correctly assess that anorexia does not discriminate by age (Wills & Olivieri).

As in the age groups that have been previously described, eating disorders occur in both genders in the elderly. For instance, Barry and Salamon (1987) reported on a case of a man in his 70s who had both diabetes and bulimia. He was in full-time patient care and was unresponsive to cognitive-behavioral treatment, which suggests that the elderly man may have a poor prognosis for his bulimia. In addition, Ronch (1985) observed another man in his 70s and in full-time patient care who displayed the symptoms and attitudes consistent with anorexia. However, the researcher suspects, based on information provided by the man and those around him, that this man had a long history of anorexia.

Differences Between the Age Groups

Some studies have found distinctions between the various age groups in relation to their eating attitudes and symptoms. Arnow, Sanders, and Steiner (1999) compared young children with anorexia to adolescent females that developed anorexia after their

first menstrual cycle. The longevity of anorexia was the same for both young children and adolescents. The young children were more likely to attribute life occurrences to their own behavior and act in ways in which they perceived would get approval from others. The young children displayed certain characteristics of anorexia more so than the adolescents with the disorder. For instance, the young children were more reliant on rewards, had a false sense of maturity, and did not seem as concerned about their serious condition as the adolescents were (Arnold et al.).

Another study found differences between those who developed anorexia prior to age 14 and those who developed the disorder after they were 14 (Matsumoto et al., 2001). In this study, the children younger than 14 when they developed anorexia did not have as severe of symptoms as those who developed anorexia later as a late adolescent or adult. Those who developed anorexia when they were very young were less likely to purposely vomit or purge, and they usually were not as drastically underweight. The researchers, therefore, concluded that distinctions are present in eating disorder symptoms between those who develop anorexia prior to early adolescence and those who develop the disorder later.

There appear to be distinctions between adolescents and adults who present with an eating disorder. Fisher, Schneider, Burns, Symons, and Mandel (2001) looked at over 600 cases of women who had an eating disorder. The adolescents were between the ages of 9 and 19, while the adults ranged in age from 20 to 46. The adolescents more commonly displayed various symptoms of eating problems without meeting the full criteria for anorexia or bulimia, and they usually functioned at higher levels than the adults. However, they were more likely to be unable to see that they had a problem and

typically did not want assistance. The adolescents also more commonly decreased their weight by over 2 pounds a month, weighed less at evaluation and before the eating disturbance, restricted their food intake, and stopped eating unhealthy snacks. The adults were more commonly successful at decreasing their weight for more than 12 months, and they generally lost more weight. In addition, the adults had more frequently binged and purged in the past, and they had a greater incidence of bulimia and previous usage of psychological prescriptions. Because of the many differences that the researchers observed, they concluded that notable distinctions do exist when comparing adolescents and adults with an eating disorder. Furthermore, they suggested that these distinctions be considered when clinicians are assessing and treating such clients (Fisher et al.).

There may also be important distinctions between those that develop eating disorders later in life and other cases of eating disorders. Mynors-Wallis, Treasure, and Chee (1992) investigated the differences between women who developed anorexia later than age 25, women who developed the disorder prior to turning 25, and women who are now older than 25 and have suffered from anorexia since before turning 25. The women who developed anorexia subsequent to the age of 25 more commonly reported the disorder followed major influential life experiences and constant stress. In addition, the women who developed anorexia later in life more frequently reported also being depressed. Similar results were found by Russell and Gilbert (1992). Their study looked at differences between people who developed anorexia past age 25 (also known as tardive/ late onset anorexia), those who had the disorder as an adolescent for no more than five years, and others who developed the disorder before 25 and had continuously struggled with it for over five years. The late onset cases of anorexia ranged in age from

25 to 69. Based on their findings that late onset cases have important distinctions from other cases of anorexia, the researchers suggest that late onset anorexia is a separate clinical occurrence, which more often involves clear triggers to the disorder, typically a loss, and associated depression.

However, there is not yet complete agreement about the distinctions that accompany late onset cases of eating disorders. For instance, Boast, Coker, and Wakeling (1992) found, after comparing women who developed anorexia after the age of 24 with those who developed anorexia in the age range from 15 to 20, that late onset cases of anorexia have larger decreases in weight. Unlike the findings of Mynors-Wallis et al. (1992) and Russell and Gilbert (1992), Boast et al. did not observe a greater incidence of emotional disturbances, such as depression, in the late onset cases.

Contributing Factors in the Development of Eating Disorders

It has been firmly established in the literature that eating disorders affect people, especially women, at all stages of the life cycle, but why do eating disorders continue to develop in various women of all ages? Unfortunately, the answer to this question is not a simple one. It is best answered by looking at many different possible contributing factors that have been found by various researchers. The most probable possible causes that have been discovered center on Western culture, media portrayals, thin ideal, poor body image, body weight, low self-esteem, mood disorders, and factors in a college atmosphere, including typical weight gain in the freshman year and the presence of perfectionism and depression in college students.

Western Culture

Eating disorders are most prevalent in Western cultures, such as the United States. Researchers in the past believed that eating disorders were not present in non-Western cultures. However, although eating disorders have now been documented all over the world, they are less common in other cultures. For instance, in the Spanish island of Sao Miguel, de Azevedo and Ferreira (1992) found that eating disorders were present in less than one percent of the over 1,200 adolescents interviewed, which demonstrates that these disorders are fairly uncommon in this type of culture because of the nonexistence of the Western pressure to meet the thin ideal.

In their investigation of a European country, Tchanturia, Troop, and Katzman (2002) found that despite the lack of much Western influence, these women were similar to Western women in that they had low body satisfaction. Like women in Western culture, the women of this European culture who placed a high priority on weight or body figure or those who based their confidence on their weight or figure were more likely to display eating disturbances. However, the women in this non-Western culture did not center their self-confidence on body figure and weight as commonly as women from Western culture. The researchers also expect that, with increasing Western influence, the rate of eating disturbances will rise.

Unlike the Tchanturia et al. (2002) study that found women of different cultures to be similar in their amount of body dissatisfaction, Lake, Staiger, and Glowinski (2000) found that women in Australia, being more exposed to Western culture, were less satisfied with their bodies than women from the generally less Western influenced Hong Kong. The women from these differing cultures are actually very similar in their beliefs

about eating. The researchers encourage clinicians to be aware of cultural differences in the presentation and management of eating disorders (Lake et al.). Another study that took place in Hong Kong was conducted by Lee, Chiu, and Chen (1989), which described three Asian women with various types of anorexia, including one case of late onset anorexia. Lee et al. suggest that the low prevalence of anorexia in non-Western cultures, such as Hong Kong, may increase, but it will most likely not rise to the prominence seen in Western cultures.

Heesacker, Samson, and Shir (2000) provide further support that Western cultural influence is related to the development of eating disorders. In their study, they found college women in the United States were more likely to display maladaptive eating patterns than college women in Israel. The female college students in the United States showed greater dissatisfaction with their body shape and were not as familiar with their internal state of mind as female college students in Israel.

Media and Thin Ideal

A major factor in how Western culture contributes to maladaptive eating attitudes and behaviors is the promotion of the thin ideal in the media. In their study of women who play main figures in television sitcoms, Fouts and Burggraf (1999) discovered that underweight women were much more common on television than in everyday life, and overweight women were largely absent on television when compared to the actual proportion of women who are this size. Therefore, the Western emphasis on women being slim is evident on popular television sitcoms. The underweight women in the sitcoms obtained many more compliments from men about their figures and size than the overweight women, which reinforces the ideas that men only find thin women attractive

and it is tolerable for men to act differently toward women of various sizes. The women who portrayed themselves to be restricting their amount of food intake were commonly not above average in size but more self-critical about their size and figure and more critical toward other female characters' size and figures.

Importantly, women with an eating disorder are more commonly affected by the social standards of body shape and weight portrayed in the media than others in the community without an eating disorder. This may highlight the necessity for clinicians to confront the portrayal of the thin ideal with these clients because their body figure, feelings about their weight, and actions to control their weight are more easily impacted by the media (Murray, Touyz, & Beumont, 1996). However, the media's negative influence on eating attitudes and behavior goes far beyond women who already have an eating disorder. For instance, Edwards-Hewitt and Gray (1993) found that women in college with bulimic tendencies and eating disorder symptoms who did not yet have a diagnosable eating disorder looked at a greater number of magazine stories that commented on eating disturbances than other women in college.

Greater awareness and viewing of media outlets may contribute to some people developing maladaptive eating patterns. Vaughan and Fouts (2003) conducted an investigation of young girls between the ages of 9 and 14 over a 16-month period. The girls who expanded their viewing of style magazines but lowered the amount of time that they watched television also displayed more eating disorder symptoms at the conclusion of the 16-month time period. The girls who had fewer eating disorder symptoms at the conclusion of the 16 months than at the beginning had lowered their viewing of television and style magazines during that time.

Utter, Neumark-Sztainer, Wall, and Story (2003) also studied the effects of exposure to sections in magazines about reducing food intake and decreasing body weight on adolescents. A majority of female adolescents and several adolescent boys often read magazines on these topics. However, the boys who fall in this group are commonly a member of a racial minority and above average in body size for their height and age, as well as usually not a member of a higher socioeconomic class. The adolescents who viewed magazines on weight-related topics were at an increased likelihood to participate in unhealthy actions that were supposed to manage their weight, and they were also more likely to be depressed, have low self-esteem, and greater body dissatisfaction (Utter et al.). In addition, Pinhas, Toner, Ali, Garfinkel, and Stuckless (1999) found that women in college reported greater depression and anger after looking at pictures of women who were models. This change in mood took place immediately after looking at the pictures, which further reinforces that figures in the media are a factor in eating disturbances.

Tiggemann (2003) also found that viewing magazines and television resulted in college women being more likely to have a poor body image. The women who spent more time looking at magazines were more likely to accept Western standards of body size, and women who viewed more television were actually less likely to know about the thin ideal. Tiggemann (2003) suggests women who view a substantial amount of television may become desensitized to the images to the point that they seem normal, which would help explain why these women are less likely to be conscious of the thin ideal. The women who are exposed to a lot of television are more likely to think negatively about themselves and have a higher weight status, which partially explains the

link between television and poor body image. However, Cusumano and Thompson (1997) found slightly different results regarding magazine consumption. Their study showed that simply viewing popular magazines did not make college women more vulnerable to poor body image, eating problems, or a low self-concept. Eating problems were shown to be related to consciousness of the thin ideal, and acceptance of the Western thin ideal did appear to make women in college more susceptible to poor body image, eating problems, and a low self-concept (Cusumano & Thompson, 1997).

Bulimic disturbances are related to the media's emphasis on being slim in both female adolescents and adults (Stice, 1998). Further support for the link between the thin ideal and maladaptive eating attitudes and behaviors can be found in Stice, Mazotti, Weibel, and Agras (2000). In this study, college women who were dissatisfied with their bodies criticized the Western standard of body size while attending sessions to help alleviate their problem with weight anxiety. After the program, the women less readily accepted the thin ideal, were more satisfied with their figures, restricted their food less, had a more positive mood, and displayed fewer bulimic tendencies. The study gives empirical evidence that acceptance of Western standards of weight is a factor in poor body image, restricting food, poor mood, and bulimic tendencies.

Poor Body Image

Poor body image, which has been linked to the development of eating disorders, is often seen in Western culture. For example, Cooley and Toray (2001a) found that increases in both food restriction and bulimic symptoms were more likely in those with poor body image. The researchers concluded that poor body image might be linked with exacerbating eating disturbances.

Body Weight

A person's actual or perceived body weight has been identified as a potential factor in the development of eating disorders. In their study of adolescents in Brazil who were found to be much like those in Western cultures, Darnall, Smith, Craighead, and Lamounier (1999) found that an above average weight often results in worry over one's body size, largely because a bigger size represents more dissimilarity from the Western standards of weight that women are compared to. So, they found that both actual weight and the view of not living up to the thin ideal are factors in worry over body size. This increased anxiety over weight is related to a more negative self-concept, which may then result in placing a higher priority on body size and figure (Darnall et al.). Worry over body size and figure may lead to even greater problems. For instance, Wilksch and Wade (2004) found that this type of anxiety is related to dieting. Women with average to low body weight are not exempt from eating disturbances. Although the smallest women displayed the greatest contentment over their figures, college women of below average weight reported greater unhappiness over their body size than men who were extremely overweight (Kenny & Adams, 1994).

Low Self-Esteem

People with low self-esteem may be more vulnerable for developing eating disorders. For instance, Willcox and Sattler's (1996) study found that feeling negatively about oneself is related to bulimia. Mayhew and Edelman (1989) also found a connection between eating disorder symptoms and attitudes and poor self-esteem. After evaluating almost 3,000 participants, Gual, Perez-Gaspar, Martinez-Gonzalez, Lahortiga, de Irala-Estevez, and Cervera-Enguix (2002) found a significant relationship between

eating disturbances and poor self-esteem, which suggests that poor self-esteem is a factor in the development of eating problems.

In their longitudinal analysis of women between the ages of 12 and 21, Cervera, Lahortiga, Martinez-Gonzalez, Gual, Irala-Estevez, and Alonso (2003) found that low self-esteem was more likely in older women, those in low socioeconomic classes, girls who had parents that were no longer together, women who had a close family member with an eating disorder, and women who normally ate by themselves. Moreover, the women who lacked self-esteem were more likely to develop an eating disorder over an 18-month period than women with more self-esteem, and the women who generally had good self-esteem seemed to be protected from eating disorders. Not only does low self-esteem predict later eating problems, it may also represent a result of eating disturbances. Based on their results, the researchers suggest that helping women to increase their self-esteem may also inhibit the development of eating disturbances (Cervera et al.). Laudante (1997) also found that high self-esteem protected high school girls from eating disturbances.

In a study of adolescent females, the girls who had relatively low levels of eating disturbances usually had good self-esteem, but girls who had elevated levels of eating disturbances usually had poor self-esteem in most situations (Kansi, Wichstrom, & Bergman, 2003). In addition, Geller, Zaitsoff, and Srikaneswaran (2002) found that high school girls who center their self-esteem on their figure and body size or on personal connections were more likely to display greater levels of eating disturbances and had decreased self-esteem about their figure and overall. However, the girls who centered

their self-esteem on academic proficiency or ability in another interest were much less likely to have eating problems.

O'Dea and Abraham (2000) observed that after participating in a class to improve self-esteem, adolescents displayed less body dissatisfaction along with more positive self-esteem. Unlike other adolescents who did not participate in the class, they did not place as much value on popularity, attractiveness, and athletic talent. The girls in the self-esteem class had a more positive view about how others observed their attractiveness. They were less likely later to be underweight because they were also less likely to diet. These improvements continued to be observed 12 months following the class. The adolescents who had poor self-esteem and elevated nervousness prior to the class, which put them at an increased threat for an eating disorder, also had similar benefits from the class as other students. The researchers conclude that increasing self-esteem may protect adolescents from eating disturbances (O'Dea & Abraham, 2000).

After comparing women with an eating disorder to women in college, Mendelson, McLaren, Gauvin, and Steiger (2002) found that the college women had more positive self-esteem and better views about their bodies than women with an eating disturbance. However, the women with an eating disorder who put more significance on what others thought about how they looked had more self-esteem. This did not appear in college students, which suggests that women with an eating disorder are more likely to base their self-esteem externally and be more vulnerable to the views of others. Troop, Schmidt, Turnbull, and Treasure (2000) found women with bulimia who had been successfully treated also improved on self-esteem.

Henriques and Calhoun (1999) found that Caucasian females are more likely than Caucasian or African American males and African American females to partially base their self-esteem on how they feel about their bodies, which suggests that Caucasian females more commonly believe that self-esteem can be raised by altering how they look. In addition, Joiner, Schmidt, and Wonderlich (1997) observed that clients with bulimia placed more value on how they felt about their bodies in determining their overall self-esteem than those in the general population, but clients who were depressed also based their overall self-esteem just as heavily on how they perceived their bodies.

Mood Disorders

Depression may increase one's risk for an eating disorder. In addition, depression may put people at risk for maladaptive attitudes related to eating disturbances. For instance, Denniston, Roth, and Gilroy (1992) found that undergraduate women who were depressed were more likely to negatively describe their appearance and rate their figure more negatively when comparing themselves to peers, which reflects poor body image. However, they were not any more inaccurate than other women in body size perception. The researchers suggest that mood should be evaluated when looking at the link connecting eating disturbances and body dissatisfaction.

Herpertz-Dahlmann and Remschmidt (1993) obtained solid support for the strong link between eating disturbances and depression. When compared to those of similar age in the general population, people with anorexia who had been successfully treated still had greater depression levels. In their comparison of adolescents and adults with anorexia, Zonneville-Bender et al. (2004) found that the clients of these life stages were very similar in relation to their significantly elevated rates of clinical depression and

anxiety. Willcox and Sattler's (1996) findings also strengthen the belief that depression and bulimic symptoms are related in college women.

In further support of the causal link between depression and eating disorders, Gruber and Dilsaver (1996) specifically investigated clients with seasonal affective disorder and found that approximately 23% of those studied developed bulimia after their depressive disturbance. In addition, around 2% developed anorexia afterward. A good portion (approximately 23%) of the clients developed depressive problems before adulthood. As a result of their findings, the researchers conclude that seasonal affective disorder, a type of depression, or another factor related to it may result in the onset of anorexia or, particularly, bulimia (Gruber & Dilsaver, 1996).

College Atmosphere

Women on college campuses have traditionally been at high risk for eating disorders. Yet, it is unclear if the age of women who are in college mediates their risk for an eating disorder. In addition, if older women in college are as likely to have eating disturbances as traditional age college women, it is not clear whether their eating disorders develop because of reasons similar to that seen in young adult women, unique circumstances, or a combination of these factors.

There are many issues present in a college environment that can lead to eating problems. In their study of women with bulimia in an inpatient unit who had been in college at any point in the prior five years, Bowen-Woodward and Levitz (1988-1989) discovered that the women attributed the onset or worsening of their condition to being in college, especially the extra pounds that first-year college students often gain, being away from family, and the various added stressors that are common in college. Graham and

Jones (2002) found the idea that first-year college students typically increase in weight by 15 pounds to be inaccurate. Instead, they found 59% of freshmen increased their weight typically by about five pounds, while 36% of freshmen decreased in weight. However, worry over the Freshmen 15 resulted in an increased tendency to be more focused on body size and to think that they weighed too much. It also resulted in a more negative perception of their body and increased eating disorder symptoms and attitudes. Furthermore, those that worried about the Freshmen 15 more typically thought that they had gained more weight than they actually did.

Thompson (1996a) hypothesizes that eating disorders in college can sometimes be a coping mechanism for loneliness and stress. In support of this viewpoint, Mayhew and Edelman (1989) found that eating disorder symptoms and attitudes are connected to the presence of more illogical ideas and the decreased utilization of effective coping tactics in college women. Instead, they more often employ tactics that allow them to avoid handling the sources of their stress. In their study involving undergraduate women, Ross and Gill (2002) found that eating disturbances are related to increased alcohol consumption and nervousness. It is possible that those most at risk for eating disturbances are also at increased risk for anxiety. In their survey of undergraduate women, Heilbrun and Putter (1986) found that if women displayed personality traits typical of those found in people with anorexia and also adhered to strict gender roles or the thin ideal, then they were more susceptible to added anxiety.

Women of all ages who attend college are exposed to many young and often times extremely thin female classmates. Lin and Kulik (2002) found that college women who are exposed to a slim female figure have greater body dissatisfaction and insecurity.

Moreover, the women without romantic partners felt more anxious. Heinberg and Thompson (1992) found that problems with body image due to social comparison were related more to how influential people rated groups instead of how alike people were to the groups. Haag-Stremel (2003) found that women who were members of a college organization were more likely to display eating problems if they perceived that their group was worried about body size. Edwards-Hewitt and Gray (1993) found that women in college who displayed eating disorder symptoms had an increased likelihood of having close peers with eating disturbances. In their survey of university women, Pauls and Daniels (2000) also found that symptoms of bulimia were associated with less cohesive families and the amount of bulimic tendencies in peers. In addition, if those close to them were encouraging them to lose weight, they were more likely to display symptoms of bulimia. The type of college environment that students think they are in may also be important. For instance, Connor-Greene, Striegel-Moore, and Cronan (1994) found that women in college who are worried about their body size view their college environment as more appearance-oriented than other college women in the same environment.

Traditional age women in college who diet often are more likely to display significant eating problems and less satisfaction with their bodies and how they look. The college women who dieted often were more likely to think that they weighed more, and they also typically had lower goal weights than other college women. The study showed no effect for the age of the college women. The women who dieted often were more likely to be depressed, impulsive, and have negative thoughts about themselves. They were also less effective at labeling and controlling their emotions and were more fearful about growing up. They often felt less effective and secure and were frequently

perfectionistic. College women who frequently engaged in dieting often had difficulty with trusting those who they were close to, and they were more likely to be compulsively exercising. They also tend to want to feel like that they are in control. The researchers discovered that a lot of the college women had dieted more than five times, despite being a healthy weight (Ackard, Croll, & Kearney-Cooke, 2002).

In their study involving college women, Schwitzer, Rodriguez, Thomas, and Salimi (2001) found that women attending college who requested assistance for their eating disturbances were more likely to have less severe and varied symptoms. The symptoms did result in anxiety, depression, or hindered their everyday life, but 80% of the women perceived their problems as not severe. Most of the women in the study binged, but only a minority purged or exhibited anorexic behaviors. Although they typically did not meet the criteria for anorexia or bulimia, the college women who sought help for eating disturbances were dissatisfied and preoccupied with how their bodies looked, which resulted in an extreme motivation to be slim. The majority of the women (75%) had low self-esteem and were nervous or stressed, and 40% reported being depressed.

The researchers found that many of the women were perfectionists about their bodies as well as grades even though they were academically able. This perfectionism about both their weight and grades could increase worry and stress, and they could interpret any normal mistake as a failure, which might result in lower self-esteem and episodes of mild sadness. The women were also more likely to worry about growing up and being independent when compared to healthy traditional age women in college, and they typically were having relational problems with their families (Schwitzer et al.,

2001). Minarik and Ahrens (1996) also found that perfectionism in college women was associated with both depression and eating problems.

Ruggiero, Levi, Ciuna, and Sassaroli (2003) found that even on a day that has relatively low pressure for students, worry about errors and family disapproval is still related to a lack of happiness with their bodies. If students are under more stress, such as getting ready to take a test or getting feedback on their performance, anxiety about making errors is connected to decreased contentment with body shape and an elevated motivation to be thin. In addition, family disapproval is related to wanting to be thin and decreased happiness with body shape. So, Ruggiero et al. further support the connection between perfectionism and eating problems, including a preoccupation with being thin in those without a diagnosable eating disorder. If students are experiencing stress, especially in situations that they have no control over, this connection could get stronger. After their survey of almost 1,500 college women and men, Kenny and Adams (1994) identified perfectionism, added stress from parents, and feeling less efficient as further aspects that can put students at risk for eating disturbances.

Perfectionism does not always have negative effects. Perfectionists typically have elevated principles, come from families with loftier goals for them, and are more orderly, but they are not as anxious about their errors or choices and do not have overly critical families like those perfectionists who tend to experience negative effects like decreased mood, school, and interpersonal security (Rice & Dellwo, 2002). The perfectionists without these negative effects typically feel as good about themselves and are as integrated into school and interpersonal settings as people who are not perfectionists, but they still display increased depression. In addition, Rice and Dellwo found that

perfectionists, in general, want more respect from people than those who are not perfectionists.

College women typically have added pressure to succeed and the additional stress of balancing schoolwork with other life responsibilities. The stress of balancing school with other duties is often compounded in non-traditional age college women. These conflicts between school and other roles in life may put women at risk for eating problems. Hart and Kenny's (1997) findings support the "Super Woman" idea. When appearance-oriented college women expect to succeed in family, career, and societal roles, have parents who delay their independence, and have family relationships that are perceived as relatively less positive, they are more likely to have a variety of eating disturbances. However, women who want to succeed in these roles, but who have caring parents who encourage independence, are not as likely to display symptoms of bulimia or poor body image. They also feel more confident about their relationships and abilities and have a better perception of their feelings.

Because of the demonstrated association between depression and eating disorders, the prevalence of depressive symptoms in the college population is especially alarming. Oliver and Burkham (1979) found that 17% of college men and women displayed depressive symptoms, and most of the students' symptoms were present almost a month later. According to their study, students are more likely to be depressed during their first years of college, but depression was not more likely in women or those of a younger age. In their study of major depression, Blazer, Kessler, McGonagle, and Swartz (1994) found that the disorder was more prevalent in women and younger people in general.

Statement of Problem

Although previous literature has focused on establishing the presence of eating disorders in the college population, there has not yet been a comparison conducted across various age groups in college. Eating disorders are now a concern for women of all ages, not just young women. Today, women in their later 20s to middle aged and older make up a considerable segment of many college campuses, especially considering that the percentage of non-traditional students attending college was at 41% in 1998 (as cited in Back to College, 1998-2005). It is important to establish the prevalence of eating disorder symptoms among non-traditional age college women, as well as to compare various key factors related to the development and maintenance of eating disorders between traditional and non-traditional female college students. This will help to identify the prevalence of eating disturbances in the total female college student population, as well as begin to establish the prevalence rates of older women in college. The data will also help to discern whether there are certain age groups in college that are more susceptible to eating problems. They will also help to determine if age plays a major role in risk determination.

Thus, the purpose of this study is to investigate the degree to which eating disturbances and symptoms are present in women college students of different age groups. In addition to investigating the prevalence rates of eating disturbances in a sample of college women of various ages, this study seeks to assess the contributing factors for eating disorders. For instance, the influence of media, which in part perpetuates the culture's focus on the thin ideal, will be investigated. Again, the relations between body image and self-esteem will also be assessed. Factors that may often be

present in college students, such as perfectionism, depression, and anxiety, will also be examined to assess their degree of association with eating disturbances. Finally, the participants' concerns about aging will be assessed to determine its connection with eating problems, especially in the older female college students. Although eating disorders affect both men and women of all ages, this study's focus is on women because 90% of cases are in females (Rader Programs, n.d.). The following hypotheses are based on findings documented in the literature:

H1: Traditional age female college students will display a higher number of eating disorder symptoms, as evidenced by a significantly higher overall score on the EDI-2, than non-traditional age college women.

H2: Traditional age women in college will have more body image issues, as evidenced by a significantly greater overall score on the Body Dissatisfaction subscale of the EDI-2, than non-traditional age college women.

H3: Eating disorder symptoms, which will be measured by the overall score on the EDI-2, will be present in the older women.

H4: Body image disturbances, which will be assessed specifically through the score on the EDI-2 Body Dissatisfaction subscale, will be present in the older women.

H5: There will be a significant, positive correlation between levels of media exposure and eating disorder symptoms.

H6: There will be a significant, positive correlation between levels of media exposure and body image disturbances.

H7: There will be a significant, positive correlation between body image dissatisfaction and eating disorder symptoms.

H8: There will be a significant, negative correlation between self-esteem and eating disorder symptoms.

H9: There will be a significant, positive correlation between perfectionism and eating disorder symptoms.

H10: There will be a significant, positive correlation between depressive symptoms and eating disorder symptoms.

H11: There will be a significant, positive correlation between anxiety and eating disorder symptoms.

H12: There will be a significant, positive correlation between ratings on aging concern and eating disorder symptoms.

H13: There will be a significant, positive correlation between ratings on aging concern and body image disturbances.

CHAPTER 2

METHOD

Participants

The 144 participants involved in the study were female student volunteers enrolled in classes at a mid-sized southeastern university. They received extra credit in their classes in return for completing the study. These participants were recruited via an online participant pool management system endorsed by the University's psychology department. The system complies with all Institutional Review Board and HIPPA standards. Participants were either already students in a class signed up on the system or were recruited via in-class requests because they were in a women's studies class, which typically has more non-traditional age female students. Ages ranged from 18 to 47 years old. The participants were divided into two groups by age. The traditional age college women were defined in this study as those under age 25. This group consisted of 128 women. The non-traditional age college women were those 25 years of age and above. This group consisted of 16 women.

Measures

The Eating Disorders Inventory-2 (EDI-2) (Garner, 1991), Brief Symptom Inventory (BSI) (Derogatis, 1975), Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1989), and other brief items as described below were administered to participants in this study.

The EDI-2 is a self-report measure that assesses a variety of dimensions connected with eating disturbances, including drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive

awareness, maturity fears, asceticism, impulse regulation, and social insecurity. It includes 91 statements that provide scores on the various dimensions (Abbate-Daga, Piero, Gramaglia, & Fassino, 2005). Participants rate item statements according to how much it pertains to them. They are given six choices, ranging from always to never. “These responses are then recoded into transformed scores. Transformed scores are recoded from the 6-point scale into a 4-point scale ranging from 0 through 3 in which 0 is assigned to the three responses that represent the least symptomatic answers, and 3 represents the most symptomatic answer” (as cited in Espelage, Mazzeo, Aggen, Quittner, Sherman, & Thompson, 2003, p. 74).

The EDI-2 was used in this study to assess eating disorder symptoms, body image, and perfectionism. The scores on all 11 dimensions were used to assess eating disorder symptoms, while the Body Dissatisfaction subscale was used to measure body image. The Perfectionism subscale of the EDI-2 was used to assess whether perfectionism, as measured by the score on this dimension, is related to eating disorder symptoms. This inventory was modified to allow for online completion, and question number 90 was deleted for precautionary ethical reasons because it asks about harming self or others. The EDI-2 was also used to obtain prevalence rates for eating disorder disturbances, as measured by the overall score, for the total sample of college women who participated, as well as for each defined group, namely the traditional and non-traditional age groups.

Garner, Olmstead, and Polivy (1983, p. 29) found “that the EDI is a reliable (internally consistent) and valid test....” The construct validity of the EDI is supported by the similarity between professional knowledge on individual cases and their client’s

actual scores on the dimensions. It was reported that the EDI dimensions' demonstrated convergent and discriminant validity. The EDI also successfully distinguishes those diagnosed with anorexia from those not meeting criteria for the disorder. The EDI subscales ranged from an alpha coefficient of .65 on the maturity fears dimension to a .91 on the body dissatisfaction dimension for college women who do not have anorexia.

The BSI includes 49 self-report statements that measure a variety of potential psychological issues. These include somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Participants respond to the statements in the BSI based on how intensely they have experienced the particular symptom, from "0", which is 'not at all', to "4", which is 'extremely' (Derogatis, 1975).

In this study, the BSI was used to assess depression and anxiety symptoms, and it was not used to diagnose psychological disorders. Participants completed the entire inventory, but items pertaining directly to suicidal thoughts or actions or harming others were excluded, again due to precautionary ethical concerns. The statements relating to depression and anxiety were used in this study to determine their relations to eating disorder symptoms. BSI scores were used specifically for analyzing hypotheses 10 and 11.

In relation to construct validity, Hayes' (1997) results support that the BSI correctly assesses depression, somatization, hostility, contentment in social settings, obsessive-compulsive tendencies, and phobic anxiety. Reliability, as measured by the internal consistency of its dimensions, extended from .64 to a high of .87, and five of the dimensions were at .80 or higher.

The RSE is a self-report measure of the level of satisfaction that participants have with themselves (overall self-esteem) (Silber & Tippett, 1965). It consists of 10 statements that are rated by the participants according to their level of agreement or disagreement. Participants have four choices, ranging from agree strongly to disagree strongly. In this study, adding the participant's answers to all of the items derived the score for the RSE. The overall score on the RSE was used to measure the participants' level of self-esteem, which was used to test hypothesis 8.

Silber and Tippett (1965) assessed the construct validity of the RSE with a college sample by measuring its correlation with other methods that evaluate self-esteem, and they found supporting results with correlations ranging from .56 to .83. Reliability for the RSE also appears sound. The test-retest correlation was .87 for participants who were retested after two weeks.

The participants were also given items that assessed basic demographic data, including age, race, marital status, major, and college class. The participants were asked whether their status as a student is full-time or part-time and how many children they have, if any. In addition, they were asked if they work outside of school and, if so, how many hours. Media influence was also assessed by asking the participants approximately how many television shows, excluding educational ones, they watch weekly. They were then asked to list up to five of these that they watch most regularly. They were also asked, "How many popular magazines do you typically read or look at each month? This includes women's, fashion, celebrity gossip, or tabloid magazines, including but not limited to *Cosmo*, *Glamour*, *People*, and *Star*. Please list up to five of these magazines that you look at the most." These items specifically aided in assessing hypotheses 5 and

6. An additional question was added to the questionnaire to test hypotheses 12 and 13. The participants were asked to rate on a scale of one to five, with five being the most concerned, how concerned they are about aging. The questionnaire asked participants if they have ever been diagnosed or sought treatment for an eating disorder. An additional question was included to find out if they have any close friends or family members with an eating disorder. The participants were also asked, “Do you consider yourself to be a smoker?” This question was added to explore the potential relationship between smoking and eating disturbances.

Procedure

This study was submitted for Internal Review Board approval. It qualified for expedited status with certain items, as noted previously, being excluded. The data were collected through an online system that allows instructors to offer extra credit for students who wish to participate in a research study and allows potential participants to self-select from an array of investigations.

Participants were given information that told them of the study and their rights as participants. Full text of the informed consent document is given in the Appendix. Instructions as to how to fill out each measure were provided. In addition, the online system randomly changed the order in which the participants filled out the measures. After completing the study, the participants were debriefed. The purposes of the study were reiterated, and they were told that their participation provided information on eating problems in the college atmosphere. Contact information was provided to the participants in case they had any further questions or needed any help with the issues addressed in the study.

Experimental Design

A *t-test* was performed to assess the first two hypotheses, which allowed comparisons to be made on the eating disorder symptoms and body image attitudes of non-traditional and traditional age college women. The dependent variables, both eating disorder symptoms and body image, were investigated using the EDI-2. The scores on all 11 dimensions of the EDI-2 measure eating disorder symptoms. The score on the subscale, Body Dissatisfaction, measures body image. Significant differences between the two age groups on eating disorder symptoms and body image disturbance, using scores from the EDI-2 as noted above, were investigated through use of *t-tests*. For all calculations, significance was defined as an alpha of .05 or below.

Pearson correlations were performed to test the remaining hypotheses regarding the hypothesized relationships among eating disorder symptoms, body image, and various potential contributing factors. These risk factors included exposure to media (as measured by the two questions on the brief questionnaire that ask about television and magazine exposure), self-esteem (as measured by the overall score on the RSE), perfectionism (as measured by the score on this EDI-2 subscale), depression (as measured by the score on the corresponding dimension of the BSI), anxiety (as measured by the score on the corresponding dimension of the BSI), and aging concern (as measured by the related question on the brief questionnaire).

CHAPTER 3

RESULTS

There were 128 participants in the traditional college age category, and their ages ranged from 18 to 24. The mean age for this group was 19.36 years. The non-traditional age female students included 16 women ranging in age from 25 to 47 years old. The mean age was 32.88 for the non-traditional age group. All of the female students were undergraduates. The majority (76) of them were freshmen, but all undergraduate levels were represented with 25 sophomores, 17 juniors, and 24 seniors. Two of the participants did not provide a response to grade level. One hundred twenty-two of the participants reported being single, and 20 were either married or divorced. Two of the participants did not respond to this item. The single participants had a mean age of 19.58, and the married/ divorced participants' mean age was 28.8.

An independent samples *t-test* was performed to compare eating disorder symptoms between non-traditional and traditional age female college students. The mean total of the EDI-2 score for the non-traditional group was 78.50, with a standard deviation of 51.412. The traditional age group had a mean total EDI-2 score of 61.45, with a standard deviation of 40.287. Although the non-traditional age group had a higher mean of total eating disorder symptoms, the *t-test* did not reach significance [$t(142) = 1.545$, $p = .125$]. Equal variances could be assumed according to a Levene's test [$F = .281$, $p = .597$]. Therefore, H1, which predicted the traditional age college women would endorse significantly more eating disorder symptoms than the non-traditional age college women, was not supported.

Another *t-test* was conducted to compare body image issues between non-traditional and traditional age female students. The mean body dissatisfaction score on the EDI-2 for the non-traditional age group was 18.06, with a standard deviation of 8.767, where the mean body dissatisfaction score for the traditional age group was 12.87, with a standard deviation of 8.559. A Levene's test showed that equal variances could be assumed [$F = .122$, $p = .727$]. There was a significant difference between the age groups on body image issues [$t(142) = 2.283$, $p = .024$]. However, H2, which stated the traditional age female students would have significantly more body image issues than the non-traditional age female students, was not supported. In fact, the opposite was true with the non-traditional age group displaying greater body dissatisfaction than the traditional age group. When compared to other nonpatient women in college, the non-traditional female age group had a mean body dissatisfaction score at the 84th percentile, while the traditional female age group scored at the 69th percentile. The participants, as a whole, had a mean body dissatisfaction score of 13.44, which falls at the 69th percentile (Garner, 1991). In addition, according to a *t-test* with equal variances assumed ($F = .258$, $p = .612$), there was not a significant difference between the age groups on Drive for Thinness [$t(142) = .168$, $p = .867$].

The data support both H3 and H4, which predicted eating disorder symptoms and body image disturbances, respectively, would be present in the older women attending college. Eating disorder symptoms were present in the older women. Although it did not reach significance, this group did have a higher mean score on the EDI-2 than the traditional age group. It was predicted that traditional age female students would have significantly more eating disorder symptoms and body dissatisfaction. Body image

disturbances were also present in the older group. In fact, they had a significantly higher mean score on the Body Dissatisfaction subscale of the EDI-2 when compared to the traditional age women. So, the older women actually had more eating disorder symptoms and body image disturbances than expected. The results confirmed that these issues are very much present in older women attending college, not just in traditional age female students.

Pearson correlations were performed to test for relationships between eating disorder symptoms, body image issues, and potential risk factors. A relationship between magazine exposure and eating disorder symptoms was not supported ($r = .013$, $p = .878$). The data also did not support a relationship between television exposure and eating disorder symptoms ($r = .073$, $p = .403$). Therefore, H5, which predicted a significant, positive correlation, was not supported regarding the potential relationship between levels of media exposure and eating disorder symptoms. Nine of the women did not respond to the magazine or television exposure question.

A relationship between magazine exposure and body image disturbances was not supported ($r = .022$, $p = .802$), and the results also did not show a significant relationship between television exposure and body image disturbances ($r = .036$, $p = .676$). As a result, H6, regarding the potential relationship between levels of media exposure and body image disturbances, was not supported by this study. The participants listed a wide variety of television shows that they regularly watched. Seventeen of the participants did not list any television shows. The participants also listed many different magazines that they regularly look at, though 45 did not list any magazines.

A significant, positive correlation was found for body image dissatisfaction and eating disorder symptoms ($r = .687, p = .000$). So, H7 was supported regarding the relationship between body dissatisfaction and eating disorder symptoms. A significant, positive correlation was also obtained for self-esteem and eating disorder symptoms ($r = .327, p = .000$). So, H8, which predicted a significant, negative correlation, was not supported by this study.

Significant, positive correlations were found for eating disorder symptoms and the following potential risk factors: perfectionism ($r = .469, p = .000$), depressive symptoms ($r = .673, p = .000$), anxiety ($r = .509, p = .000$), and ratings on aging concern ($r = .259, p = .002$). In addition, a significant, positive correlation was obtained for ratings on aging concern and body image disturbances ($r = .263, p = .001$). Therefore, H9 through H13 are supported.

It should be noted that data from three men who mistakenly completed the study online has been deleted, as well as BSI data from one participant who only answered one question on the inventory. Another participant did not answer any BSI questions. When coding the free response items on the brief questionnaire, if the participant listed two numerical responses, then the first response was taken. This usually occurred when a participant would respond, as an example, “two or three.” Then, two was coded as the response. If the participant responded with a list of names on the media exposure questions in what should have been a numerical response, then the list was counted and that number was coded as the response. Some participants responded with unrelated responses, and these could not be included in the analyses. In all, nine participants either did not respond or had unrelated responses to the media exposure items.

Nine of the 144 (around 6%) female students reported a history of an eating disorder. Many of the participants (61 out of the 143 who responded, $\approx 43\%$) reported having close friends or family members with an eating disorder. Additional statistical analyses were conducted and a Pearson correlation was run to determine if grade level and body dissatisfaction were related; they were not ($r = -.002$, $p = .981$). A mild negative relationship between grade level and total eating disorder symptoms was not significant ($r = -.156$, $p = .064$), although it did approach significance.

There was a wide variety (over 40 different responses) of college majors represented by the participants. Of the 144 female students, 134 of them attended college full-time, while 9 attended part-time. One participant did not respond to this question. The mean age for the full-time students was 20.45 years, and the mean age for part-time students was 27.33 years. An independent samples *t-test* was conducted to see if this difference in age was significant. Equality of variances could not be assumed according to a Levene's test ($F = 18.339$, $p = .000$). Although the mean age for part-time female students was older, this difference in age only approached significance [$t(141) = -1.958$, $p = .085$]. There was also not a significant difference in total eating disorder symptoms between full- and part-time female students [$t(141) = 1.337$, $p = .183$]. Equality of variances could be assumed for this *t-test* ($F = .175$, $p = .677$), but not for the following *t-test* ($F = 5.938$, $p = .016$). There was a significant difference in body dissatisfaction between full- and part-time female students [$t(141) = 2.598$, $p = .025$]. The mean body dissatisfaction score for full-time female students was 13.69, which falls at the 74th percentile when compared to other nonpatient women attending college (Garner, 1991), with a standard deviation of 8.785. The mean body dissatisfaction score for part-time

female students was 8.56, which falls at the 55th percentile (Garner, 1991), with a standard deviation of 5.48.

An independent samples *t-test* was conducted to see if there was a significant difference in age between the two marital status groups. According to a Levene's test, equality of variances could not be assumed ($F = 62.02, p = .000$). The married/ divorced marital status group was significantly older than the single participants [$t(140) = -4.678, p = .000$]. According to an independent samples *t-test* with equality of variances assumed (EDI-2 total: $F = .001, p = .979$) (body dissatisfaction subscale total: $F = .73, p = .394$), there was not a significant difference in total eating disorder symptoms [$t(140) = -.451, p = .653$] or body image dissatisfaction [$t(140) = -1.585, p = .115$] between the two marital status groups.

The mean number of children for the non-traditional age female students was 1.53, with a standard deviation of 1.36, and the mean number of children for the traditional age female students was 0.08 with a standard deviation of 0.32. Two of the participants did not answer this question, one from each age group. According to a Levene's test, equality of variances could not be assumed ($F = 122.596, p = .000$). The non-traditional age female students had significantly more children than the traditional age female students [$t(140) = 4.141, p = .001$]. There was a significant, positive correlation between the number of children participants had and total eating disorder symptoms ($r = .197, p = .019$). However, the potential relationship between number of children and body dissatisfaction did not quite reach significance ($r = .142, p = .091$).

There were 57 participants who were not employed, and 86 were employed. One participant did not respond to this item. The mean age for unemployed female students

was 19.91 with a standard deviation of 3.73, and the mean age for employed female students was 21.24 with a standard deviation of 5.41. Equality of variances was assumed ($F = 2.172, p = .143$). There was not a significant difference in age between those who were unemployed versus employed [$t(141) = -1.619, p = .108$]. There was also not a significant difference in total eating disorder symptoms [$t(141) = .736, p = .463$] or body dissatisfaction [$t(141) = -.306, p = .76$] between those who were unemployed versus employed. Equality of variances could be assumed for both (total eating disorder symptoms: $F = .309, p = .579$) (body dissatisfaction: $F = .748, p = .389$).

Eleven of the participants worked 40 or more hours a week at a job, and 95 of the participants worked less than 40 hours a week. It should be noted that 38 of the participants did not respond to this item. The mean age for those who worked 40 or more hours was 27.09 with a standard deviation of 9.3, and the mean age for participants working less than 40 hours was 20.47 with a standard deviation of 4.28. Equality of variances could not be assumed ($F = 11.698, p = .001$). There was a significant difference in age between those that are employed full-time versus part-time [$t(104) = 2.331, p = .041$]. The participants who were employed full-time were significantly older than those who worked part-time. There was not a significant difference in total eating disorder symptoms [$t(104) = .577, p = .565$] or body dissatisfaction [$t(104) = -.861, p = .391$] between participants who are employed full-time versus part-time. Equality of variances could be assumed for both (total eating disorder symptoms: $F = 1.604, p = .208$) (body dissatisfaction: $F = 2.457, p = .12$).

Most of the women (119) did not consider themselves to be smokers, but 25 of them did. There was not a significant difference in total eating disorder symptoms [$t(142)$

= -.965, $p = .336$] or body dissatisfaction [$t(142) = -1.238$, $p = .218$) when comparing smokers to non-smokers. Equality of variances could be assumed for both (total eating disorder symptoms: $F = .314$, $p = .576$) (body dissatisfaction: $F = .245$, $p = .621$).

CHAPTER 4

DISCUSSION

Summary of Findings

Though it will be addressed later, it is important to keep in mind the particularly low number of non-traditional aged participants. On the one hand, some tests may have failed to reach significance due to low power. On the other hand, those that did reach significance may have done so because the small sample of non-traditional students was highly self-selective in participating, where having significant eating issues may have drawn them to participate in the first place.

The hypotheses were partially supported by the data. Non-traditional age women in college report as many eating disorder symptoms as traditional age female students. In fact, the mean for total eating disorder symptoms, although not significantly greater, was higher for the older women. This suggests that traditional age college women are not the only group at high-risk for eating disorders, but rather that female college students as a whole should be considered to be high-risk. Furthermore, this may also point to a growing incidence of eating disturbances in older women (Hay, 1998).

Garner (1991) suggests using a Drive for Thinness score at or above 14 when screening participants who may be most at risk of having an eating disorder. The mean Drive for Thinness score for all of the college women in this study was 8.06, which falls at the 76th percentile (Garner). The mean Drive for Thinness score for the traditional age college women was 8.03, which falls at the 76th percentile, and the mean score on this subscale for the non-traditional age college women was very similar at 8.31, which is also at the 76th percentile (Garner). Although the percentiles for all of the female students in

both age groups on Drive for Thinness were quite high when compared to other nonpatient women in college, they did not fall in the clinically significant range, which is 14 or above, the 91st percentile on the eating disorders subscale. However, 19.4% (28 of the 144) of the college women were in the clinically significant range with regard to probably having an eating disorder. In addition, 25% (4 of the 16) of the older women in college were considered to be in the clinically significant range for eating disorders, while 16.7% (24 of the 144) of the traditional age college women were considered at the clinically significant cut off point for likely having an eating disorder. So, a larger percentage of older women than younger women in college were likely to have an eating disorder in this sample.

The undergraduate women as a whole displayed high body dissatisfaction, falling at the 69th percentile (Garner, 1991). This suggests that body dissatisfaction is a concern for many college women despite their age. However, when comparing the age groups, older female students report significantly higher body dissatisfaction than the traditional age female students. The non-traditional age college women fall at the 84th percentile, while the traditional-age group falls at the 69th percentile. This study indicates that older women may be less satisfied with their bodies than younger women in college. This may mean that women do not get more comfortable with their appearance as they get older. This could easily be explained by the societal pressure put on women, which tells them that they must, despite the cost, stay young and slim to be attractive and appreciated. However, this is often unrealistic without unhealthy eating and exercising patterns, and/or the use of expensive and invasive plastic surgery. Older women in college may feel additional pressure because they are often in contact with numerous young, slim

undergraduate women who are attending college right after high school. Non-traditional age female students may believe that they must be more attractive in order to compete with their younger counterparts, which becomes increasingly difficult with age, perhaps especially if they have had children.

The study suggests that eating disorder symptoms and body image issues are no longer a concern held only by college women primarily in their late teens and early 20s. In fact, these disturbances, although predicted, were equally and sometimes more present in older female college students in the present sample.

A relationship between media exposure and body dissatisfaction/ eating disorder symptoms has been found by numerous researchers (Pinhas et al., 1999; Stice, 1998; Tiggemann, 2003; Utter et al., 2003; Vaughan & Fouts, 2003). However, this study did not find a connection. Similar results have been cited by Cusumano and Thompson (1997), who found that simply viewing popular magazines did not make college women more vulnerable to poor body image, eating problems, or a low self-concept. Rather, poor body image and eating problems were shown to be related to self-consciousness and acceptance of the thin ideal. Another explanation as to why no relationship was found in this study could be related to how media exposure was measured only via four additional items, which were not modeled on existing measures of media exposure. It could be that a more detailed inventory is needed to truly measure media exposure. In addition, it would be more beneficial to measure the impact of media exposure by exposing participants to images in a lab setting rather than relying on self-report.

Body image dissatisfaction was supported by the data as being a related risk factor for eating disorder symptoms. There was a significant, positive relationship

between body dissatisfaction and eating disturbances. This is an extremely important finding given that this group of college women reported high body dissatisfaction (overall group mean falling at the 69th percentile), especially the non-traditional age students (group mean falling at the 84th percentile) (Garner, 1991). College women, especially older female students, are potentially in great risk of developing eating disorder symptoms if, like many of their peers, they have high body dissatisfaction.

A difficult to understand finding did result when looking at the relationship between self-esteem and eating disorder symptoms. It was expected, like previous literature has found (Cervera et al., 2003; Gual et al., 2002; Kansil et al., 2003; Laudante, 1997; Mayhew & Edelman, 1989; O'Dea & Abraham, 2000; Troop et al., 2000; Willcox & Sattler, 1996), that low self-esteem would be related to eating disturbances. However, the data from this study show the opposite- higher self-esteem connected to more eating disorder symptoms. This finding could be related to the type of self-esteem possessed by the college women sampled, which was not investigated. For example, Geller et al. (2002) found that high school girls that center their self-esteem on their figure and body size or on personal connections were more likely to display greater levels of eating disturbances and had decreased self-esteem about their figure and overall. However, the girls that centered their self-esteem on academic proficiency or ability in another interest were much less likely to have eating problems. So, it may be possible that the women who had higher self-esteem and also eating disturbances in this study primarily center their self-esteem on appearance rather than abilities. This would also be supported by Henriques and Calhoun (1999), who found that Caucasian females are more likely than Caucasian or African American males and African American females to partially base

their self-esteem on how they feel about their bodies. The sample used in this study is primarily Caucasian and all female, which would be the most likely group to center their self-esteem on appearance.

Other expected potential contributing factors to the development of eating disorders supported by the study data are perfectionism, depression, and anxiety. All three factors can be associated with the stress and changes involved in college atmospheres. Women on college campuses have traditionally been found to be at high risk for eating disorders. Previous studies have not investigated whether the age of female students mediates their risk for an eating disorder. It appears that older women in college may be as likely to have eating disturbances and perhaps more likely to be dissatisfied with their bodies than traditional age college women. This study suggests that eating disturbances in all college women develop because of reasons similar to that seen in young adult women, including perfectionism, depression, and anxiety. It is still unclear if unique circumstances, or a combination of unique and common factors, contribute to eating disturbances in different female college student age groups.

Aging concern may also be a risk factor for developing eating disorders. This study shows a significant, positive correlation between ratings on concern over aging and total eating disorder symptoms/ body dissatisfaction. This risk factor has not been investigated much in previous eating disorder literature. It appears to be a contributing factor for all college women, despite age. However, with further investigation, aging concern may be a more significant factor in older women, who may be experiencing more worry over their changing appearance. In addition, aging concern could be a

contributing factor for the growing incidence of eating disorders in the entire population of older women, who were previously not as likely to have these issues.

A majority of the female undergraduates in this study did not consider themselves to be smokers. Total eating disorder symptoms and body dissatisfaction does not significantly differ between smokers and non-smokers. Therefore, cigarette smoking does not appear to be a risk factor for eating disturbances at least in this sample.

Most of the college women have been affected in some way by the considerable presence of eating disorders in our society. For example, 43% of the female students in this study acknowledge that they have had close friends or family members with an eating disorder. In fact, 6% of the female undergraduates sampled have either been diagnosed or sought treatment for an eating disorder.

The student's grade level in college does not appear to be related to body dissatisfaction or eating disorder symptoms, although its relationship with the latter did approach significance ($p = .064$). Perhaps, with more power, this would have been a significant finding, meaning that students are more vulnerable to eating disturbances in the first college years and become less vulnerable as they become more adapted and familiar with the college environment. The data should not have been biased based on the stated college major because a wide variety of college majors were included.

It was thought that the older women in college would be more likely to attend part-time. Although the average age for part-time students was almost seven years older than the mean age for full-time students, this difference only approached significance ($p = .085$). There was not a significant difference in total eating disorder symptoms between full- and part-time students, but full-time students acknowledge significantly

more body dissatisfaction than part-time students. The mean body dissatisfaction score for full-time students fell at the 74th percentile when compared to other nonpatient women in college, while the part-time students fell at the 55th percentile (Garner, 1991). Full-time students may display higher body dissatisfaction due to the greater exposure that they have to the college atmosphere, which often tends to be stressful and appearance-oriented.

The majority of the female participants in this study were single. As expected, the married/ divorced participants were significantly older, as their mean age was over nine years greater than the single female students. However, total eating disorder symptoms and body dissatisfaction does not significantly differ when looking at marital status. Non-traditional age female students, as one would predict, have significantly more children than traditional age female undergraduates. An interesting finding is that the college women were at a greater risk for eating disorder symptoms as their number of children went up. A possible explanation could be that balancing raising children and attending college adds additional stress, which may lead to more eating disorder symptoms, especially since mood disturbances (both anxiety and depression) are linked to eating disorder symptoms. Another explanation may be that women who have had children are less satisfied with their bodies, especially their weight, which could precipitate more eating disorder symptoms. However, this seems unlikely given that the participant's number of children was not significantly related to body dissatisfaction. It should be noted though that this correlation approached significance ($p = .091$), and, with more statistical power, might have proven significant.

There was not a significant difference in age, total eating disorder symptoms, or body dissatisfaction when comparing undergraduate women who were employed versus unemployed. Only 11 of the participants were employed full-time; however, 38 students did not provide a response to this item. The college women employed full-time were significantly older than those working part-time. Their mean age was almost seven years older. However, total eating disorder symptoms and body dissatisfaction does not significantly differ when comparing female students who work full-time versus part-time.

This study suggests that there are high prevalence rates of eating disturbances in all college female age groups, but the highest prevalence may actually be in older women. According to this study, non-traditional age college women were just as likely to have eating disorder symptoms and a drive to be thin as traditional age female students. Furthermore, body dissatisfaction was high in the entire group of college women, but especially older female undergraduates. The incidence of body image and eating disorder issues in older women appears to be growing and may now be equal to or greater than (at least in college) that of women traditionally associated (late teens and early 20s) with eating disorders. Eating disorders are a well-known issue with most college students; in fact, 49% of the college women in this sample have either closely known someone with an eating disorder or been diagnosed with one themselves.

This study does not support media exposure, low self-esteem, smoking, grade level in college, marital or employment status, or whether one is employed full- or part-time while in school to be significant contributing factors to eating disturbances. However, the data do support body dissatisfaction, aging concern, common elements in college atmospheres, including perfectionism, depression, and anxiety, and having

children as potential risk factors for eating disturbances. An additional finding was that full-time college women were at greater risk for body dissatisfaction than part-time students.

The data further support that non-traditional age female undergraduates were more likely to be married or divorced, have more children, and be employed full-time while attending college than traditional age women in college. It is unclear if these many added responsibilities for non-traditional age college women contribute to their greater than expected incidence of eating disorder and body image issues. It appears that eating disorders in college women of all ages develop because of reasons similar to that seen in young adult women. However, it is still uncertain if unique circumstances, or a combination of unique and common factors, contribute to eating disturbances in different female college student age groups.

Limitations

This study involves a small number of non-traditional age female students, especially when considering the greater number of traditional age participants. The data also come solely from self-report measures. This may have especially affected measuring the level of media exposure on the participants. In addition, future studies should include more detailed methods to measure media exposure and aging concern. An additional measure should also be used to investigate different types of self-esteem, especially due to the results regarding self-esteem from this study. In order to avoid confusion when coding responses, incorrect responses, and missing data, items should be edited from free response to multiple-choice whenever possible. Future participants should be asked to name one television or magazine that they are exposed to the most, instead of asking

them to list up to five as in the current study, with the goal of encouraging more response, especially in regard to magazine exposure.

Implications

There are several implications from this study. First, it can no longer be assumed that only young women in their late teens and early 20s are dealing with eating disorder and body image issues. College administrators must continue to support eating disorder prevention programs. However, they cannot only concentrate on traditional age college women in order for these programs to be successful. Instead, colleges should implement specific body image and eating disorder education and prevention programs for non-traditional age female students. They should address in these the added responsibilities that older women attending college often have in addition to their schoolwork. All prevention programs should also attend to the contributing factors mentioned for eating disorders.

Although the prevention of eating disorders is the ultimate goal, detection of these disturbances is equally important to improve the health of those who already have an eating disorder. Clinicians should be aware that an eating disorder could develop at any age, instead of assuming that if a woman is older, then she is no longer at risk. They should be especially mindful if their client possesses any of the risk factors that may make them more vulnerable to developing body image or eating disturbances, which would include attending college at any age.

Future Research

The need for future research in this area is clearly warranted by the findings of this study. Such studies should include looking at a wider demographic sample of college students. Various geographic regions and ethnicities should be questioned. In addition, college men should be included in future studies. Community samples should also be investigated to determine whether women outside of college are also experiencing a growing incidence of eating disorders. Older women in the community versus those in college should specifically be compared.

Risk factors should be examined further. Media exposure and, especially, aging concern need to be questioned in a more detailed way. Specific types of self-esteem and perfectionism could be looked at in order to compare their various relationships with eating disturbances. Additional potential contributing factors should be studied, such as weight gain at various stages in life, including the Freshman 15 and common middle age increases in weight. Finally, potential risk factors for eating disorders need to be compared between various age groups who are in college and not in order to determine if common or unique circumstances lead to their development at different life stages.

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APPENDIX

Informed Consent Text

“This Informed Consent will explain about being a research subject in an experiment. It is important that you read this material carefully and then decide if you wish to be a volunteer. The purposes of this research study are as follows: to compare the prevalence of eating disorder symptoms and body image issues between traditional and non-traditional female college students and to examine the risk factors for eating disturbances in college women. Eating disorders are a major concern for college students, and they tend to be one of the most vulnerable populations to these problems. This study will examine if the age of the college student plays a role in how vulnerable a student is to eating disturbances, as well as what other factors may lead to the development of eating problems. The results of this study may enable those working with college students to pinpoint those most at risk for these issues, in order to aid in both prevention and detection of these disorders. It will take you approximately 45 minutes to an hour to complete this study. Please complete the questionnaire and three inventories honestly and to the best of your ability. As a participant, you have the right not to answer one or more of the questions, or do one or more of the tasks asked of you, if you feel uncomfortable doing so. If you have any questions, please ask the researcher in charge. The possible risks and/or discomforts of your involvement include: There are no foreseeable discomforts or risks associated with this research. If you are distressed by any of the topics addressed in the inventories you are about to answer, you may contact the ETSU Counseling Center by calling 423/439-4841. The possible benefits of your participation

are: You will be providing information that may help others to further understand college students. You will be compensated by receiving extra credit for participating in this study. If you have any questions, problems, or research-related medical problems at any time, you may call Jennifer Caldwell at 423/439-4424, or Dr. Peggy Cantrell at 423/439-6660. You may call the Chairman of the Institutional Review Board at 423/439-6055 for any questions you may have about your rights as a research subject. Every attempt will be made to see that my study results are kept confidential. A copy of the records from this study will be stored in the Applied Psychology Lab at Rogers-Stout Hall in Room 208 for at least 10 years after the end of this research. The results of this study may be published and/or presented at meetings without naming me as a subject. Although my rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the East Tennessee State University Institutional Review Board, and research related personnel from the ETSU Department of Psychology have access to the study records. My records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above. The nature demands, risks, and benefits of the project have been explained to me as well as are known and available. I understand what my participation involves. Furthermore, I understand that I am free to ask questions and withdraw from the project at any time, without penalty. I have read, or have had read to me, and fully understand the consent form. My study record will be maintained in strictest confidence according to current legal requirements and will not be revealed unless required by law or as noted above.”

VITA

Jennifer E. Caldwell

Education

East Tennessee State University, Johnson City, TN

M.A. in Clinical Psychology; December 2005

GPA = 4.0

Master's Thesis: *Eating Disorder Symptoms, Body Image Attitudes, and Risk Factors in Non-Traditional and Traditional Age Female College Students*. Defended, Fall 2005

East Tennessee State University, Johnson City, TN, May 2003

Bachelor of Science; Major: Psychology

GPA = 3.99, Summa Cum Laude, Graduated 2nd in Class (of 745)

Presentations

Snyder, J., Caldwell, J. E., & Cantrell, P. J. (2005, November). *An investigation of the relationship between perfectionism and mood disturbances in college women*.

Poster presentation at the Tennessee Psychological Association Annual 2005 Convention, Nashville, TN. Tied for third place in the best poster awards.

Caldwell, J. E., Dula, C., & Cantrell, P. J. (2005, September). *Risk factors for eating disorder symptoms in female college students*. Paper presentation at the 2nd annual Primary Care Research Day, Johnson City, TN.

Caldwell, J. E., Dula, C., & Cantrell, P. J. (2005, September). *Eating disorder symptoms and body image attitudes in non-traditional and traditional age female college students*. Paper presentation at the 2nd annual Primary Care Research Day, Johnson City, TN.

Caldwell, J. E., & Pumariega, A. J. (2003, July). *Attention deficit and behavior in single versus co-morbid ADHD*. Paper presentation at the 9th annual SAEOPP/ McNair National Scholars Research Conference, Knoxville, TN. Awarded fourth place in the biological science category.

Clinical Experience

June 2005 – August 2005

Woodridge Psychiatric Hospital, Johnson City, TN 37604

Clinical Psychology Practicum Intern

- Conducted group, individual, couples, and family therapy under supervision with inpatients of varying ages with an array of psychological disorders
- Observed group, individual, couples, and family therapy sessions conducted by experienced therapists
- Completed a total of 128 practicum hours