MODERATORS OF THE SOCIOCULTURAL INTERNALIZATION-BODY
DISSATISFACTION RELATIONSHIP AMONG FEMALE UNDERGRADUATES

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The sociocultural model of eating pathology is an empirically-supported model explaining eating disorder etiology. The model poses that body dissatisfaction and subsequent eating pathology stems from the unrealistic standards formulated by Westernized society. Although the model has strong empirical support, variables within the model do not account for 100% of the variance in disordered eating. Thus, the current researcher attempted to explore potential moderating factors in the sociocultural model of eating disorders that may help to explain variance currently unaccounted for. In particular, the researcher focused on the relationship between sociocultural internalization and body dissatisfaction, given that this relationship has not been previously explored within the literature. Based on theoretical support, the researcher chose several potential variables to test, including perfectionism, neuroticism, body surveillance, and shame. Primary analyses tested each variable for moderating effects using hierarchical moderated regression, but no significant findings were shown. Results of post hoc analyses showed all variables had significant mediating effects, with the exception of self-oriented perfectionism. The discussion section addresses consistency with previous research, limitations of the present study, treatment implications and guidelines for future research.
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Eating pathology, particularly subclinical representations of eating disorders, is increasingly present among young girls and women. Current estimates suggest that approximately 44% of adolescents have tried to lose weight (APA, 2000) and “dieting” has been seen in children as young as 7 years of age (Ricciardelli & McCabe, 2001). Pathological eating patterns are an increasingly problematic issue among college women in particular (Heffner, Ogles, Gold, Marsden, & Johnson, 2003; Smolak, Levine, & Schermer, 1999). Several factors may influence this problem, including numerous transitions, high pressures and academic demands (Heffner et al., 2003), establishment of independence from family, development of a self-image, beginning romantic relationships (Tripp & Petrie, 2001), and likelihood of higher socioeconomic backgrounds (Alexander, 1998). In addition, group membership that promotes social monitoring may also account for the high prevalence of eating pathology in the college population (Alexander, 1998). Eating disturbances are particularly concerning in this age group given the destructive psychological outcomes that occur in this stage of development more frequently than with women or girls of other ages (Krahn, 2005). Given the prevalence of eating pathology of young women, researchers have become interested in understanding which psychosocial variables contribute to the development and maintenance of disordered eating.

The sociocultural model of eating pathology (Stice, 1996) is one particular model that helps to explain eating disorder etiology, by posing that body dissatisfaction and subsequent eating pathology stems from the unrealistic standards formulated by Westernized society. In particular, the model distinguishes a series of pathways leading to disordered eating, including perceived appearance pressures from friends, family, and the media, leading to internalization of
the sociocultural thin ideal, leading to increases in body dissatisfaction, and ultimately disordered eating (Figure 1, p., 95). Research, ranging from correlational (Halliwell & Harvey, 2006; Paxton & Sculthorpe, 1991) to longitudinal (Engler, Crowther, Dalton, & Sanfner, 2006; Stice Chase, Stormer, & Appel, 2001), has supported the major pathways of the sociocultural model. However, although there is strong support for the pathways of the sociocultural model, the preceding variables do not account for 100% of the variance in disordered eating. Therefore, the identification of moderating factors (factors that either strengthen or weaken the pathways within the model) is crucial to understanding the factors that influence these relationships and help to explain why not all women develop body dissatisfaction and subsequent eating disorders even though they may be exposed to the same sociocultural ideals. However, few known studies have examined potential moderating relationships within the sociocultural model of eating disorder development.

Thus, the current study attempted to explore moderating factors in the sociocultural model of eating disorders. In particular, the relationship between sociocultural internalization and body dissatisfaction was the focus. Several potential moderators, including perfectionism, neuroticism, body surveillance, and shame (Figure 2, p., 96) were assessed. It was suspected that these variables would either weaken or strengthen the relationship between sociocultural internalization and body dissatisfaction, helping to explain why some women may be more body dissatisfied than others.
Eating Disorders: Definition and Prevalence

Clinical Disorders

Eating disorders are one of the most detrimental and costly disorders – physically, emotionally, psychologically, and financially – facing young women today (Kirk, Singh, & Getz, 2001). They are characterized by severe disturbances in eating and fall into three diagnostic categories: anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (ED-NOS) (APA, 2000).

In general, AN is characterized by the refusal to maintain a minimally normal body weight (defined as less than 85% of expected weight), fear of gaining weight, and exhibition of significant disturbance in the perception of the shape or size of one’s body (APA, 2000). This disorder is prevalent among girls in mid to late adolescence, with an onset usually associated with a stressful life event (APA, 2000). Anorexia also can occur with or without a binge/purge component. BN is characterized by a cycle of binge eating and inappropriate compensatory behaviors to prevent weight gain, as well as a self-evaluation that’s influenced by body shape and weight (APA, 2000). During very short time periods, the individual can consume large quantities of foods that tend to be sweet and highly caloric. These binges often occur secretly and generally are brought about by dysphoric mood states, interpersonal stressors, intense hunger following food restraint, and/or negative feelings related to body weight, body shape or body appearance. These binges usually result in a reduction of anxiety. However, the initial anxiety reduction that accompanies the binge generally is followed by the experience of shame and guilt,
an intense feeling of being out of control and physical pain at times that results from excessive food intake and extreme measures of purging (APA, 2000). To cope with these overwhelming feelings, individuals resort to inappropriate compensatory behaviors, such as vomiting, laxative abuse, or excessive exercise.

Those individuals experiencing eating disturbances and body image concerns, but not meeting the specific criteria of AN or BN may be diagnosed with ED-NOS (APA, 2000). Individuals with this disorder will have many of the symptoms associated with bulimia or anorexia, but have not met length of time or level of clinical concern to be otherwise diagnosed. They also may take part in other behaviors not common to the symptomology associated with either disorder, such as chewing and spitting out food without swallowing, or inappropriate compensatory methods following intake of small amounts of food (APA, 2000).

Subclinical Disorders

Researchers also have identified a category of eating disturbances that they term “subclinical,” which represent individuals who are experiencing symptoms associated with clinical eating disorders but do not meet DSM-IV criteria for any of the three clinical diagnoses (Heffner et al., 2003). Subclinical eating disorders are considered to be a growing problem in the U.S. and other Western societies. Results from studies examining both clinical and subclinical eating disorders have shown that most of the cases of eating disturbances show serious maladaptive eating behaviors (i.e., subclinical cases) rather than clinically diagnosable disorders (Graber, Archibald, & Brooks-Gunn, 2003). These subclinical cases are of particular importance because they may precede the development of clinical eating disorders (Graber et al., 2003).

Mintz, O’Halloran, Mulholland and Schneider (1997) identified several categories of subclinical eating disordered behavior which are frequently used to distinguish pathological
eating behaviors in individuals not meeting criteria for a clinical eating disorder. The categories include: low-weight anorexia (having a body mass index of 17.6-19.0 and meeting all other criteria of anorexia), nonnormal-weight nonbinging bulimia (meets all criteria for non-binging bulimia but is in a weight category other than normal), subthreshold non-binging bulimia (consists of any weight category, no binging, compensation [e.g., fasting, vomiting, etc.] but not a high enough frequency to be considered as non-binging bulimia), subthreshold binge-eating disorder (meets all criteria for binge-eating disorder but not at a high enough frequency), binge dieter (binge and compensate by strict dieting, but without other compensatory behaviors like fasting or vomiting), behavioral bulimia (meets all criteria for bulimia, but reports feeling in control during binges and denies that their self-esteem is influenced by their weight or body shape), subthreshold behavioral bulimia (very similar to behavioral bulimia, with the exception of meeting criteria for frequency of bulimic symptoms), and chronic dieter (those who do not binge, but use strict dieting or appetite control pills without the use of compensatory behaviors [e.g., fasting, vomiting, excessive exercise, etc.]). This classification system is important in that it provides researchers with a mechanism for studying different types of subclinical concerns to determine how similar to and different from one another they are in terms of comorbid physical and psychological problems and whether only certain ones best predict the ultimate development of eating disorders.

Prevalence and Mortality Rates of Eating Disturbances

Historically, eating disorders were thought to be most prevalent among upper-class, white female adolescents (Gentile, Raghavan, Rajah & Gates, 2007; Graber et al., 2003). However, new studies and measures show that eating disorders are experienced across a wider range of demographic groups, including economically disadvantaged groups, ethnically diverse groups,
and men (Franko, Becker, Thomas, Herzog, 2007; Gentile et al., 2007; Mulholland & Mintz, 2001; O’Dea & Yagar, 2006).

It has been estimated that over 6% of all women have an eating disorder of some kind (APA, 2000). Research focusing on the prevalence of eating disorders across cultures has found that eating disorder development is more likely in Western countries than non-Western (Makino, 2004). Prevalence rates for females in Western countries range from 0.1% to 5.7% for anorexia nervosa and 0.3% to 7.3% for bulimia nervosa, whereas prevalence rates in non-Western countries are less, ranging from 0.46% to 3.2% for bulimia nervosa and are almost non-existent for anorexia nervosa. It has been suggested that the prevalence of eating disorders may be directly proportional to the prevalence of dieting behavior and sociocultural ideals in a given population (Forman-Hoffman, 2004), helping to explain why westernized societies show higher rates of disordered eating behavior.

A meta analysis of the current literature reported an overall prevalence of 0.3 for anorexia nervosa in adolescent girls, after controlling for methodological problems and studies considered to be ungeneralizable (Hoek, 2003). Results of the meta analysis also found anorexia nervosa to be highest in girls ages 15-19, whereas bulimia nervosa was most prevalent in women ages 20-24 (Hoek 2003). Results of a nationwide community sample of 2028 females, ages 12-23, suggested the overall prevalence of eating disorders (all types) to be 3.06% in this population (Machado, Machado, Goncalves, et al., 2007). Anorexia nervosa was found in 0.39%, bulimia nervosa was found in 0.30% and ED-NOS was found in 2.37% of the sample. Similarly, results of another nationwide sample of 4746 public middle and high school students, found that of the female students surveyed, 41.5 % endorsed body shape perception disturbance, 36.4% had negative influence of body shape/weight on self esteem, 9.4% engaged in compensatory
behaviors, 0.04% met criteria for anorexia, 0.3% met criteria for bulimia, and 1.9% met criteria for binge eating disorder (Ackard & Fulkerson, 2007).

In addition, disordered eating appears to be particularly prevalent among college women. One study examined prevalence rates of college women athletes and non-athletes using the Eating Disorders Inventory-2 (Reinking & Alexander, 2005). Results showed that 7.1% of female athletes and 12.9% of female non-athletes were found to be in the “high risk” range for disordered eating. Another study (N=403), using the EAT-26, examined prevalence of eating disorders in college athletes and non-athletes and found similar results with 10.7% of college athletes and 15.2% of non-athletes scoring in the high risk range (indicating high risk of development or a current eating disorder) (Kirk, Singh, & Getz, 2001). Furthermore, a cross sectional study examining prevalence of eating disorders in college women in Mexico found that the prevalence rates significantly increased over a seven year period. The researchers examined eating disorder rates of students in their freshman and sophomore years in 1995 (N=522) and 2002 (N=880) using the Eating Attitudes Test and Bulimia Test. Results showed prevalence rates of clinical eating disorders to be 0.49% in 1995, as compared to 1.15% in 2002 (Mancilla-Diaz, Franco-Paredes, Vazquez-Arevalo, et al., 2007).

Prevalence rates also rise considerably when including subclinical as opposed to clinically diagnosable eating disorders. Graber et al. (2003) has suggested that as many as 20% of young girls and women will or have experienced subclinical eating disturbances as demonstrated by bulimic-related behaviors alone, such as purging, binging, or unhealthy dieting practices. Some researchers estimate that between 15% and 62% of all college women will use pathogenic weight control behaviors, such as self-induced vomiting, laxatives, diuretics, diet pills and excessive and dangerous exercise regimens, at some point during their school career.
(Kirk, 2001), while others show overall rates of disturbed eating in college women to exceed 60% (Alexander, 1998). Franko and Omori (1999) found, in a study of 207 college freshmen, that 9% met criteria for “probably bulimic” or “dieter at-risk.” However, when considering dieting behavior in general, over half of the sample showed symptomology, with an additional 23% classified as “intensive dieters” and 17% as “casual dieters.” Cohen and Petrie (2005) also examined eating pathology in college women (N=334) using the Questionnaire for Eating Disorder Diagnoses (Q-EDD). Results indicated that 172 (51.5%) were asymptomatic, 130 (38.9%) were symptomatic, and 32 (9.6%) were eating disordered (anorexia=1, menstruating anorexia=1, bulimia=2, subthreshold bulimia=17, nonbinging bulimia=6, and binge eating disorder=5). Similarly, Green et al. (2008) also examined a college sample (N=339) using the Q-EDD, with 53% found to be asymptomatic (n=180), 39% symptomatic (n=131), and 8% (n=28) falling in the diagnosable eating disorder category (menstruating anorexia=2, bulimia=12, ED-NOS=4, chew/spitter=8, BED=2).

Furthermore, it is estimated that between 4% and 20% of women clinically diagnosed with an eating disorder will die due to “unresolved symptomology” associated with the eating disorder, though fatal complications are significantly higher for anorexic patients than bulimics (Kirk, 2001). In fact, anorexia nervosa is the most fatal of all psychiatric disorders (APA, 2000). Mortality rates associated with anorexia are over ten percent of clinically diagnosed women, and are generally related to suicide, starvation, or electrolyte imbalance (APA, 2000; Forman-Hoffman, 2004). Bulimic patients experience complications due to fluid and electrolyte imbalance, esophageal tears, gastric rupture, and cardiac arrhythmia, and rectal prolapse (APA, 2000).

Summary
Eating disorders are one of the most dangerous and complex mental disorders in the
DSM-IV. Clinicians and researchers refer to eating disorders as either being at clinical levels if they meet specific DSM criteria, or at the subclinical level if features of the disorder are identified but clinical levels are not met. Clinical eating disorders are labeled in categories that include anorexia, bulimia, and eating disorder not otherwise specified. Research indicates that many of women will be affected by either clinical or subclinical eating symptoms at some point within their lifetime. Specifically, it is estimated that upwards of 60% of women will have used pathogenic weight control methods by the time they reach college. And, given the shame and embarrassment of pathological eating behaviors, under-reporting of symptoms is frequent. Thus, prevalence rates may be even higher than those discussed throughout this section. Eating disorders are particularly problematic in westernized societies, in which sociocultural influences of attractiveness are strongly upheld and control of one’s body is deemed very important.

Overall, eating disorders are the most deadly of all psychiatric diagnoses. Even if death does not result, if left untreated, unhealthy weight loss strategies place young women at risk for stunted growth, nutrient deficiencies, and illness (Forman-Hoffman, 2004), and exclude the nutrients necessary to enable healthy physical, sexual and psychological development (Forman-Hoffman, 2004).

Psychological, Medical, and Developmental Implications of Eating Disorders

Psychological Problems

Psychological problems, including anxiety, depression, social phobia, panic disorders, mood disorders, obsessive-compulsive disorder, post traumatic stress disorder, and substance abuse have been highly associated with eating pathology (Godart, Berthoz, Rein, et al., 2006; Salbach-Andrea, Lenz, Simmendinger, et al., 2008; Spindler & Milos, 2007). A recent study
examining the prevalence of comorbid diagnoses in female eating disorder patients (inpatient and outpatient) found that most of the women met criteria for at least one anxiety disorder during their lifetime (AN-Restricting=70.1%; AN-Binge Purge=71%; BN=62%). In addition, social phobia was found more frequently in AN-Restrictors than in bulimics, current OCD and agoraphobia appeared more frequently in AN-Binge Purge than bulimics, and lifetime panic disorder appeared more frequently in bulimics than AN-Restrictors (Godart et al., 2006). Researchers estimate that approximately 75% of individuals with an eating disorder will have a lifetime prevalence of comorbid depression (Woodside & Staab, 2006). Lifetime prevalence of anxiety disorders in eating disordered individuals is also very high – approximately 40% for OCD, 11% for panic disorder, 20% with social phobia/social anxiety disorder, 15% with specific phobias, 10% with generalized anxiety disorder, and 13% with PTSD (Woodside & Staab, 2006). For substance abuse/dependence, the lifetime prevalence rate is estimated at 17% for AN-restrictors and 40% in bulimics (Woodside & Staab, 2006). In addition, Salbach-Andrea et al. (2008) examined comborbity of psychiatric diagnoses in anorexic adolescent girls (N=101) and found 73.3% of the girls had a comborbid diagnosis, including mood disorders (60.4%), anxiety disorders (25.7%), OCD (16.8%), and substance use disorders (7.9%).

Interestingly, it may be that problematic personality characteristics persist even after the disordered eating behaviors have been resolved. In their study, Wagner, Barbarich-Marsteller, Frank, et al. (2006) examined potential personality differences between participants that had no eating disorder history and those that previously met criteria for a DSM-IV eating disorder diagnosis but are now in recovery. Comparison of scores on the Structured Clinical Interview for DMS-IV Axis I Disorders (SCID-I) showed that participants with an eating disorder history
were far more likely to score higher on variables of depression, anxiety, obsessions and compulsions than did the control group.

Even in individuals with subclinical eating disorders, there may be severe comorbid psychological concerns (Bunnell, 1990; Cohen & Petrie, 2005; Franko & Omori, 1999; Weiner, 1996). For instance, Spindler and Milos (2007) examined the relationship between psychiatric disorders and specific pathological eating symptoms using the Structured Clinical Interview (SCID). Results showed higher intensity and appearance-related concerns is associated with affective and anxiety disorders, and higher frequency of binge-eating and purging episodes is associated with Axis I anxiety disorders, substance abuse disorders, and Cluster B personality disorders.

In addition, Bunnell (1990) showed that patients with subclinical anorexia appear to be as depressed as those with the disorder. Subclinical anorexics also had similar levels of ineffectiveness, perfectionistic self-demands, fears of maturity, and alienation from one’s own emotional responses in comparison to those with the formal disorder (Bunnell, 1990). Cohen and Petrie (2005) compared women who were classified as eating disordered to those who were symptomatic and non-symptomatic. They found that the eating disordered group was highest in cognitive and behavioral rigidity, self-control, and extreme weight regulation, followed by those who were symptomatic females. On other measures, such as affective (e.g., level of sadness, anxiety, guilt, stress, happiness, confidence, and overall self-esteem), cognitive vulnerability and catastrophizing, and importance of being attractive and satisfaction with body, the symptomatic and clinical eating disorder groups did not differ from one another, though both were significantly higher than the asymptomatic group. These findings suggest many similarities between individuals meeting subclinical and clinical eating disorder criteria, and therefore
support the importance of examining subclinical eating pathology in eating disorder research and interventions.

Medical Complications

Eating disorders are particularly dangerous in young people due to the devastating medical and physical effects that are secondary to the disorder. Some physical complications of eating disorders are specific to children and include growth retardation, pubertal delay/arrest, and reduction of peak bone mass (Nicholls & Stanhope, 2000). Reductions in peak bone mass put the person at increased risk of fracture or breakage even when normal eating habits are restored (Nicholls & Stanhope, 2000). Furthermore, eating disorders increase the risk for hepatic steatosis (fatty infiltration of the liver), which serves as a marker for malnutrition (Nicholls & Stanhope, 2000). Vitamin and mineral deficiencies, as well as gastrointestinal problems are very common in early-onset anorexia and pose serious issues if left unresolved (Nicholls & Stanhope, 2000). Additional grave medical complications that have been found in association with eating disorders in young people include, intracranial tumors (Nicholls & Stanhope, 2000) and pretibial/periocular oedema following attempts to refeed when severe restriction is present (Ehrlich, Querfelf, & Pfeiffer, 2006).

Developmental Implications

Though eating disorder rates are increasing among different socioeconomic groups (Graber et al., 2003), research has shown that eating disorders often develop in adolescence and are frequent among women from higher socioeconomic levels (Alexander, 1998). Adolescence is a particularly vulnerable time due to the numerous and stressful transitions, including the establishment of independence from family, development of a self-image, and beginning romantic relationships (Tripp & Petrie, 2001). Therefore, adolescent studies have shown high
prevalence rates of eating disorders and disturbances. For example, The National In-Patient Child and Adolescent Psychiatry Study (NICAPS) examined prevalence of eating disorder diagnoses among 71 in-patient units in England and Wales (O’Herlihy, Worrall, Lelliott, Jaffa, et al., 2004). Though these facilities treat children and adolescents with all mental illnesses, eating disorders were found in 23% of patients over the age of 13 and in 15% of patients under 13. In this particular study, eating disorder diagnoses were more prevalent than any other mental health diagnosis. Another study examining changes in diagnostic prevalence rates among in-patient treatment facilities for children and adolescents showed similar results (Harpaz-Rotem, Leslie, Martin, & Rosenheck, 2005). The study examined 5346 children under the age of 18 and found that the proportion of children hospitalized for eating disorders had more than doubled from 2.3% to 5.1% over the last 15 years, whereas those with adjustment, anxiety, oppositional, and substance abuse disorders all significantly decreased. It was noted that the increase occurred solely in girls, aged 13-18.

Approximately 44% of adolescents are estimated to be trying to lose weight and approximately 1-4% of those young women will develop clinical eating disorders (American Psychiatric Association, 2000). Furthermore, a recent study has also shown disordered eating, fear of fat, body image concerns, weight loss attempts and dieting in children as young as seven years old (Ricciardelli & McCabe, 2001; Robinson, Chang, Haydel, & Killen, 2001). Croll et al. (2002) conducted a study among 9th graders and found that over half (56%) of the girls reported at least one of the following behaviors to lose weight: fasting, skipping meals, diet pills, vomiting, laxatives, smoking cigarettes, or binge eating. A recent study examining eating attitudes among 480 elementary school children (230 girls, 250 boys) found equally high levels of pathogenic weight control methods (Knez, Munjas, Petrovecki, Paucic-Kirincic, & Persic,
Moderate eating disturbances were found in 149 students (89 of which were females) and severe eating disturbances in 39 students (almost all female).

Overall, teens ages 15-19 years show the highest rates of anorexia which range from 0.2-0.8% (Van Hoeken, Seidell, & Hoek, 2003). Researchers speculate that the high prevalence of anorexia and other eating pathology in this age group is due to the fact that this is the time when girls begin to show the emergence of disordered eating. Striegel-Moore (1995) states that girls are socialized as understanding the importance of viewing themselves in the context of the relational self, which begins early in development. Though sex role socialization begins, essentially at birth, Striegel-Moore suggested that it is during the beginning of puberty, approximately grades 7-8, that gender-role socialization intensifies and increases girls’ stereotyped conceptions of themselves. Therefore, research has found that girls have strongly internalized the sociocultural ideal by puberty which places them at-risk for disordered eating far before the emergence of pathological eating is found at significant levels (Stice & Shaw, 2004). In addition, Strober (1984) found that girls with eating disorders typically show changes in life transitions and stressors approximately 8 months prior to the actual onset of eating pathology.

College women are also particularly at-risk for the emergence of eating pathology given the significant transitions that occur at this time in a woman’s life (Kirk, 2001). Specifically, college women hold many risk factors of eating pathology, including often being from a higher socioeconomic background, in addition to experiencing independence for the first time (Alexander, 1998). The transition from high school to college includes a lack of predictability in the new environment, different expectations for social conduct, higher demands for academic performance, and little or no parental guidance, all of which are influential and may negatively impact the teen (Heffner et al., 2003).
In addition, group membership that promotes social monitoring (e.g., sorority membership) is prone to increase eating disorder development among college women (Alexander, 1998). There are several reasons for this. For instance, research has shown that women concerned with creating and maintaining social facades are more prone to develop eating disorders as a means of meeting social expectations (Alexander, 1998). Baslow, Foran and Bookwala (2007) also found that women who are attracted to sorority membership are more likely to already be at-risk for eating disorders prior to membership (e.g., higher levels of body consciousness, disordered eating attitudes, perceived social pressures) than non-sorority members; in addition, they found support for increases in levels of bulimic symptomology and body dissatisfaction associated with length of stay in the sorority house, which suggests that the living situation also supports eating pathology. Other research findings show that peer influence has been positively correlated with binge-eating, and criticism from peers concerning body appearance has correlated with increased eating disorder symptomology (Young, et al., 2004). Thus, women who associate their identity with membership in particular college groups, such as athletic teams, sororities, etc., are considered to be at increased risk of disturbed eating (Young, et al., 2004; Alexander, 1998).

Pathological eating in college women is also an important phenomena to examine due to the unique consequences in this population. Though the physical and developmental impact of pathological eating poses particular risk for pubescent girls (Ehrlich, Querfelf, & Pfeiffer, 2006; Nicholls & Stanhope, 2000), risky dieting in college-age women is particularly harmful due to its association with other self-destructive behaviors (e.g., binge drinking, risky sexual encounters, etc.) that are found more frequently in the college population (Krahn, 2005). In addition to the overall cognitive dysfunction resulting from eating pathology, evidence has shown that “at-risk”
college dieters are 50% more likely to report current binge drinking than non-dieters. Furthermore, “at-risk dieters” also report more severe consequences of drinking episodes, including more frequent blackouts and unwanted/unintended sexual experiences (Krahn, 2005). Several other recent studies have also found support for increased substance use, especially binge drinking, in young women with eating pathology (Keel, Wolfe, Gravener, & Jimerson, 2008; Salbach-Andrea, Lenz, Simmendinger, et al., 2008; Woodside & Staab, 2006).

**Summary**

Eating disorders (both clinical and subclinical) are associated with complex comorbid psychological issues, including anxiety, depression, social phobia, panic disorders, mood disorders, obsessive-compulsive disorder, post traumatic stress disorder, and substance abuse, to name a few. In addition, eating disorders are particularly dangerous in young people due to the devastating physical and emotional effects that are also seen secondary to the disorder.

Furthermore, research has shown that eating disorders often develop in adolescence due to the numerous and stressful transitions associated with this time. Thus, it has been suggested that college women are an important group to study in regards to disordered eating behavior. Due to the transitional nature and newfound demands and stressors during this time, college becomes a prime time for the development of eating disorders to occur. Group membership, particularly sororities, is also a risk factor in promoting social monitoring and socially desirable behaviors, given that at-risk women are more strongly attracted to membership and individuals in these living situations tend to increase in level of eating pathology over time. In addition to dangerous physical outcomes, eating disturbances in young people can lead to a lifetime of unhealthy coping and adapting strategies. Therefore, understanding and addressing eating concerns in the college population is crucial.
The Sociocultural Model of Eating Disorders: Definition and Development

Definition

A growing number of researchers have begun to address the sociocultural factors in eating pathology. In particular, Stice et al. (1994; 1996; 2002) have examined many links into the development of eating pathology in young women, and eventually began to take notice of numerous research findings that showed correlations between internalization of the sociocultural thin ideal and the later development of eating disorders in young women. In his original study examining this link, Stice & Shaw (1994) targeted exposure to the mass media as a strong influence of sociocultural pressure. He noted that media messages have correlated with decreases in women’s ideal body weight, a parallel between the prevalence of eating disorders and weight loss advertisements in women’s magazines, and studies that showed decreases in women’s self-esteem and weight satisfaction following exposure to slides of thin models. Stice, in turn, theorized and found support for a sociocultural model that identified several mediating paths between exposure to the thin ideal pressures and the outcome of eating pathology. The model was based on the theory that repeated exposure to media ideals increases stereotyping and normalizes internalization of the thin ideal, which then produces heightened body dissatisfaction due to unrealistic body expectations, which consequently increases use of more drastic methods to achieve the internalized image, such as engaging in pathological eating and weight control behaviors.

Stice (2001) further developed these concepts through identification of the dual-pathway model of bulimic pathology that synthesized sociocultural, dietary and affect regulation components of eating pathology. This model suggests that exposure to social pressures and subsequent internalization of the thin ideal strongly contributes to body dissatisfaction in females
due to its unattainability, and is often seen in combination with pressures from family, peers and media, which bolsters the dissatisfaction (Stice, 2001). Females respond to body dissatisfaction through increases in either negative affect and/or dieting, which act as the two pathways to eating pathology in this model.

Dieting behavior is common due to beliefs that restriction is effective for weight control. However, it quickly results in negative affect when goals are not met, as well having a negative impact on overall mood from caloric restriction (Stice, 2001). In addition, dieting directly contributes to the likelihood of the individual binging because of severe caloric deficits that result. Negative affect also is a common response to body dissatisfaction due to the importance placed on appearance in westernized society, therefore inducing negative feelings about oneself when unable to attain the appropriate level of attractiveness through body size and shape. Interestingly, negative affect can result in both periods of restriction to decrease negative feelings or increase in food intake to bolster comfort from negative affect. Thus, negative affect can also be a pathway to bulimic symptomology. Though Stice stated that the existence of either negative affect or dieting alone can increase bulimic pathology, he also recognized the covarying relationship that exists between negative affect and dieting, and stated that they often promote and strengthen each other.

Several studies have shown strong support for the sociocultural model of eating disorders. For instance, Halliwell and Harvey (2006) examined the model in a large sample of adolescents ages 11-16 (females n=250; males n=257). Results showed girls had higher levels of perceived pressure to lose weight, stronger sociocultural internalization of appearance standards, higher body dissatisfaction, more peer comparison, and higher levels of pathological eating than boys. In addition, results fully supported the sociocultural model in that perceived pressures to
lose weight were directly associated with pathological eating behaviors through social comparison, internalization and body dissatisfaction. The researchers indicated that results showed support for perceived pressure to be thin as a risk factor for the development of body dissatisfaction and subsequent eating pathology. Twamley and Davis (1999) also found support for Stice’s sociocultural model of eating pathology. Specifically, their findings showed that thin-ideal internalization mediated 67% of the relationship between awareness of thin norms and body dissatisfaction, suggesting the importance of thin internalization ideals in the development of body dissatisfaction. In addition, body dissatisfaction mediated 22% of the relationship between thin ideal internalization and eating pathology, suggesting that body dissatisfaction is an important factor in the development of eating disorders. Several other studies have also found similar support for the sociocultural model of eating disorders, regardless of cultural background (Austin & Smith, 2008; Engler, Crowther, Dalton, & Sanftner, 2006; Wal, Gibbons, & del Pilar Grazioso, 2008).

Development of Cultural Norms

Norms are considered to be primarily social in nature and provide standards and/or rules that are understood by members of a group for guidance or constraint of social behavior, without the force of laws (Cialdini & Trost, 1998). Norms emerge out of interaction with others and include general, social expectations for behavior, the expectations of valued others for behavior, one’s own expectations of behavior, and standards that develop out of one’s observations of others’ behavior (Cialdini & Trost, 1998).

The formation and transmission of sociocultural norms occurs in one of two ways: adoption of arbitrary rules for behavior that are valued or reinforced by the culture, or alternatively, normative behavior that is adopted for functional purposes and aids in
accomplishing goals of the group (which suggests that ineffective or incorrect norms should not persist) (Cialdini & Trost, 1998). Anthropological tradition has held that norms are culturally specific and the power of any one norm is derived from its value within the culture that it operates, thus, it is not inherently good or bad by nature, but rather accepted and therefore powerful (Cialdini & Trost, 1998). Behaviors that are performed and rewarded repeatedly by explicit or vicarious reinforcement from society will then become the “preferred response” to a situation. The strength of the “preferred response” will depend upon the extent to which communication opportunities exist in the social group and therefore allow for transmission, how cohesive the group is thus valuing uniform behavior, and the importance of the normative influence within the group (Cialdini & Trost, 1998). Once preferences are firmly established and members of the social network are familiar with the costs of the non-normative behavior, deviation from the norm will be discouraged by the social network, at which point the norm is said to be “internalized” (Cialdini & Trost, 1998).

Interestingly, this perspective would suggest that any behavior could become a norm if the social network values and rewards the behavior pattern (Cialdini & Trost, 1998). The functional perspective of norm development further states that successful norms promote survival-related actions, that need not be genetic by nature, but rather communicate behaviors that are useful in acquiring status, affiliation with others, and mating capability (Cialdini & Trost, 1998).

Latane (1996) described normative influence as related to “social impact theory,” which states that the clustering of societal phenomena can be predicted by the strength of the source’s personal influence, the proximity or immediacy of the influence targets to the source, and the number of sources available. Thus, individuals are most heavily influenced by those who are
closest in physical space because proximity produces local agreement about important values and attitudes. Latane (1996) described the relationship between the self and society as dynamic because society is seen as a “self-organizing, complex system” in a dynamic environment through which the individual both influences and is influenced. When appropriate behavior is unclear, individuals will rely on “social reality” as displayed by others, with correctness of the social behavior determined by its frequency within the society (Cialdini & Trost, 1998).

Examples in research have shown reliance on “social reality” to be connected to increases in maladaptive behaviors such as increased willingness to engage in risky sexual behaviors and disturbances in eating patterns (Rutte, Wilke, & Messick, 1987; Crandall, 1988).

In addition to social reality, Bandura’s social cognitive theory (1989) discussed the significance of social comparison as a means to developing self-efficacy, or perceived self-confidence in one’s ability to perform a task (Azjen, 1991; Bandura, 1991). A favorable comparison of self to others leads to an increase in self-efficacy, whereas an unfavorable comparison decreases self-efficacy levels. Since self-efficacy is the basis of perceived behavioral control, social comparison is, thus, also a significant factor in the development of perceived behavioral control.

In Western culture, social reality, social norms, and self-efficacy have largely centered on control of one’s environment through mastery of one’s body, which is seen in early development through activities such as learning to crawl, potty training, riding a bicycle, etc. (Kearney-Cooke & Striegel-Moore, 1994). This focus on bodily control produces a normative feedback loop between control of one’s body and self-esteem (Kearney-Cooke & Striegel-Moore, 1994). As a young girl develops, control of her body is largely translated through the attainment of “thinness” as prescribed by the values of western culture (Kearney-Cooke & Striegel-Moore,
 Sociocultural pressures to be thin within a girl’s immediate environment can exacerbate body dissatisfaction (Bartky, 1990).

When looking at increasing rates of eating disorders in the United States, the growing problem is thought to be due to societal and cultural factors that emphasize the norms of dieting and thinness in young females (Edwards-Hewitt & Gray, 1993). For girls, what is favorable and desired is strongly influenced by cultural ideals concerning female body shape that can vary as a product of time (Krane, Shipley, Waldron, et al., 2001). Girls are influenced through cultural mediums, such as the media, peers and family, which suggests that a self-presentation resembling the cultural ideal will lead to positive perception from others. It has even been speculated that children’s books and videos provide children with an opportunity to internalize the characteristics associated with thinness and obesity, which leads to higher amounts of poor body image (Herbozo, Dunn, Gokee-Larose, & Thompson, 2004). For instance, Harris on (2000) found that the amount of television viewing in elementary-age boys was correlated positively with stereotyping of fat girls, including beliefs that they are lazy, greedy, mean, and unpopular. In addition, Herbozo et al. (2004) examined body image messages in children’s videos and books taken from Amazon’s most popular titles list. Results indicated that 72% of videos emphasized the importance of physical attractiveness, with 60% of the videos stressing the importance of the character’s physical appearance in her receiving of love by another character. Furthermore, 60% of the videos portrayed female thinness and character obesity was associated with negative traits in 64% of the children’s videos. Thus, the particular cultural messages and social institutions provide the back-drop for self-presentation ideals (Krane, Shipley, Waldron, et al., 2001).
As girls grow up they are internalizing society’s messages about the thin ideal and stigmatizations of obesity (Striegel-Moore, Silberstein & Rodin, 1986). Conformity is seen through the normative influence that pressures girls to follow the expectations of others, and thus avoid actions that will be met with social punishment or disapproval (Cialdini & Trost, 1998). Those girls who internalize the normative influence more readily are at increased risk for later attempts to control the body shape through dieting, which acts as a precursor to the development of disturbed eating behaviors (Kearney-Cooke & Striegel-Moore, 1994).

Aside from clarifying reality, social norms influence the individual through clarification of behaviors that are expected by those in our social world (Cialdini & Trost, 1998). Thus, internalization of the thin ideal can be further modeled through the family and peer supports that provide strong messages about expected behaviors (Stice, 1998). These norms and expectations need not be explicitly expressed in order to direct behavior, as the reward of popularity is sufficiently powerful to elicit even health-threatening behavior (Cialdini & Trost, 1998). Specifically, attitudes and beliefs regarding weight, dieting, and body image are thought to be both directly (e.g., verbal statements) and indirectly (e.g., modeling behavior or vicarious learning) transferred to children (Graber et al., 1999). Interestingly, an assessment of preschool children’s understanding of the concept of “dieting” suggests that young children are not fully cognizant of the meaning of dieting, even though many of the children surveyed indicate otherwise (Holub, Musher-Eizenman, Persson, Edwards-Leeper, Goldstein, & Miller, 2005). Forty-five percent of children (average age of 5 yrs) endorsed knowing what dieting meant, though only 17% gave an accurate definition. The researchers hypothesized that the transmission of dieting attitudes in our culture occurs prior to the child’s actual awareness as to what dieting means. By mid to late childhood, most children can accurately define the meaning
of dieting. Kostanski and Gullone (1999) examined 7-10yr old children and found that 72% correctly understood the relationship between food intake patterns and weight. Therefore, children in this age group are capable of direct transmission of both knowledge and attitudes. In addition, a strong positive connection has been found between mothers of daughters with eating disorder symptomology and maternal critiquing of daughter’s weight/physical attractiveness and maternal history of disordered eating (Young, et al., 2004). Therefore, overall it has been suggested that family members with maladaptive eating may model these eating attitudes and behaviors for other adolescent girls (Young, Clopton, & Bleckley, 2004). In college women, Crandall (1988) showed this to also be problematic within peer support systems. He examined the prevalence of bulimia in several sororities and determined that the high rate was best predicted by general social influence more so than individual predispositions. In the sororities studied, women who were moderate bingers were more popular than women who did not take part in binging activities, and furthermore, over time, the women’s binging regressed toward the mean of their friendship network (Crandall, 1998).

Development of Body Dissatisfaction

Sex role socialization is said to be a process that is on-going from the moment of birth (Striegal-Moore, 1995). However, it is during adolescence that this process is filled with complex developmental tasks, including the establishment of relationships with the opposite sex, coping with increased achievement expectations, and establishment of a strong sense of self (Streigel-Moore, 1995). Girls are thought to rely on and exaggerate sex-role expectations during adolescence, and thus use these exaggerations to develop stereotyped expectations of themselves and others.
Additionally, Striegel-Moore (1995) states that girls, not boys, are socialized to view their self-concept in terms of the “relational self,” which essentially implies the importance of defining oneself in relation to others and to care strongly about the thoughts, ideas, opinions, and welfare of others. The relational self is in stark contrast to the individualistic self-concept boys are taught. This suggestion is evidenced by higher levels of self expression of embarrassment and shame in women in comparison to men, and greater non-verbal expressions of sociability, likeability, and interest in others for females than males. Females are also taught by sociocultural means that self-esteem can be attained through physical attractiveness, as westernized culture associates physical attractiveness with interpersonal success (Striegel-Moore, 1995). Striegel-Moore states that the relational self places young girls at increased vulnerability to the thoughts and opinions of others, thus making her more susceptible to the sociocultural thin ideal and subsequent body dissatisfaction and eating pathology. Furthermore, the lack of mutuality and understanding in relationships, places females at increased risk for poor self-esteem and negative affect such as self-blame (Striegel-Moore, 1995).

Therefore, the accumulation of stressors from developmental tasks (e.g., establishing intimacy, etc.), life-stress transition, and achievement pressures are thought to be a risk factor for the increased likelihood of body dissatisfaction and disordered eating (Streigel-Moore, 1995); This is especially true for young women given that individual achievement and success in establishing intimacy are highly related to appearance for women as set by Westernized standards (McKinley, 2006). Some suggest that the use of dietary restraint and weight loss may be used in an attempt to delay maturation and associated stressors (Anderson & Crawford, 1992; Bourke, Taylor, & Crisp, 1985; Walsh & Burns, 2000).
Aside from the stress and transitions associated with adolescence, researchers also suggest that adolescents are at increased risk for eating disorders during this time due to the onset of bodily changes and associated body dissatisfaction. It has been noted that girls often view puberty as “a fat spurt,” which significantly increases their body dissatisfaction (Streigel-Moore, 1995) and may be associated with increases in dieting. For instance, Attie and Brooks-Gunn (1989) found an association between early pubertal development and body fat in female adolescents (Grades 7-10) and increased eating pathology. Streigel-Moore also suggests that the hormonal changes that result from puberty may put females at more risk for binge-related eating behaviors, particularly young women who already have poor affect regulation. However, other researchers hypothesize that hormonal changes accompanying puberty increase depressive symptomology, and restrictive eating may be the body’s attempt to reduce tryptophan, which subsequently acts to decrease dysphoria (Kaye, Bailer, & Frank, et al., 2005). Furthermore, some researchers have found correlations between adolescence and poor awareness of body signals, inability to label feelings and eating pathology (Leon, Fulkerson, Perry & Cudeck, 1993). This may be influenced by earlier physiological maturation than psychological and emotional maturation in the child. As a result, a child may use physical means (e.g., restrictive eating or purging) to decrease psychological and emotional distress that they are unable to cope with through healthy, mature psychological means (e.g., verbal communication, emotional processing and expression, etc.) due to emotional immaturity.

Studies assessing age in relation to eating pathology have shown results supporting increasing age as a protective factor in eating pathology (Green & Pritchard, 2003; McKinley, 1999; McKinley, 2006). For instance, McKinley (1999) found evidence that suggests that young women objectify their bodies more than older women. McKinley (2006) examined body
consciousness in 112 women who agreed to participate in a 10 year longitudinal study. Results showed that body surveillance and body shame tended to decrease over time, whereas body esteem tended to increase over time (McKinley, 2006). It has been suggested that this may be influenced by more mature women having a further developed sense of self and sense of self-worth outside of their visual stimulus, and other buffering factors such as better established support systems.

Overall, research results suggest several possibilities as to why adolescents’ risk of developing eating pathology may be increased. Adolescent females are overwhelmed with multiple transitions, including physical, emotional, and social, that often cause high levels of stress and increased body dissatisfaction. In addition, sex role socialization becomes exaggerated during adolescence and can increase the likelihood of emergence of body dissatisfaction and subsequent eating pathology at this time, due to the internalization of the sociocultural thin ideal portrayed in culture. Longitudinal studies have also found support for decreases in body shame and body dissatisfaction with increasing age.

**Summary.**

Norms are essentially arbitrary standards that provide guidance for socially acceptable behavior within a particular culture or group. In general, norms of westernized society have placed a strong importance on control over one’s body, which provides the cultural backdrop for the sociocultural thin ideal. For girls, especially, vulnerability to the level of internalization of these societal messages and pressures to be thin are determined by individual personality factors, in addition to values of family, peers, and important others. The more these messages are reinforced by varying influences and mediums, the stronger the internalization of the thin ideal will become.
In addition, sex role socialization is exaggerated during adolescence. The relational self also helps us to understand how girls are taught to view themselves in relation to the thoughts, ideas and welfare of others (Streigal-Moore, 1995). The combination of these two factors reinforces internalization of the thin ideal and subsequent body dissatisfaction.

Moderating Factors in the Sociocultural Model of Eating Disorders

Most, if not all, of young women are exposed to the messages of the thin ideal and many are, in turn, body dissatisfied (Tester & Gleaves, 2005). However, not all young women develop eating pathology, and in fact the actual prevalence of eating disorders is relatively low. Thus, this suggests that other individual or environmental factors must either mediate and/or moderate the relationship between exposure to the thin ideal and subsequent eating pathology (Tester & Gleaves, 2005). The sociocultural model of eating disorders is an empirically established pathway of eating disorder development (Figure 1, p. 93) which notes that exposure to the thin ideal leads to body dissatisfaction and subsequent eating pathology. Identifying factors that moderate this relationship appear crucial as they can help us understand the mitigating and protective factors that may explain why some women become body dissatisfied and others do not.

Furthermore, the research that has been conducted has focused primarily on the relationship between body dissatisfaction and the eating disordered outcomes (Brannan & Petrie, 2008; Tylka, 2004). The research that has been conducted on moderating variables of the body dissatisfaction and eating disorder relationship has yielded promising results. For instance, Tylka (2004) found that body surveillance, neuroticism, and having a family member or friend with an eating disorder intensified the relationship between body dissatisfaction and eating pathology. Brannan and Petrie (2008) replicated Tylka’s findings on neuroticism and body
surveillance and then additionally found that different aspects of perfectionism (e.g., socially-oriented and self-oriented perfectionism) moderated different eating disorder outcomes.

The current study will focus on factors that may affect the intensity of the relationship between internalization of the sociocultural thin ideal and body dissatisfaction. Identification of these moderating factors is critical for many reasons. For example, it helps to answer the question as to why some people develop greater levels of body dissatisfaction than others. Second, understanding etiology of eating disturbances is crucial to the development of efficacious intervention and prevention methods. Last, identification of protective and risk factors is important for identifying and targeting at-risk individuals and creating program content capable of producing change (Striegel-Moore & Bulik, 2007).

Thus, in this section I will address several psychosocial variables that have been identified as potential moderators of the internalization-body dissatisfaction relationship. Although there are other potential factors, I chose these based on their theoretical relevance and empirical support. The factors include: body surveillance, shame, neuroticism, and perfectionism (socially-prescribed and self-oriented).

**Body Surveillance**

Body surveillance is one of the three constructs associated with objectified body consciousness (OBC). Body surveillance addresses the concept that society has constructed women’s bodies as objects to be evaluated, rather than experienced. Thus, a woman acts as a surveyor of her own body, in contrast to experiencing one’s body for what it does or how it feels (McKinley, 2006). According to objectification theory, “self-objectification is defined as valuing one’s own body more from a third-person perspective, focusing on observable body attributes (e.g., “How do I look?”), versus a first-person perspective that focuses on non-
observable body attributes (e.g., How do I feel?)” (Noll & Fredrickson, 1998, p.624). In other words, those who self-objectify are “construing the self predominantly in terms of body shape, rigidly tying self-worth to external frames of reference, and experiencing the self as ineffective, incompetent, and vulnerable to external control” (Burley & Irwin, 2000, p.53). Feelings of shame related to the body may be easier for the individual to experience because they are more definite than the true source of shame, which may be harder for the individual to identify and accept. Objectification theory proposes that self-objectification creates increased opportunities to experience shame, especially about one’s own body (Noll & Fredrickson, 1998). Thus, increases in bodily shame are correlated positively with body dissatisfaction and disparagement in women (Kearney-Cooke & Striegel-Moore, 1994).

Studies have shown positive correlations of eating disordered behaviors, particularly bulimic symptomology (e.g., the frequency of vomiting), and level of self-denigration/shame (Kearney-Cooke & Striegel-Moore, 1994; Murrany & Waller, 2002; Pitts & Waller, 1993; Schmidt, 1997; Tobin, 1996; Zlotnick, 1996).

In general, studies examining the link between body surveillance and general mental health show negative findings. High body surveillance has been associated with low spirituality (Haymen, Kurpius, Befort, et al., 2007), shame (Haines, et al, 2008) depressive symptoms, poor physical and general self-efficacy (Lindberg, et al, 2006; Muehlenkamp & Saris-Baglama, 2002; Todd, 2007), low psychological well-being (McKinley, 1999), and pubertal development (Lindberg, et al., 2006).

More specifically, when looking at the link between eating disorder development and body surveillance in women the results are strong. For example, in a study examining sexual objectification experiences and associated variables of eating disorders, Moradi, Dirks, and
Matteson (2005) found body surveillance to be a significant mediator between sexual objectification and body shame, as well as an indirect pathway between body shame and disordered eating. Greenleaf (2006) also found body surveillance to be a significant factor in disordered eating, but only with women who were high in self-objectification. In addition, Tylka (2004) showed body surveillance to be a significant moderator in the relationship between body dissatisfaction and disordered eating. This finding was also replicated by Brannan and Petrie (2008).

High body surveillance is suspected to increase the strength in the relationship between sociocultural internalization and body dissatisfaction. Women who show higher levels of sociocultural internalization have more strongly internalized the importance of achieving the thin ideal. Since the presence of high body surveillance indicates that a woman is focused more closely on her body as it appears to others around her, it would follow that she would more closely attempt to meet society’s standards of the thin ideal if high sociocultural internalization is also present. Given that societal thin ideal standards are difficult, and near impossible, for most women to achieve, it is likely that a woman would show higher body dissatisfaction as a result.

However, if a woman is high in body surveillance, again indicating that she is using the standards of others to seek approval, but low in sociocultural internalization of the thin ideal, it is possible that she will show lower levels of body dissatisfaction. This is due to the possibility that her standards of her body appearance may be more attainable and therefore comparable to her actual body than those of the thin ideal.

In addition, if a woman shows high levels of internalization of the thin ideal, but she shows low levels of body surveillance, it is suspected that she too will also show lower levels of body dissatisfaction. In order for a woman to be dissatisfied with her body, it is important for her
not only to hold unattainable standards (such as the thin ideal), but also to be surveying and evaluating her body from others’ perspectives. If this is not the case, she may hold highly internalized views of the thin ideal but will likely have lower body dissatisfaction than a woman who is viewing her body from society’s lens. Thus, it is the combination of high sociocultural internalization of the thin ideal in addition to high body surveillance that is likely to create the highest level of body dissatisfaction in women.

The current study will use the Objectified Body Consciousness Scale to measure level of body surveillance. Body dissatisfaction will be determined by the Body Parts Satisfaction Scale and level of sociocultural internalization will be determined by the Belief About Attractiveness Scale.

*Shame*

Shame is another of the three constructs associated with objectified body consciousness (OBC). Both shame and guilt are self-conscious emotions that generally arise in response to some personal failure or transgression, and typically involve internal attributions for negative self-relevant events (Burney & Irwin, 2000; Sanftner & Crowther, 1998). Historically, it has been the case that the two terms have been used interchangeably, however, recent attention has attempted to clarify the differences and isolate the resulting consequences of each. Shame is defined as a negative self-conscious emotion that centers on an awareness of how the perceived defective self may appear to others, and an accompanying sense of the self as powerless, inferior, and unlovable (Burney & Irwin, 2000; Burney & Irwin, 2000; Murray & Waller, 2002). According to Lewis, shame arises from one’s negative evaluation of the *entire* self perceiving oneself as inadequate in some respect (i.e., incompetent, powerless, bad) (Lewis, 1987).
However, this is quite different than guilt, which is said to be an emotion that arises from the self’s negative evaluation of its behavior (Burney & Irwin, 2000; Sanftner & Crowther, 1996).

Recent research readily supports that it is ‘shame’ more so than ‘guilt’ that is strongly associated with disordered eating (Burney & Irwin, 2000). Though both emotions have been linked to psychopathology (Harder, 1995), guilt is considered to be less problematic due to its general relation to a specific behavior, rather than the entire self (Burley & Irwin, 2000; Sanftner & Crowther, 1996). In fact, Sanftner et al. (1995) found that guilt proneness tended to be negatively and less strongly related to eating disordered symptomology than was shame in a sample of undergraduate non-clinical women. In addition, they found that those women who were guilt-prone were more likely to resolve their conflicts through reparative action, thus their guilt actually served as a protective factor against the development of eating disordered psychopathology (Burley & Irwin, 2000; Sanftner & Crowther, 1996). However, eating disordered women are more inclined to feel bad about themselves as a whole (shame), rather than their individual eating disordered behaviors (guilt), thus making them particularly difficult to treat because their preceding ill feelings are tied to the core self (Burley & Irwin, 2000; Sanftner & Crowther, 1998).

The theoretical basis of shame holds that this emotion occurs whenever individuals evaluate themselves relative to internalized or cultural ideals and fail to meet those ideals (Noll & Fredrickson, 1998). When feelings of shame develop within a person due to the inability to meet the ideals of the culture, it is possible for the self to see the “failure” as an attribution of the entire being (e.g., “I am bad”), versus guilt in attributing failure to a specific action (e.g., “I did something bad”) (Noll & Fredrickson, 1998). Because we live in a culture that is sometimes focused more on the body than emotion, perceived failures or feelings of shame are often
translated into more tangible and observable failures of the self, such as feelings of shame and
guilt directed toward the body (feeling fat or out of shape) or feeling ashamed of the desire for
food (Burley & Irwin, 2000; Noll & Fredrickson, 1998).

Shame is suspected to be moderator of the internalization-body dissatisfaction
relationship. If a woman is high in internalization and high in shame then it is more likely that
she will be also be high in body dissatisfaction. If feelings of shame are accompanied by high
internalization of the thin ideal, then it is easy for a woman to focus her feelings of shame on
body shape/size. This can result in a woman seeking ways in which to alleviate these feelings,
perhaps through dieting and restricting food. Seeking out weight loss measures not only
suppresses feelings of shame toward the body, but also increases personal morale and feelings of
self-control since thinness is associated with attributions of discipline and self-control within our
culture. Unfortunately, this often just increases shame and dissatisfaction because of the

However, it is suspected that women low in internalization and high in shame will show
less body dissatisfaction. In this case, shame may be translated in other self-destructive
behaviors but less likely to be translated in body dissatisfaction since societal thin ideals are less
internalized in this group.

Finally, women with both low internalization and low shame will be the least likely to
show body dissatisfaction. Since they hold fewer societal ideals and have a higher sense of self-
worth, it is suspected that this group of women would be the most protected against body
dissatisfaction.
The current study will use the Body Shame Questionnaire to measure level of shame. Body dissatisfaction will be determined by the Body Parts Satisfaction Scale and level of sociocultural internalization will be determined by the Belief About Attractiveness Scale.

_Neuroticism_

McCrae and Costa (1992) operationally define neuroticism as the tendency of an individual to experience psychological distress and is in direct contrast to emotional stability and adjustment. Widiger (1984) defined neuroticism as an emotional trait that leads to quick arousal and slow inhibition when stimulated. It has been noted that neuroticism is a feature present in most psychiatric conditions with anxiety and depression being the two most common (McCrae & Costa, 1992).

Neuroticism has been negatively associated with general mental and physical health. For instance, Charles et al. (2008) found neuroticism to be a significant risk factor in a comprehensive 25 year longitudinal study of 8143 pairs of twins ranging from 15 to 47 years of age in 1973. Results showed that neuroticism at initial data collection predicted numerous physical conditions (e.g., musculoskeletal, neurological/ neuroimmunological, gastrointestinal, and cardiovascular conditions) in the sample 25 years later, with the strongest effects for conditions related to systemic pain. Other studies have shown neuroticism to be associated with depression and social withdrawal (Friedman-Wheeler, Haaga, Gunthert, Ahrens, & McIntosh, 2008), increases in risky behavior when in combination with emotional regulation deficits (Auerbach, Abela, & Ho, 2007), attentional control and aggression symptoms in children (Meesters, Muris, & van Rooijen, 2007), and higher suicide attempts or serious suicidal consideration in college students (Colson, 1972).
With regards to neuroticism and eating disorders, the results are interesting. Another study examining risk factors of disordered eating found both neuroticism and low self-esteem to be significant predictors in the development of eating pathology (Cervera, Lahortiga, Martinez-Gonzalez, et al., 2003). Other studies have found neuroticism to be linked with greater number of life stressors and increased dieting (Holin, Houston, & Kent, 1985) and personality variables such as conscientiousness when unhealthy eating behaviors are present (Heaven, Mulligan, Merrilees, et al., 2001). Some studies have also examined neuroticism as a moderator in the development of eating disorders. For instance, one recent study has found neuroticism to be a moderator in the relationship between introversion and disordered eating (Miller, Schmidt, Vallancourt, et al., 2006). In addition, Brannan and Petrie (2008) have also found neuroticism to be a significant moderator in the relationship between body dissatisfaction and disordered eating.

Neuroticism is suspected to also moderate the relationship between sociocultural internalization of the thin ideal and body dissatisfaction by strengthening it. If a woman has high sociocultural internalization in combination with high neuroticism, it is suspected that this will increase overall body dissatisfaction. Given that high neuroticism implies difficulty with emotional stability and coping, it would then make sense that this may lead to unhealthier ways of viewing oneself and coping if thin internalization was present.

However, if a woman shows high internalization but low neuroticism, it is suspected that she will have less body dissatisfaction. Since the emotional distress is not present overall, it is probably also less likely that she will feel emotional distress related to her body appearance; this person may also have a healthier coping system and therefore may find less of a need to engage in unhealthy coping associated with body dissatisfaction.
If a woman is low in thin internalization but high in neuroticism, it is likely she will be lower in body dissatisfaction. Though this person may feel emotionally unstable or have significant emotional distress, she may find other ways to express emotional instability and distress, rather than being body dissatisfied since she does not adhere to the sociocultural thin ideal. If a woman is low in both internalization of the thin ideal and neuroticism, she would probably be the least likely to experience body dissatisfaction, given that there is low emotional distress and low internalized beliefs about attractiveness.

The current study will use the NEO to measure level of neuroticism. Body dissatisfaction will be determined by the Body Parts Satisfaction Scale and level of sociocultural internalization will be determined by the Belief About Attractiveness Scale.

Perfectionism

Fee and Tangey (2001) identified three different types of perfectionism, including self-oriented (tendency to expect perfection from oneself), other-oriented (one expects others to be perfect), and socially-prescribed (the perception that others impose unrealistic expectations of perfection on the self). Socially-prescribed perfectionism has consistently been linked to excessive feelings of shame and guilt, and thus it is this type of perfectionism that is most maladaptive and more clearly seen in psychiatric populations than that of self and other-oriented perfection (Cockell, Hewit, Seal, et al., 2002; Fee & Tangey, 2001).

Studies examining the link between perfectionism and general mental health have found mixed results. Though results of some studies suggest that perfectionism is linked with positive factors such as high performance achievement (Lynd-Stevenson & Hearne, 1999), results of other studies have found perfectionism to be seriously linked with negative impacts on psychological health. One study examining dimensions of perfectionism as related to depressive
symptoms suggests that passive perfectionism (i.e., fear of making a mistake) is more likely to be associated with negative outcomes such as depressive symptoms, in contrast to active perfectionism (i.e., strive for achievement) (Lynd-Stevenson & Hearne, 1999). In general, studies in college students have shown associations between perfectionism and higher levels of anxiety (Wu & Wei, 2008), depression (Wu & Wei, 2008), obsessive compulsive disorder (Rice & Pence, 2006), and psychological distress and rumination (Flett, Hewitt, Blankstein, Gray, 1998) and eating disorders (Brannan & Petrie, 2008). For instance, one study using the Frost Multidimensional Perfectionism Scale found that depressive personality disorder, dysthymia, and depressive symptoms were associated with certain dimensions of perfectionism, including ‘concern over mistakes,’ ‘doubts about actions,’ and ‘parental criticism’ (Huprich, Porcereilli, Keachuk, et al., 2008).

When looking more specifically at the relationship between perfectionism and body dissatisfaction/eating disorder development, support has been found for perfectionism as a risk factor in the development of anorexia nervosa (Belangee, Sherman, & Roy, 2003; Sutandar-Pinnock, Woodside, Carter, et al., 2003). For instance, one such study looked at eating attitudes and perfectionism in college athletes and non-athletes. Results suggested that perfectionism was directly related to poorer eating attitudes, particularly with college athletes (Schwartz, Gairrett, Aruguete, & Gold, 2005). Another study comparing high levels of perfectionism in persons with major depression, anxiety disorders, and eating disorders found differences in the dimensions of perfectionism endorsed by the groups. Using the Frost Multidimensional Perfectionism Scale, results showed that the ‘concern over mistakes’ dimension was high in all groups, whereas ‘doubts about actions’ was only high in those with OCD and eating disorders, and ‘pure personal standards’ was only high in the eating disorder group. Thus, the disordered eating group was the
only group found to be high in all three dimensions of perfectionism examined (Sassoroli, Lauro, Romero, et al., 2008). Other studies have found that those who meet criteria for eating disordered behaviors show an elevation in self-oriented and socially prescribed perfectionism, as well as non-disclosure of imperfection (Cockell, Hewit, Seal, et al., 2002; Fee & Tangey, 2001; Sutandar-Pinnock, Woodside, Carter, et al., 2003). In addition, Brannan and Petrie (2008) found perfectionism to be a moderating factor in the relationship between body dissatisfaction and eating pathology. Specifically, results indicated that self-oriented perfectionism and socially prescribed perfectionism both moderated the relationship to bulimic symptoms, with socially-prescribed perfectionism being stronger; however, in anorexic symptoms, results were reversed with self-oriented perfectionism showing a significant moderating effect and socially-prescribed perfectionism not being significant.

High perfectionism is suspected to increase the strength of the relationship between sociocultural internalization and body dissatisfaction. If high sociocultural internalization of the thin ideal is present, this primes a woman to desire to achieve those near impossible standards of beauty ideals. If high levels of perfectionism are also present, this would suggest that the perfectionism would provide the motivation and drive to achieve the ideal, in addition to concern over mistakes, therefore strengthening the relationship. However, since most women are unable to attain the beauty ideal even with motivation, they may view themselves as a failure if unable to meet her goals which increases body dissatisfaction.

However, if high sociocultural internalization is present, but perfectionism is not, it is suspected that this will decrease the strength of the relationship between sociocultural internalization and body dissatisfaction. Though this individual may still show dissatisfaction over her body if it differs from the thin ideal, it is likely that it will be lower than an individual
who has high perfectionism. This is because low perfectionism indicates low motivation or drive for achieving the goal, and therefore less of a belief that with drive the individual can achieve the goal.

If a woman has low sociocultural internalization of the thin ideal, but also shows high levels of perfectionism, it is suspected that she too will show lower body dissatisfaction. Though she may have high levels of drive and motivation to achieve, it is likely that her focus will be placed on another area, such as sports, achievement in academics, etc. And, lastly, if a woman shows low levels of sociocultural internalization as well as low levels of perfectionism, it is likely that she will also have low body dissatisfaction. Since a woman with low internalized beliefs of the thin ideal would likely have lower body dissatisfaction than a woman who has high internalization, the addition of low perfectionistic tendencies would likely decrease this even further given that motivation/drive for change is also low.

The current study will use the Multidimensional Perfectionism Scale to measure level of socially-prescribed and self-oriented perfectionism. Body dissatisfaction will be determined by the Body Parts Satisfaction Scale and level of sociocultural internalization will be determined by the Belief About Attractiveness Scale.

**Summary**

In summary, there are many potential moderating factors suspected to affect the relationship between sociocultural internalization and body dissatisfaction. The factors that will be examined in this study include, body surveillance, shame, perfectionism, and neuroticism. Body surveillance is one of three components of the objectified body consciousness, and involves the concept of viewing oneself as something to be evaluated. Body surveillance is suspected to moderate the relationship between sociocultural internalization and body
dissatisfaction, due to high body surveillance increasing the need for standards of approval. High body surveillance is expected to increase the relationship and low body surveillance is likely to decrease the relationship.

Shame is another one of the three components of objectified body consciousness. Since we live in a society that is focused more on body control than emotions, these feelings of shame often become translated into body shame regarding shape and size. Therefore, shame is suspected to moderate the relationship between sociocultural internalization and body dissatisfaction. High shame is expected to increase the relationship and low shame is expected to weaken the relationship.

Fee and Tangey (2001) identified three different types of perfectionism, including self-oriented (tendency to expect perfection from oneself), other-oriented (one expects others to be perfect), and socially-prescribed (the perception that others impose unrealistic expectations of perfection on the self). High perfectionism is suspected to strengthen the relationship between sociocultural internalization and body dissatisfaction, and low perfectionism will weaken the relationship. Both self-oriented and socially-oriented perfectionism will be examined separately to see if they have different moderating effects.

Neuroticism is a psychological characteristic that is associated with increased psychological distress, emotional instability, poor adjustment and quick physiological arousal. Due to these features, it is suspected that neuroticism will moderate the relationship between sociocultural internalization and body dissatisfaction. Specifically, it is suspected that higher neuroticism will strengthen the relationship and lower neuroticism will weaken the relationship.

Conclusions & Current Study
The current literature review provides considerable evidence as to the importance and urgency of addressing body image and eating disorders in young women. Review of the most current studies in the literature reveals that eating disorders and body image concerns are increasing in prevalence among Westernized cultures, such as the United States. In addition, what was once thought of as a disorder of upper-class White women, has now begun to cut across cultures and socioeconomic status, such that women of color and lower socioeconomic status are also greatly affected by poor body image and eating disturbances. Overall, researchers estimate that over 6% of all women have an eating disorder of some kind. Young adolescent and college-age women are perhaps the most at-risk group for the emergence of disordered eating behavior. In fact, anorexia nervosa has the highest prevalence in women 15-19 yrs and bulimia nervosa is highest in women 20-24yrs. When looking at college-age women in particular, the numbers sky-rocket with estimates of 15-62% of all college-age women having used pathogenic weight control methods at some point during college. Furthermore, the implications and outcomes of disordered eating in young people are devastating. Eating disorders are amongst the deadliest of all psychiatric diagnoses and are accompanied by especially destructive emotional, psychological, physical/medical and developmental outcomes.

The sociocultural model of eating disorders provides a backdrop for understanding why eating disorders have become so common in our culture. Within Westernized culture, the focus on body control is especially important for developing self-efficacy and translates into attainment of thinness during adolescent years. This model states that our continual exposure to a societal ideal of thinness primes young women for disordered eating. The model’s pathway includes, initial exposure to messages of the thin ideal, followed by internalization of these messages, leading to body dissatisfaction, and subsequent eating pathology.
Though the model is well-established and has gained strong scientific support over time, it does not distinguish who are the women that develop disordered eating. Since all women are likely exposed to similar societal messages of thinness, and only a very small proportion of women develop clinical eating disorders, this suggest additional factors not accounted for in the model that affect the strength of the model’s relationships. Thus, more recent studies have begun to focus on moderating factors, (e.g., factors that affect the strength of relationships) within the sociocultural model of eating disorders. Results of these studies are promising, and show that factors such as neuroticism and perfectionism have significant influence on disordered eating outcomes in women who are body dissatisfied. However, these studies are sparse and tend to only focus on the relationship between body dissatisfaction and disordered eating.

Within the current study, the role of relationship between sociocultural internalization and body dissatisfaction in the sociocultural model of eating disorders was assessed. The reason for focusing on this relationship is due to its preventative nature, as well as the fact that this relationship has never before been explored. Understanding factors that may affect the relationship between internalization of societal thin ideal and body dissatisfaction outcomes can help to create effective future programs/interventions to protect against body dissatisfaction in young women. Having research that focuses on identifying protective and risk factors is crucial for developing effective prevention-based programming. In addition, identification of moderating factors in the sociocultural internalization-body dissatisfaction relationship may help us more effectively target at-risk girls before devastating outcomes occur.

Therefore, the current study examined several potential moderating factors in the relationship between sociocultural internalization and body dissatisfaction, including perfectionism (socially-prescribed and self-oriented), body surveillance, shame, and neuroticism.
Hypotheses

1. There would be a direct relationship between sociocultural internalization and body dissatisfaction.

2. Model 1 tested shame as a moderator in the sociocultural internalization and body dissatisfaction relationship.
   a. It was believed that shame would show main effects in the relationship between sociocultural internalization-body dissatisfaction.
   b. It was predicted that shame and sociocultural internalization would show an interaction effect with body dissatisfaction as the dependent variable, indicating that shame moderates the IV-DV relationship.

3. Model 2 tested body surveillance as a moderator in the sociocultural internalization-body dissatisfaction relationship.
   a. It was believed that body surveillance will show main effects in the relationship between sociocultural internalization-body dissatisfaction.
   b. It was also predicted that shame and sociocultural internalization would show an interaction effect with body dissatisfaction as the dependent variable, indicating that body surveillance moderates the IV-DV relationship.

4. Model 3 tested socially-prescribed perfectionism as a moderator in the sociocultural internalization-body dissatisfaction relationship.
   a. It was believed that socially-prescribed perfectionism would show main effects in the relationship between sociocultural internalization-body dissatisfaction.
   b. It was also predicted that socially-prescribed perfectionism and sociocultural internalization would show an interaction effect with body dissatisfaction as the
dependent variable, indicating that socially-prescribed perfectionism moderates the IV-DV relationship.

5. Model 4 tested self-oriented perfectionism as a moderator in the sociocultural internalization-body dissatisfaction relationship.
   a. It was believed that self-oriented perfectionism would show main effects in the relationship between sociocultural internalization-body dissatisfaction.
   b. It was also predicted that self-oriented perfectionism and sociocultural internalization would show an interaction effect with body dissatisfaction as the dependent variable, indicating that self-oriented perfectionism moderates the IV-DV relationship.

6. Model 5 tested neuroticism as a moderator in the sociocultural internalization-body dissatisfaction relationship.
   a. It was believed that neuroticism would show main effects in the relationship between sociocultural internalization-body dissatisfaction.
   b. It was also predicted that neuroticism and sociocultural internalization would show an interaction effect with body dissatisfaction as the dependent variable, indicating that neuroticism moderates the IV-DV relationship.

7. Model 6 was a combined model that tested all moderators and interactions in the same regression analysis.
   a. It was expected that all moderators would show main effects.
   b. It was also expected that all moderators would show positive interaction effects within the combined model.
CHAPTER 3

METHOD

Participants

Participants consisted of 399 female college students enrolled in psychology courses during the 2005-2006 academic year at the University of North Texas. Participants ranged in age from 18 to 25 ($M = 19.69, SD = 1.65$), and were predominantly Caucasian-American (64.9%), but also included African-American (16.5%), Hispanic/Latino/Mexican-American (8.3%), Asian-American/Pacific-Islander (6.3%), American Indian (0.8%), and other unspecified ethnicities (3.0%). In terms of academic status, participants were freshman (39.8%), sophomore (27.3%), junior (18.3%), senior (11.5%) and those beyond their fourth year in college (2.0%). Regarding self-reported cumulative grade point average, the women ranged from a 1.30 to 4.00 ($M = 3.07, SD = .058$) on a 4.0 GPA scale. The women resided in a college dormitory (44.9%), lived in an apartment, either with a roommate or alone (28.8% and 7.8%, respectively), or lived either at home, in a sorority house or other (12%, 0.3%, and 4.0%, respectively). The majority reported no active involvement in or association with a sorority (91.5%). Most of the women in the current sample reported being single and not currently in a relationship (46.1%) or single and in a current relationship without cohabitation with partner (46.1%); the remainder were single status and in a relationship with cohabitation with partner (6.5%) or married (1.3%).

Instruments

Demographics

A brief questionnaire survey was designed by the researcher for this study and included questions regarding: age, grade point average, race/ethnicity, current academic status, current
living arrangements, sorority involvement or association, physique characteristics (actual and ideal weight, height, length of time at current weight, times weighed per week). Additionally, participants were asked to disclose their perceived pressure for thinness through varying cultural mediums (e.g., peers, family, magazines, etc.), past/current eating disorder history, and history of menstruation

Social Desirability

The 12-item short version (Form B; Reynolds, 1982) of the Marlowe-Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1960) measures social desirability or “faking good,” a form of response bias encountered with self-report measures. For each item, participants respond using a true-false format. Total scores can range from 0 to 12; higher scores indicate greater tendency to underreport information that the participant believes may be viewed in a negative light or over-report information that may be viewed positively by others. Reynolds (1982) reported a reliability of .76. Reynolds also observed a significant correlation between Form B and the Edwards Social Desirability Scale ($r = 0.38, p < .001$). Loo and Thorpe (2000) have indicated that Form B was one of the best fitting short versions of the MCSD.

Internalization of the Societal Beauty Ideal

The 19-item Beliefs About Attractiveness Scale-Revised (BAA-R; Petrie, Rogers, Johnson, & Diehl, 1996) measures women’s endorsement of U.S. societal values concerning attractiveness and beauty. The BAA-R consists of two factors – Importance of Being Physically Fit (9 items) and Importance of Being Attractive and Thin (10 items). Participants rate their agreement with each item using a 7-point Likert scale ranging from 1, strongly disagree to 7, strongly agree. Factor scores are obtained by summing across the items for each factor and
dividing by the number of items. Total factor scores range from 1, \textit{low internalization} to 7, \textit{high internalization}.

Petrie et al. (1996) reported high internal consistency reliabilities of 0.90 for the Full Scale, 0.85 for the Importance of Being Physically Fit factor, and 0.85 for the Importance of Attractive and Thin factor. Cronbach’s alphas for the current study were 0.80 (Importance of Being Physically Fit) and 0.88 (Importance of Attractiveness and Thinness). Internal consistency for the current study was 0.877. In addition, Petrie et al. provided evidence for the construct validity of the BAA-R. The Importance of Being Physically Fit and the Importance of Being Attractive and Thin factor were significantly correlated with concern for body shape as measured by the Body Shape Questionnaire (BSQ; $r = 0.44$; $r = 0.42$, respectively) as well as importance of appearance/grooming time and satisfaction with appearance as measured by the Multidimensional Body-Self Relations Questionnaire, (MBSRQ; Appearance Orientation factor, $r = 0.24$; MBSRQ Appearance Evaluation factor, $r = -0.26$, respectively).

\textit{Body Dissatisfaction}

The 11-item Body Parts Satisfaction Scale-Revised (BPSSR; Petrie, Tripp, & Harvey, 2002) assesses individuals’ satisfaction with their bodies, focusing on specific body parts that are typically associated with dissatisfaction in females. The BPSSR consists of two factors – Satisfaction With Body (7 items) and Satisfaction With Face (4 items) – though only the Body Factor will be used in this study. For each item, individuals rate their level of satisfaction using a 6-point Likert scale, ranging from 1, \textit{extremely dissatisfied} to 6, \textit{extremely satisfied}. Total factor scores are the mean of each subscale and range from 1 to 6; higher scores indicating greater satisfaction. Petrie et al. (2002) reported internal consistency scores of 0.90 in a sample of 330 female undergraduate students. Internal consistency for the current study was 0.895.
Concerning validity, they reported significant correlations with Body Mass Index ($r = -0.32$), the Multidimensional Body Self-Relations Questionnaire Appearance Evaluation subscale ($r = 0.75$), the Body Shape Questionnaire ($r = -0.75$), and the Situational Inventory of Body Image Dysphoria ($r = -0.73$).

**Body Surveillance**

The 24-item Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) is composed of three subscales of objectified body consciousness, including body surveillance (viewing one’s body as an outside observer), appearance control beliefs (belief that one can change and control appearance), and body shame (internalization of thin ideal cultural norms and subsequent shame if standards are not met). Items are presented on a 7-point Likert scale, ranging from 1, *strongly disagree*, to 7, *strongly agree*. Participants have the option to rate an item as NA (e.g., not applicable) if it does not pertain to them, and the item will be recorded as a missing score. Total scores are calculated by adding together the responses for each item in each scale, and then dividing by the total number of items answered.

Internal consistencies of subscales are moderate to high, with Body Surveillance at 0.89, Body Shame at 0.75, and Control Beliefs Scale at 0.72. Internal consistency for the current study was 0.81. When comparing OBCS to the Body Esteem Scale (BES; Franzio & Shields, 1984), there was a strong negative correlation for each scale ($r = -0.39$ for Body Surveillance, $r = -0.51$ for Body Shame, and $r = -0.16$ for Control Beliefs). In examining construct validity, the Body Surveillance subscale positively correlated with both the Appearance Orientation Scale of the MBSRQ (Cash, 1994) ($r = 0.64$), the BCQ Public Body Consciousness Scale (Miller et al., 1981) ($r = 0.46$), and the Self-Consciousness Scales of Fenigstien et al. (1975). Construct validity of the Control Beliefs scale was shown through a one-way ANOVA, in which control beliefs...
correlated positively with dieting \((r=(109) = 0.38, \ p \ , .001)\), restricted eating \((r(109) = 0.35, \ p \ , .001)\), and wearing clothes to look thinner \((r(109) =0 .19, \ p \ , .05)\).

**Neuroticism**

NEO Five Factor Inventory (Costa & McCrae, 1992) is a 60 scale designed to measure five major personality characteristics, including neuroticism, extroversion, and openness to experience, conscientiousness, and agreeableness. This study utilized the 12-item Neuroticism subscale, which measures level of neuroticism (or emotional lability). A 5 point Likert scale, ranging from 0 (strongly disagree) to 4 (strongly agree) is used for each item. Higher scores indicate higher levels of neuroticism, whereas lower scores indicate higher levels of emotional stability. Raw scores are transformed into \(t\) scores. Costa and McCrea (1992) found correlations of 0.77-0.92 between the NEO-FFI and the longer NEO PI-R for the domain scales. Internal consistencies within the scales range from 0.68 to 0.86, with the Cronbach’s alpha of the Neuroticism scale at 0.86. Internal consistency for the current study was 0.84. Criterion validity shows the neuroticism subscale to be positively related to “emotional exhaustion” factor of burnout (Cano-Garcia, Padilla-Munoz, Carrasco-Ortiz, 2005). Costa and McCrea (1992) report high convergent validity of NEO to MMPI and MBTI.

**Shame and Guilt**

The Body Shame Questionnaire was based on interview questions (Andrews, 1998) that assess subjective experiences of bodily shame and guilt through 8 Likert scale items and 4 open-ended questions. For the current study, only 8 items were used, such as "I feel ashamed of my body or some part of it"; "I feel ashamed about exposing specific body parts." For each item, participants rated their level of agreement on a 5-point Likert scale, ranging from 1, definitely disagree, to 5, definitely agree. A factor analysis of the 8 items using principle axis factoring
and promax rotation uncovered two factors: shame (4 items) and guilt (4 items). Total bodily shame and total body guilt scores are derived through summation of the respective four questions, and can range from 4 to 20. Internal consistency reliabilities were .91 and .94, respectively, for shame and guilt, in the current study.

Perfectionism

The 45-item Multidimensional Perfectionism Scale (Hewitt, Flett, & Gordon, 1991) measures perfectionism along three dimensions: self-oriented perfectionism (15 items), other-oriented perfectionism (15 items), and socially-prescribed perfectionism (15 items). Self-oriented perfectionism is defined as a strong motivation to be perfect, with all or none thinking, and high achievement expectations (SOP; e.g., “One of my goals is to be perfect in everything I do.”). Other-oriented perfectionism is defined as the degree to which individuals have unrealistic standards for others (OOP; e.g., “If I ask someone to do something, I expect it to be done flawlessly.”). Socially-prescribed perfectionism is defined as the degree to which an individuals believes that others hold unrealistic expectations of his/her behavior and would not accept an alternative (SPP; e.g., The people around me expect me to succeed at everything I do.”). For the purposes of this study, only the self and socially prescribed dimensions were included. Each statement is rated on a 7-point Likert, from 1, strongly disagree, to 7, strongly agree, with higher total scores indicating greater levels of perfectionism.

Internal consistency was 0.86 (self-oriented) and 0.87 (socially-prescribed) (Hewitt, Flett, & Gordon, 1991). With regards to the current study, Cronbah’s alphas were .90 on the Self-Oriented factor and .86 on the Socially-Prescribed factor. Test-retest reliabilities were 0.88 (self-oriented) and .75 (socially-prescribed) (Hewitt, Flett, & Gordon, 1991). The MPS socially-prescribed and self-oriented perfectionism shows few gender differences in mean levels of
perfectionism (Hewitt & Flett, 1991). Concerning validity, self-oriented perfectionism was correlated significantly with such self-related measures as high standards ($r=.46$), self-criticism ($r=.46$), and self-blame ($r=.21$), but not correlated with demand and approval of others, fear of negative evaluation, locus of control, authoritarianism, dominance, or other-directed blame, which supports the discriminant validity of this subscale. Socially-prescribed perfectionism significantly correlated with measures of demand for approval of others ($r=.27$), fear of negative evaluation ($r=.46$), and locus of control ($r=.20$). Discriminant validity was found due to lack of correlation with high-self standards, authoritarianism, and dominance. Finally, correlations between the MPS subscales and emotion measures show significant correlations between MPS-self and guilt ($r=.18$), self-disappointment ($r=.27$), and anger ($r=.20$). MPS-social was significantly correlated with anger (.44), whereas the MPS-other was not significantly correlated with any emotion. All subscales were significantly correlated with the Burns Perfectionism Scale.

Procedure

Students were recruited to participate in the study through UNT’s sona systems website, a website that advertises and describes on-going research at the university. The students voluntarily participated and signed up for data collection times in advance. Data collection was conducted in classrooms across campus with a maximum of fifteen participants at a given time. The researcher was present to provide informed consent to participants. After obtaining written consent for participation, each participant was given a numbered packet containing the self-report questionnaires to complete by hand. The participants were first asked to complete a brief demographic questionnaire and then the remaining questionnaires, which were counterbalanced to control for ordering effects. At completion of the questionnaires, participants were offered
information regarding counseling and eating disorders due to the sensitive nature of the study; no students elected to take the reference information. Participants also were given class credit when appropriate.

Data Analyses

Initial Analyses

The raw data was initially examined for missing data. When missing data was found within individual measures, a priori procedures were implemented such that these values were manually replaced by using the most neutral value for each response.

Measured variables were totaled and descriptive statistics were run to determine means, standard deviations, and the distributional properties, and internal consistency reliabilities (see Table 1). All measured variables were examined to determine if they are in acceptable ranges, and therefore met the criteria for the assumption of multivariate normality within the sample. Correlations will be used to examine relationships among the measured variables (see Table 2).

Hierarchical Moderated Regression

The use of moderators is said to be the future of psychological research, helping us answer the conditions under which a variable allows us to best predict an outcome (Frazier, et al., 2004). Hierarchical multiple regression (HMR) is useful to examine moderators because it can be used for both categorical or continuous variables. Cohen et al. (2003) points out the importance of using theory to determine appropriate moderators to test in a study, stating that theory can help determine the predicted direction or effect a moderator may have on an interaction. Cohen et al. (2003) identifies three potential effects that a moderator can have on an interaction, including enhancing (predictor and moderator affect the outcome variable in the same direction), buffering (moderator weakens the relationship between predictor and outcome
variables acting as a protective variable), or antagonistic (predictor and moderator are in the same direction as each other, but opposite direction of outcome variable).

However, there are some problems to overcome when working with non-experimental moderator studies. For instance, McClelland and Judd (1993) pointed out the problem of low power in non-experimental studies for detecting interaction effects. Frazier et al. (2004) indicated that low power in these studies makes it difficult to then detect whether an insignificant interaction indicates flawed theory or simply low power. Therefore, Frazier et al. (2004) identified several factors that have been found to decrease power for interaction tests and should be accounted for within the study, including effect size and choice of variables. Regarding interaction effect size, it is important to keep in mind that effect sizes are small in interactions, and therefore the sample size to detect significance in a small interaction needs to be large. In order to increase total effect size, that is the amount of variance explained by the predictor, moderator and interaction combined, it has been recommended that increasing the multiple correlation between the full model and the outcome variable by including additional significant predictors of the outcome variable in the model as covariates (Frazier, et al., 2004).

With regards to choice of variables, Frazier et al. (2004) explains the importance of considering sample size across groups with categorical variables, as unequal sample sizes decreases power. Since the categorical variables are not manipulated in a non-experimental study, the effects on power need to be evaluated. In addition, inequality in error variances needs to be accounted for. With continuous variables, it is important to consider reliability of measures and restriction in range (meaning the probability of persons in the population being chosen for the sample). Frazier et al. (2004) also discusses the reliability of the outcome variable, such that lower reliability yields poorer correlation with predictors.
Given these issues with power, Frazier et al. (2004) makes the following suggestions: sample size be sufficient, test homogeneity of variance and conduct tests if assumption is violated, use continuous variables with high reliability, use continuous predictor and moderator measures with normal distribution, consider use of reliable and sensitive outcome measures, and increasing alpha to above .05. The current study took these suggestions into consideration.

With the current study, statistical tests of normality were conducted to examine if kurtosis and skewness are within normal limits. Hierarchical moderated regression (Frazier et al., 2004) was then used to control for social desirability. Then, main effects of sociocultural internalization and each moderator (socially prescribed and self-oriented perfectionism, body surveillance, body shame and neuroticism) were tested in distinct models, along with the interactions of each moderator with sociocultural internalization. In addition, one combined model was tested, placing all of the moderating variables in one model.

The independent variable for the current study was sociocultural internalization and the dependent variable was body dissatisfaction. Five moderating variables were tested in separate models with the same hierarchical regression step process, including shame (Model 1, see Figure 3), body surveillance (Model 2, Figure 4), socially-prescribed perfectionism (Model 3, see Figure 5), self-oriented perfectionism (Model 4, Figure 6) and neuroticism (Model 5, Figure 7); Model 6 (see Figure 8) tested all moderating variables in a combined regression analysis. All tested models used the same regression steps. The regression model was entered in the following order: Step 1 enter social desirability, Step 2 enter sociocultural internalization, Step 3 enter moderator, and Step 4 enter Sociocultural Internalization X Moderator Interaction. Main effects for each predictor variable (e.g., independent and moderators variables) were first explored by examining the change in variance accounted for within the second and third step of the model.
Significant change in $R^2$ and a significant beta weight at this step shows positive main effects. Moderating effects were examined by utilizing the same method in the fourth step of the model. Significant change in $R^2$ and a significant beta weight at this step indicates moderating effects.

In addition, prior to conducting regression analyses, the scale scores for all variables (predictor, moderating, and dependent) were centered and standardized to reduce issues of multicollinearity (Frazier et al., 2004). The standardized scores of all variables were used within the model. Standardized variable scores were also used when creating the interaction terms at Step 4.

Interactions were plotted using regression slopes according to recommendations of Aiken and West (1991), in which variable groups are plotted using the mean, one standard deviation above the mean, and one standard deviation below the mean.
CHAPTER 4
RESULTS

Preliminary Analyses

Descriptive Analysis

When asked to indicate the amount of pressure they felt from different sociocultural
groups or sources to achieve or maintain a certain body size or shape, participants indicated
feeling the most pressure from magazines ($M = 4.30, SD = 1.99$), with 50.63% ($n=202$),
reporting at least a 5 out of 7 on the Likert scale which indicated extreme pressures. They also
felt perceived pressure from television and movies ($M = 4.08, SD = 1.95$) with 44.86% ($n=179$)
indicating at least a 5 out of 7 on the Likert scale. Pressures from family ($M =3.04, SD =1.85$),
boyfriend/girlfriend ($M =2.67, SD = 1.77$), and friends ($M =2.92, SD = 1.64$) were lower. In
addition, the BAAR measured level of internalization of societal ideal and showed that nearly
78% of the sample indicated average to extremely high levels of internalization ($M = 2.68, SD =
1.11$).

When examining body dissatisfaction within the sample, results showed that over 50% of
the sample reported average or below average body satisfaction levels ($M = 3.19, SD = 1.16$). In
fact, nearly 17% of the sample indicated an average of 2 or less on the Likert scale, which shows
very high body dissatisfaction. In addition, body shame was also high within the current sample
($M = 12.14, SD = 4.27$). 625.2% of the sample reported average to very high levels of body
shame. Within the sample, 329 of the 379 women reported experiencing some memories
associated with body shame. Women reported first memories of body shame as early as 2 yrs of
age and as late as 22 yrs of age, with the average first memory at 12 yrs of age ($SD = 4.51$).
Disordered eating attitudes and behaviors were also analyzed. Eleven women (2.8%) of the women exceeded the recommended cutoff score (104 or greater) for a diagnosis of bulimia nervosa on the BULIT-R. However, 12.0% \((n = 48)\) scored above an 85, the cutoff score recommended for researchers who are using the BULIT-R as a screening tool (Thelen & Farmer, 1991). In addition 12.8% \((n = 51)\) of the women exceeded the recommended cutoff score (≥ 20) to be at risk for an eating disorder (anorexia nervosa, bulimia nervosa, EDNOS) on the EAT-26. Frequency of occurrence of eating disordered behaviors was examined using the 8 critical items on the BULIT-R. To help control their weight, 3.4% \((n = 14)\) of the women described using diuretics at least once a month, 3.0% \((n = 12)\) reported using laxatives or suppositories at least 2-3 times a month, and 6.3% \((n = 25)\) of the women reported intentionally vomiting at least once a month. A greater percentage of the women reported exercising more than one hour a day in order to burn calories (20.5%; \(n = 82\) ) and going on a diet at least once in the past year (48.6%; \(n = 194\) ) as means by which to control their weight. In addition, 47.1% \((n = 188)\) reported rapidly eating large amounts of food at least 2-3 times a month, and 25.8% \((n = 103)\) described that eating as binge eating. Of the women that admitted to engaging in binge eating behavior, 20.4% \((n = 81)\) reported that they had been binge eating for at least 3 months. (See Table 4 for frequency reports of eating disordered behaviors on the BULIT-R). The participants ranged in current body mass index from 16.44 (underweight) to 48.57 (morbidly obese) \((M = 23.37, SD = 4.48)\). The women reported weighing themselves anywhere from 0 to 15 times per week \((M = 1.17, SD = 1.74)\). With respect to eating disorder history, only 11 participants (2.8%) reported previous clinical diagnosis and/or treatment for anorexia nervosa and 9 participants (2.3%) reported diagnosis and/or treatment for bulimia nervosa. However, when participants were asked whether they currently believed they had an eating disorder or were in need of treatment, 2.3% of
participants thought they had an eating disorder and 12.0% showed endorsement of possible eating disordered behavior.

**Primary Analyses: Individual and Combined Hierarchical Moderated Regression**

*Hypothesis Testing*

The current study tested the potential moderating effects of several variables (e.g., shame, body surveillance, socially-prescribed perfectionism, self-oriented perfectionism, and neuroticism) on the sociocultural internalization-body dissatisfaction relationship. Each moderating variable was used to test a distinct model, thus leading to five separate models tested. The sixth model was a combined analysis which examined all moderators and subsequent interactions within the same model. Sociocultural internalization acted as the independent variable, and the dependent variable was body dissatisfaction.

*Hypothesis*

Within each tested model, social desirability was put in at Step 1 in order to control for the effects of social desirability. As a result, social desirability was found to be significant and account for 1.3% ($p < .01$) of the variance in the relationship between sociocultural internalization and body dissatisfaction. Once social desirability was controlled for in each model, Sociocultural Internalization was entered into each model at Step 2, and was found to account for an additional 10.2% of the variance ($p < .0001$) beyond the effects of social desirability. These results indicate that higher levels of sociocultural internalization were related to higher amounts of body dissatisfaction, thus supporting hypothesis 1 (Table 3, p. 88). After these initial relationships were tested and the relationship between body dissatisfaction and sociocultural internalization was found to be significant, moderator influences and interactions were tested in each model. Steps 1 and 2 are the same in all the models tested.
Hypothesis 2

In Model 1 (see Table 3; see Figure 3 and Figure 14), shame was tested as a potential moderator, and was found to be directly and significantly related to body dissatisfaction ($F (5,394) = 111.697, p < .0001$). Results of the hierarchical regression analysis showed that the adjusted $R^2$ at Step 4 was .527, indicating that the sum of all of the variables in the model accounted for 52.7% of the variance. When looking specifically at the variable shame, results show that shame accounted for an additional 41.3% of the variance beyond social desirability and sociocultural internalization ($p < .0001$). However, when the interaction term was tested (shame x sociocultural internalization) it was not found to be significant (change in $R^2 = \Delta F = .309$). Thus, these results show that shame has a main effect in the relationship between sociocultural internalization-body dissatisfaction, thus supporting Hypothesis 2a. However, no significant interaction effect indicates that shame does not moderate the relationship and therefore does not support Hypothesis 2b.

Hypothesis 3

In Model 2 (see Table 3; see Figure 4 and Figure 15), body surveillance was tested as a potential moderator, and was found to be directly and significantly related to body dissatisfaction ($F (4,393) = 34.967, p < .0001$). Results of the hierarchical regression analysis showed that the adjusted $R^2$ at Step 4 was .262, indicating that the sum of all of the variables in the model accounted for 26.2% of the variance. When looking specifically at the variable body surveillance, results show that body surveillance accounted for an additional 14.4% of the variance beyond social desirability and sociocultural internalization ($p < .0001$). However, when the interaction term was tested (body surveillance x sociocultural internalization) it was not found to be significant (change in $R^2 = \Delta F = .320$). Thus, these results show that
body surveillance has a main effect in the relationship between sociocultural internalization-body dissatisfaction, which affirms Hypothesis 3a. However, no significant interaction effect indicates that body surveillance does not moderate the relationship, and therefore does not support Hypothesis 3b.

**Hypothesis 4**

In Model 3 (see Table 3; see Figure 5 and Figure 16), socially-prescribed perfectionism was tested as a potential moderator, and was found to be directly and significantly related to body dissatisfaction ($F(4,394) = 15.543, p<.0001$). Results of the hierarchical regression analysis showed that the adjusted $R^2$ at Step 4 was .129, indicating that the sum of all of the variables in the model accounted for 12.9% of the variance. When looking specifically at the variable socially-prescribed perfectionism, results show that socially-prescribed perfectionism accounted for an additional 1.7% of the variance beyond social desirability and sociocultural internalization ($p < .0001$). However, when the interaction term was tested (socially-prescribed perfectionism x sociocultural internalization) it was not found to be significant (change in $R^2 = \Delta F = .491$). Thus, these results show that socially-prescribed perfectionism has a main effect in the relationship between sociocultural internalization-body dissatisfaction, which supports Hypothesis 4a. However, no significant interaction effect was found indicates that socially-prescribed perfectionism does not moderate the relationship and does not support Hypothesis 4b.

**Hypothesis 5**

In Model 4 (see Table 3; see Figure 6 and Figure 17), self-oriented perfectionism was tested as a potential moderator, and initial regression analysis showed that self-oriented perfectionism was not found to be directly or significantly related to body dissatisfaction.
Results of the hierarchical regression analysis showed that the adjusted $R^2$ at Step 4 was .113, indicating that the sum of all of the variables in the model accounted for 11.3% of the variance. When looking specifically at the variable self-oriented perfectionism, results show that this variable only accounted for an additional 0.4% of the variance beyond social desirability and sociocultural internalization ($p < .0001$). The interaction term was still calculated given that moderator interaction can sometimes be significant even when the moderator alone does not show to have a significant relationship to the independent and dependent variable. When the interaction term was tested (self-oriented perfectionism x sociocultural internalization), however, it too was found to be insignificant (change in $R^2 = \Delta F = .126$). Thus, these results show that self-oriented perfectionism does not have a main effect or interaction in the relationship between sociocultural internalization-body dissatisfaction, showing that self-oriented perfectionism does not moderate the sociocultural internalization-body dissatisfaction relationship. Thus, hypotheses 5a and 5b were not supported.

**Hypothesis 6**

In model 5 (see Table 3; see Figure 7 and Figure 18), neuroticism was tested as a potential moderator, and showed that neuroticism was found to be directly and significantly related to body dissatisfaction ($F(4,394) = 27.826, p<.0001$). Results of the hierarchical regression analysis showed that the adjusted $R^2$ at Step 4 was .217, indicating that the sum of all of the variables in the model accounted for 21.7% of the variance. When looking specifically at the variable neuroticism, results show that this variable only accounted for an additional 11.4% of the variance beyond social desirability and sociocultural internalization ($p < .0001$). However, when the interaction term was tested (neuroticism x sociocultural internalization) it was found to be insignificant (change in $R^2 = \Delta F = .072$). Thus, these results show that
neuroticism has a main effect on the sociocultural internalization-body dissatisfaction relationship, which supports Hypothesis 6a. However, the insignificant interaction term indicates that neuroticism does not moderate the relationship and thus does not Hypothesis 6b.

_Hypothesis 7_

In Model 6 (see Table 3; see Figure 8), a combined hierarchical regression analysis was completed, with all moderator variables entered into Step 3 and all interaction variables entered into Step 4. Results of the combined hierarchical analysis showed that the adjusted $R^2$ at Step 4 was .545 ($F (12,375) = 39.565, p<.0001$), indicating that the sum of all of the variables in the model accounted for 54.57% of the variance. When looking specifically at the moderators, results show that with all moderators entered in at Step 3 the variables accounted for 44.6% of the variance beyond social desirability and sociocultural internalization ($p < .0001$). Main effects were found for shame ($p < .0001$), body surveillance ($p < .001$), and socially-prescribed perfectionism ($p < .001$), thus supporting hypothesis 7a. However, when the interaction terms were tested at Step 4, results were insignificant (change in $R^2 =$ at Step 4 = .003; $\Delta F = .439$). Thus, no moderating effects were found in the combined analysis within the sociocultural internalization-body dissatisfaction relationship therefore no support is found for Hypothesis 7b.

_Summary_

Overall, both individual and combined hierarchical regression procedures were used to test potential moderators for the sociocultural internalization-body dissatisfaction relationship. Five individual moderators were used to test each moderator distinctly, and one combined model was used to test all moderators at once. After controlling for the effects of social desirability, results of hierarchical moderating regression found sociocultural internalization to be significant. Next, each moderator was tested individually with hierarchical moderated regression procedures.
All of the tested moderating variables showed main effects that accounted for a significant proportion of the variance in this relationship, with the exception of self-oriented perfectionism. However, interaction effects were not found for any of the tested variables. Thus, these results indicate that none of the individually tested variables act as moderators within the sociocultural internalization-body dissatisfaction relationship. Similar results were found within the combined analysis. Main effects were found with shame, body surveillance and self-oriented perfectionism. Again, no interaction effects were found within the combined model. This indicates that none of the tested variables were found to moderate the sociocultural internalization-body dissatisfaction relationship. Implications of these findings are examined in the Discussion section of the document.

Exploratory Post-Hoc Analyses

Mediated Regression

Given that many of the tested moderating variables were shown to have significant main effects and all showed insignificant interaction effects, the researcher opted to complete post-hoc analyses that explored the possibility of the variables acting as mediators. Since several of these variables are shown to explain a significant amount of the unique variance within the sociocultural internalization-body dissatisfaction relationship, and yet they are not significant as moderators, testing a potential mediating effect is an important next step.

In order for a variable to act as a mediator, several significant relationships must be established. According to Baron and Kenny (1986), a mediator must show 1) a significant relationship between the independent and dependent variable (c), 2) a significant relationship between the independent variable and mediating variable (a), 3) a significant relationship between the mediating variable and dependent variable (b), and 4) the relationship between the
independent to dependent variable must significantly decrease in significance level when the mediating variable is introduced into the relationship ($c^1$).

Mediators can be tested in several ways. In this study, mediation was tested using regression analysis along with examining both the direct and indirect effects of the tested mediating variables on the relationship between the independent and dependent variables. The independent variable was sociocultural internalization and the dependent variable was body dissatisfaction. The first step for each model was to establish a significant relationship between sociocultural internalization and body dissatisfaction. The regression coefficient showed a strong, significant relationship ($c=-.335, p < .0001$), indicating that stronger sociocultural internalization was related to higher body dissatisfaction. The second step was to complete a simple regression with each mediating variable and the independent variable to establish whether the regression coefficient was significant. The third step in each model was to test the significance of the regression coefficient between the mediating and dependent variables, using another simple regression. The fourth step of the process is to enter both the independent and dependent variables into the regression analysis to control for the effects of the mediator on the relationship between the independent and dependent variables ($c^1$). This step establishes whether there is a direct effect of the mediator. The final step in the process is to determine whether an indirect effect is present. This type of effect shows what the effect of the independent variable is on the dependent variable when mediator is present and not controlled for. If a mediator is significant, then a sobel test will indicate that indirect effect is significant (e.g., the effect of $c$ is less significant than $c^1$). A significant indirect effect indicates that the relationship between the IV and DV is less significant when the mediator is present, and thus shows that the mediator acts as a predictor of the DV. Each of the potential mediators was examined individually in five
distinct models, including Model 1a Shame (see Figure 9, p. 101), Model 2a Body Surveillance (see Figure 10, p. 102), Model 3a Socially-prescribed Perfectionism (see Figure 11, p. 103), Model 4a Self-oriented Perfectionism (Figure 12, p. 106), and Model 5a Neuroticism (see Figure 13, p. 105). Please note that step 1 (e), that is the relationship between the IV and DV, is the same in all tested models.

Model 1a

In Model 1a (see Table 4; see Figure 9), shame was tested as a potential mediator in the sociocultural internalization-body dissatisfaction relationship (see Figure 9, pg . 101) In the second step of the model, the relationship between sociocultural internalization and shame was tested using a simple regression and found to have a significant regression coefficient of .359 (p < .001). The third step examined the relationship between mediator variable shame and body dissatisfaction, and was found to show a significant relationship with a regression coefficient of -.693 (p < .001). The next step was to study the relationship between sociocultural internalization and body dissatisfaction while controlling for the effects of the mediator variable shame. The regression coefficient was significant at -.086 (p < .05), indicating the presence of a direct effect. In addition, findings on the sobel test indicated a significant difference (p = .000) between c (-.335) and c1 (-.086), showing support for an indirect effect. Thus, results indicate that shame does indeed have support as a mediator of the sociocultural internalization-body dissatisfaction relationship.

Model 2a

In Model 2a (see Table 4; see Figure 10), body surveillance was tested as a potential mediator in the sociocultural internalization-body dissatisfaction relationship. In the second step of the model, the relationship between sociocultural internalization and shame was tested using a
simple regression and found to have a significant regression coefficient of .325 ($p < .001$). The next step examines relationship between mediator variable body surveillance and body dissatisfaction, and was found to show a significant relationship with a regression coefficient of -.408 ($p < .001$). The next step was to examine the relationship between sociocultural internalization and body dissatisfaction while controlling for the effects of the mediator variable body surveillance. Results showed a significant regression coefficient of -.201 ($p < .001$), which supported the presence of a direct effect. Findings on the sobel test were significant showing that there is a statistical difference ($p = .000$) between $c$ (-.335) and $c_1$ (-.201), therefore supporting an significant indirect effect. Thus, results indicate that body surveillance also has support as a mediator of the sociocultural internalization-body dissatisfaction relationship.

**Model 3a.**

In Model 3a (see Table 4; see Figure 11), socially-prescribed perfectionism was tested as a potential mediator in the sociocultural internalization-body dissatisfaction relationship. In the second step of the model, the relationship between sociocultural internalization and socially-prescribed perfectionism was tested using a simple regression and found to have a significant regression coefficient of .333 ($p < .001$). The next step examines relationship between mediator variable socially-prescribed perfectionism and body dissatisfaction, and was found to show a significant relationship with a regression coefficient of -.154 ($p < .01$). The next step was to examine the relationship between sociocultural internalization and body dissatisfaction while controlling for the effects of the mediator variable socially-prescribed perfectionism; regression coefficient was significant at -.283 ($p < .001$) which shows a direct effect is present. A positive sobel test indicated a significant statistical difference ($p = .005$) between $c$ (-.335) and $c_1$ (-.283), which shows support for an indirect effect. Thus, results indicate that socially-prescribed
perfectionism also has support as a mediator of the sociocultural internalization-body dissatisfaction relationship.

**Model 4a**

In Model 4a (see Table 4; see Figure 12), self-oriented perfectionism was tested as a potential mediator in the sociocultural internalization-body dissatisfaction relationship. In the second step of the model, the relationship between sociocultural internalization and self-oriented perfectionism was tested using a simple regression and found to have a significant regression coefficient of .150 ($p < .05$). The next step examines relationship between mediator variable self-oriented perfectionism and body dissatisfaction, and was found to show an insignificant relationship with a regression coefficient of .060 ($p > .05$). The next step was to examine the relationship between sociocultural internalization and body dissatisfaction while controlling for the effects of the mediator variable self-oriented perfectionism; regression coefficient was significant at -.344 ($p < .001$). However, the outcome of the sobel test was insignificant indicating no statistical difference ($p = .245$) between c (.335) and c1 (-.344). Therefore, there is no support for an indirect effect which indicates that self-oriented perfectionism does not act as a mediator of the sociocultural internalization-body dissatisfaction relationship.

**Model 5a**

In Model 5a (see Table 4; see Figure 13), neuroticism was tested as a potential mediator in the sociocultural internalization-body dissatisfaction relationship. In the second step of the model, the relationship between sociocultural internalization and neuroticism was tested using a simple regression and found to have a significant regression coefficient of .252 ($p < .001$). The next step examines relationship between mediator variable neuroticism and body dissatisfaction, and was found to show a significant relationship with a regression coefficient of -.357 ($p <$
The next step was to examine the relationship between sociocultural internalization and body dissatisfaction while controlling for the effects of the mediator variable neuroticism; regression coefficient was significant at -.234 ($p < .001$). A positive sobel test indicated a significant statistical difference ($p = .000$) between $c$ (-.335) and $c_1$ (-.234), which shows support for an indirect effect. Thus, results indicate that neuroticism also has support as a mediator of the sociocultural internalization-body dissatisfaction relationship.

**Summary**

Regression analysis procedures were used to test the direct and indirect effects of all of the previously tested variables in the primary analyses. Five distinct models tested for potential mediating effects of each variable on the sociocultural internalization-body dissatisfaction relationship. Baron and Kenny (1986) guidelines were followed and the sobel test was used to determine whether an indirect effect was present in each model. The results indicated that significant indirect effects were found for all of the tested models (e.g., Model 1a, Model 2a, Model 3a, and Model 5a), with the exception of self-oriented perfectionism. Thus, it was concluded that Shame, body surveillance, socially-prescribed perfectionism, and neuroticism showed mediating effects in the sociocultural internalization-body dissatisfaction relationship. Implications of these findings are examined in the Discussion section of the document.
CHAPTER 5
DISCUSSION

Initial research on eating disorders has generally focused on developing models of eating disorder etiology, which help to explain how disordered eating develops. Of all of these models, the sociocultural model of eating disorders has become one of the most well-known and empirically-supported. However, though this model helps to explain a basic pathway of disordered eating outcomes, it does not account for 100% of the variance. In fact, though most women are exposed to the ideals of society, relatively few actually develop clinical eating disorders or even subclinical eating pathology. Therefore, this suggests that outside variables that are not accounted for within the model must help to explain which women will become eating disordered. More recent studies have begun to examine factors that may affect or impact the relationships within this model. However, these studies are minimal and the studies that have been done examined the relationship between body dissatisfaction and eating disorders. Therefore, the purpose of the current study was to explore potential moderating factors within the sociocultural internalization-body dissatisfaction relationship, which has never before been explored in the literature. Findings within this relationship could provide us with significant treatment implications and could inform prevention-based body image programming.

Hypothesis Testing

All tested variables were examined as potential moderators and mediators. Results showed that none of the variables were found to be significant moderators, yet most (all except self-oriented perfectionism) tested positive as strong mediators in the sociocultural internalization-body dissatisfaction relationship. This suggests that none of the variables act as influencing factors that either strengthen or weaken the relationship (e.g., as a moderator would),
but rather each of the significant mediators has a causal relationship and acts as a predictor to body dissatisfaction. That is to say that the mediating variables tell us the how the pathway between sociocultural internalization-body dissatisfaction occurs. This means that there is only an indirect relationship between sociocultural internalization-body dissatisfaction that is better explained with the addition of mediating factors. Since there is no other known research that has tested the same relationship, the researcher will discuss how the current findings are best explained by available literature and whether they are consistent with similar research findings.

Shame

One of the strongest findings of the study was shame as a mediator in the sociocultural internalization-body dissatisfaction relationship. This suggests that women who are ashamed of their bodies and have internalized societal ideals appear to be at great risk for developing a negative body image, as the presence of shame allows a pathway for the emergence of body dissatisfaction.

This is consistent with findings in the literature. For instance, shame has been described as central to the emergence of alienation, loneliness, inferiority and perfectionism, and may contribute to low self-esteem, poor self-image/self-concept, and deficient body-image (Kaufman, 1989). In a recent study, the effects of idealized media images were examined in accordance with body shame and appearance anxiety and found that appearance anxiety and body shame increased following exposure to idealized images (Monro & Huon, 2005). Another recent study found that body shame and body surveillance were significant factors in the development of body dissatisfaction in adolescents 14-16 yrs of age (Knauss, Paxton, & Alsaker, 2008). In addition, within a clinical sample of eating disordered women, researchers found a significant relationship between bullying and body dissatisfaction; this relationship was mediated by shame,
indicating that shame has been established as a significant factor and mediator in the
development of body dissatisfaction (Sweetingham & Walker, 2008).

Often body shame has been described as stemming from internalized appearance ideals
which are dictated by media images combined with a tendency to objectify oneself based on
appearance (Calogero, Davis, & Thompson, 2005; Schooler, 2005; Monro & Huon, 2005).
Lewis (1971) discussed the relevance of shame proneness in women who endorsed gender
specific roles, as is indicated by societal ideals, and stated that shame provides women with a
mode of organizing information about the self.

In addition, increases in bodily shame and guilt may result from a perceived
failure/inability to achieve while striving for perfection (e.g., the thin ideal). Erickson’s
psychosocial theory may help to account for this finding, in that shame and guilt can result from
feelings of inadequacy and inability to perform autonomously and effectively. In his eight stage
developmental theory, Erikson notes that autonomy vs. shame and guilt occurs as the second
stage, is associated with the development of the conscience, and provides the basis for the child’s
interpretation of her later crises involving coping with feelings of guilt in relation to
contemplating/undertaking tasks without completion. A recent study examining the importance
of healthy resolution of psychosocial crises showed that feelings of autonomy accounted for
more variance in self-esteem and weight preoccupation than any other psychosocial
developmental score, and suggested that autonomy protected against perfectionistic sociocultural
ideals. Women who had high levels of shame and guilt in this stage were associated with higher
drives for thinness and feelings of inadequacy in their abilities to achieve (Liu, 1996). Therefore,
feelings of efficacy and ability to achieve are associated with less feelings of shame and guilt.
Thus, this may help to explain why women holding high internalized ideals and expectations are more prone to developing body dissatisfaction when body shame is present.

*Body Surveillance*

Body surveillance was found to be a mediator in the relationship between sociocultural internalization-body dissatisfaction. This means that when a woman has internalized societal ideals and attitudes and she also places her self-value on body appearance, the combination provides a pathway for the development of body dissatisfaction.

This is consistent with previous research that has identified body surveillance as a culprit of body dissatisfaction and disordered eating. For example, Fea and Brannon (2006) examined self-objectification and compliment type (either neutral, character or appearance oriented) and found that women high in trait self-objectification expressed less negative mood following character or appearance compliments than those who received neutral compliments, which supported that the self-esteem of those with high trait self-objectification was contingent on others’ approval. Interestingly, Calogero, Herbozo, and Thompson (2009) added to the findings of this study when they showed fascinating results regarding the impact of positive compliments. The study showed that women with high objectification reported more body surveillance and body dissatisfaction in relation to appearance-based compliments, when they felt positively, negatively or neutral about the comment. In addition, all women showed increases in levels of body surveillance and body dissatisfaction when they felt good about the appearance-based compliments. These studies suggest that even though mood improvement may happen in relation to appearance-based compliments, body objectification and dissatisfaction continues to elevate as well.
 Though the results of this study are consistent with the findings of research that has associated body surveillance with body dissatisfaction, it is important to note that the relationship found was different than Brannan and Petrie (2008) and Tylka (2004) which showed body surveillance to be a moderator in the body dissatisfaction-eating disorder relationship. It appears that body surveillance may have a different role in the sociocultural internalization-body dissatisfaction relationship than it does in other relationships within the sociocultural model of eating disorders.

Overall, the research appears to support the idea of body surveillance and objectification increasing as a result of an inability to achieve those standards that the female has internalized and values. The results of the current study and previous studies mentioned appear to continue to support self-objectification theory, which suggests that women place value on themselves based upon the appearance and attributes of their body, in relation to societal ideals, instead of on how she feels about herself (Noll & Fredrickson, 1998). Specifically, body surveillance addresses the concept that society has constructed women’s bodies as objects to be evaluated, rather than experienced. Body surveillance appears to be generally negative in nature, and is highly associated with other factors, including sexual objectification, bodily shame, and poor interoceptive awareness of emotions, satiety, and hunger (Tllka & Hill, 2004). Implications of these findings will be discussed in the Treatment Implication section of this paper.

*Socially-Prescribed Perfectionism*

Results of the current study found socially-prescribed perfectionism to be a significant mediator of the sociocultural internalization-body dissatisfaction relationship. This suggests that socially-prescribed perfectionism acts as a causal predictor. That is, the presence of highly
internalized societal ideals is not enough in itself to produce body dissatisfaction, as socially-prescribed perfectionism provides us with a pathway through which this occurs.

These findings are consistent with previous studies that have shown socially-prescribed perfectionism to be a significant and strong risk factor in the development of poor body image and eating pathology (Bardone-Cone, 2007; Brannan & Petrie, 2008; Downey & Chang, 2007; Tissot & Crowther, 2008). When examining differences within types of perfectionism, one study found socially-prescribed perfectionism was related to eating pathology, body dissatisfaction, and poor self-esteem, in contrast to self-oriented perfectionism which was only related to anorexic symptoms (Hewitt, Flett, & Ediger, 1995). In addition, Stroeber, Feast, and Hayward (2009) examined the relationship between perfectionism and motivation and found that high socially-prescribed perfectionism was associated with extrinsic motivation, higher anxiety, interference with information and poor self-confidence; whereas self-oriented perfectionism was associated with intrinsic motivation and better self-confidence. The researchers of that study concluded that socially-prescribed perfectionism is highly maladaptive in comparison to other forms of perfectionism and can lead to negative pathological outcomes.

Though the current study found results consistent with previous research, the findings are different than Brannan and Petrie (2008) who found socially-prescribed perfectionism to be a significant moderator in the body dissatisfaction-eating disorder relationship. This indicates that socially-prescribed perfectionism may have a different role in the outcome of eating disorders than it does on the outcome of body dissatisfaction.

The finding of the current study suggests that women who have adopted and internalized the cultural ideals and have a high need to achieve the ideals presented by culture are far more likely to develop body dissatisfaction than women who do not. Westernized cultural ideals may
help to explain this finding, in that westernized ideals that tend to focus on physical perfection and body control. It is important to remember that this relationship between perfectionism and internalization of cultural ideals may be different within cultures that do not adhere to the westernized thin ideal and are likely be strongest in cultures that have a defined and generally unattainable beauty ideal. In such cultures, decreasing internalized ideals or perfectionistic tendencies may subsequently decrease risk for later disparagement. This finding is consistent with research that has shown success with media-based prevention programs in decreasing westernized internalized ideals and decreasing perfectionistic tendencies among high internalizing females (Coughlin, 2006; Lew, 2006; Wilksch, Tiggemann, & Wade, 2006).

*Self-Oriented Perfectionism*

Results of the current study did not find support for self-oriented perfectionism as either a moderator or mediator in the relationship between sociocultural internalization-body dissatisfaction. This suggests that self-oriented perfectionism neither strengthens, weakens nor predicts level of body dissatisfaction. In fact, the mediator test of the current study showed that self-oriented perfectionism showed a weak, positive correlation with the body dissatisfaction measure. This means that higher levels of self-oriented perfectionism were correlated with less body dissatisfaction, suggesting that self-oriented perfectionism did not play a role in negative body image with the current sample. Given that the available literature on the role of self-oriented perfectionism in body dissatisfaction and eating disorders is mixed, this suggests that the results of this study are consistent with some research findings and inconsistent with others.

The presence of self-oriented perfectionism is often seen as a vulnerability to internalizing societal ideals due to the high expectations this individual has of herself to achieve perfection. Thus, it would make sense that several studies examining the role of self-oriented
perfectionism have found support for its presence being connected with body dissatisfaction and eating pathology. For instance, Brannan and Petrie (2008) found that self-oriented perfectionism was a significant moderator for anorexic symptoms, though it was not significant for bulimic symptoms. In addition, Bardone-Cone (2007) also found self-oriented perfectionism to have a strong correlation to dietary restraint, as well as bulimic symptoms. And, when comparing a sample of anorexic women and psychiatric control group, the anorexic women were far more likely to show high levels of self-oriented perfectionism, socially-prescribed perfectionism, and low disclosure of perceived failures (Cockell, Hewitt, Seal, et al., 2002).

However, findings of other studies suggest that self-oriented perfectionism has a very different role than that of socially-prescribed perfectionism with respect to body dissatisfaction and eating symptomatology. For instance, Wyatt and Gilbert (1998) found that socially-prescribed perfectionism was significantly correlated with negative evaluations of social comparison, shame, defeat, and depression, whereas, self-oriented perfectionism was associated with social comparison only, but not as significantly as socially-prescribed perfectionism. Additionally, Klibert, Langhinrichsen-Rohling, and Saito (2005) examined differences in adaptive perfectionism (e.g., healthy striving) and maladaptive perfectionism (e.g., neurotic and unhealthy striving). The findings indicated that socially-prescribed perfectionism was associated more closely with maladaptive characteristics than self-oriented perfectionism. Such negative characteristics associated with socially-prescribed perfectionism included poor self-esteem and perceived self-control, high anxiety, suicidal proneness, shame, and guilt. Interestingly, the results of this study found self-oriented perfectionism to be a vulnerability to these maladaptive characteristics only when socially-prescribed perfectionism is present. Similarly, another study showed similar results that found self-oriented perfectionism to be significant in predicting level
of internalization only when socially-prescribed perfectionism was present (Tissot & Crowther, 2008). Furthermore, another study looking at the role of negative affect and perfectionism in eating behaviors of college students found that socially-prescribed perfectionism was the only predictor for bulimic symptoms when body dissatisfaction was high (Downey & Chang, 2007). Self-oriented perfectionism was not found to have the same effect.

Overall, it seems as though the role of self-oriented perfectionism is complex and can be a contributor to high body dissatisfaction and pathological eating when other factors are present. In particular, the research suggests that self-oriented perfectionism may be the most pathological when in combination with socially-prescribed perfectionism. This would make intuitive sense given that the socially-prescribed perfectionism provides the foundation for the definition of what constitutes achievement of the high standard and the self-oriented perfectionism provides the motivation to achieve that standard. Findings of the current study support the need for future research in this area, especially better understanding the conditions under which self-oriented perfectionism is healthy and unhealthy. Treatment implications will be discussed in a later section.

Neuroticism

Neuroticism was found to be a strong mediator in the sociocultural internalization-body dissatisfaction relationship, meaning that it provides a pathway for how body dissatisfaction develops. This suggests that neuroticism is a predictor in the development of body dissatisfaction, such that women who have internalized societal ideals and have neurotic personalities are far more likely to develop body dissatisfaction than those that do not.

These findings are consistent with the literature. For instance, Hollin, Houston, and Kent (1985) conducted one the initial studies that explored the relationship between neuroticism and
eating disorders. Specifically, they were examining whether neuroticism developed as a result of an eating disorder or whether neuroticism was a predictor of eating pathology. Results showed that neuroticism was found to be a strong component in the etiology of eating disorders, and not a resulting factor. Since then, numerous other studies have found overwhelming support for the association between neuroticism and body dissatisfaction/eating pathology in addition to countless other psychological disorders (Cervera, Lahortiga, Martinez-Gonzalez, et al., 2003; Fischer, Smith, Annus, & Hendricks, 2007; Heaven, Mulligan, Merrilees, et al., 2001; Miller, Schmidt, Vaillancourt, et al., 2006). One recent experimental study exposed women to thin ideal media images and found that those women scoring high in trait neuroticism experienced greater body dissatisfaction when exposed to the images than women who did not have high neuroticism (Dalley, Buunk, & Umit, 2009).

However, though neuroticism was found to be significant in all of these studies as well as the current study, at least two other studies have shown neuroticism to be a significant moderator in the body dissatisfaction-eating disorder relationship (Brannan & Petrie, 2008; Tylka, 2004). This is different than the current study which found neuroticism to be a mediator, which may suggest that neuroticism plays a different role in the sociocultural internalization-body dissatisfaction relationship than in other relationships within the sociocultural model of eating disorders.

Overall, neuroticism has been conceptualized as a personality characteristic of emotional reactivity that generally exacerbates negatives features of personality or behavior, which is why it is often seen as a moderator. In addition, Claridge and Davis (2001) say that neuroticism frequently accompanies abnormal biological and psychological functioning. According to the High Risk Model of Threat Perception (Wickramasekera, 1993), high neuroticism has been
associated with hypersensitivity to threat and heightened risk for psychological disorders associated with stress (Wickramesekera & Price, 1997). Streigel-Moore et al. (1986) further stated that neuroticism could be the differentiating factor in determining which women with body dissatisfaction will be most likely to develop eating pathology. Given these explanations of neuroticism, it is not surprising that neuroticism was found to be a significant and strong predictor of body dissatisfaction in the current study.

Limitations

The current study has many limitations that ought to be considered in the interpretation of the results and the implications of future research. First, due to the nature of the study’s methodology, the data are limited by the self-report nature of the measures. Due to the sensitivity of the content asked of the participant’s, it is possible that some participant’s may have withheld information regarding eating disordered behaviors and body dissatisfaction for fear of being identified or further questioned. However, the researcher attempted to account for this limitation through use of a social desirability measure (MC-SDS). The low level of socially desirable response scores suggests that the majority of women surveyed responded honestly to the questionnaires. Therefore, responses on the self-report measures are likely accurate representations of individuals’ personal experiences. In addition, social desirability was controlled for within the hierarchical moderating regression analyses.

Another limitation of the study stems from its cross-sectional methodology, which limits the researcher to a one-time view of the individual. Therefore, it prevents the researcher in further understanding the development of the body dissatisfaction in relation to sociocultural internalization of the thin ideal. A longitudinal study is better able to determine the development of these issues because it is examining the same people over time.
Another limitation was the length of the survey. On average, participants took approximately 25 minutes to over an hour to complete the measurement packet. For those who took a long time, fatigue may have affected their responses. However, to address this possible problem, the measures were counterbalanced.

A fourth limitation is that data were collected from one university and participation was based on self-selection. Though the researcher attempted to gather as broad and diverse sample as is possible, it is likely that most of the students who chose to participate in the project were either psychology students from general psychology classes that were required to participate in research of some sort, or were students in psychology classes who were offered extra credit opportunities to participate in research. Even so, prevalence of eating disorders and related behaviors are similar to those cited in other studies (Bryant-Waugh & Turner, 2006; Deluca, 2000; Tripp & Petrie, 2001).

Another possible limitation concerns the use of measures chosen for this study. The chosen measures allow for direct comparison between the current study and Brannan and Petrie (2008) due to the same measures used. However, other recent studies are opting to use the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ) and Multidimensional Body-Self Relations Questionnaire (MBSRQ). Though all instruments are intended to measure the same constructs, it is uncertain if the use of different measures accounts for the differences in findings throughout the literature.

Treatment Implications

The predictive relationship of sociocultural internalization, shame, body surveillance, socially-prescribed perfectionism, and neuroticism on body dissatisfaction suggests that it is crucial to establish programming, interventions and bolster other supports that directly target and

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protect against these factors. The findings of the current study suggest that by reducing these factors, it is likely that body dissatisfaction will be less likely to develop.

Until now, intervention studies have shown mixed results in their levels of effectiveness, depending on the target variable of the intervention. The few that have targeted body dissatisfaction have shown promising results. For instance, a single two-hour session cognitive behavioral intervention focused on women with extreme shape concern looked at mechanisms that contribute to shape concern and found positive differences in the women following intervention (Farrell, Shafran, Lee, 2005). Another current study showed the potential for a psychoeducational intervention designed to reduce unhealthy weight management behaviors across an 8 week intervention. Results showed decreases in eating pathology, changes in body image, and decreases in eating behaviors in the experimental group (O'Brien, 2005). Some researchers have even found improvement in body image and eating pathology with the use of internet-based interventions. One such intervention included the use of psychoeducation, asynchronous support, homework and summaries completed over the internet, and found decreases in eating pathology and improvements in self-esteem as compared to controls (Zabinski, Wilfley, Calfas, 2004).

In addition, recent studies have shown success rates of media-based interventions in reducing the body dissatisfaction and disordered eating by targeting sociocultural internalization. One secondary prevention media-based program showed decreases in body dissatisfaction, drive for thinness, feelings of ineffectiveness, and internalization of the societal standards of beauty of the high-risk treatment group in comparison to the control group who did not receive the media-literacy program (Coughlin & Kalodner, 2006). Cognitive dissonance based programs have also shown relatively promising results in overall reduction of body dissatisfaction by challenging the
adopted ‘thin-ideal and lobbying against it, or behaving in ways that were counter to it. Findings of those studies showed that attitudinal change resulted in reductions of the thin-ideal internalization, body dissatisfaction, dieting, negative affect, and bulimic symptomatology (Becker, Smith, & Ciao, 2006; Green, Scott, Diyankova, et al., 2005; Roehrig, Thompson, Brannick, & van den Berg, 2006).

In addition, several recent studies have focused on protective factors for perfectionism and have found positive results. For instance, a recent study examining risk and protective factors associated with disordered eating stressed the importance of parental support as a protective factor for girls who have experienced high levels of negative events and have perfectionistic features (McVey, G., Pepler, D., Davis, R., 2002). This suggests the importance of family communication in reducing maladaptive perfectionism which ought to be a treatment consideration. Additionally, further studies have shown effectiveness in reducing perfectionistic tendencies in gifted children through clinical use of bibliotherapy, group therapeutic discussion, and art activities (Nugent, 2000). This is also consistent with previous research on the effectiveness of group therapy for eating disordered patients, as it has shown to be effective in creating more cognitive flexibility, self-esteem, independence, all of which are necessary for decreasing maladaptive perfectionism (Striegel-Moore & Cachelin, 1999).

Overall, current programming and intervention work has been promising with regards to reducing body dissatisfaction, sociocultural internalization, and perfectionism. However, given the findings of the current study, programming targeted toward reducing body shame, neuroticism, and objectification is also needed.

The last treatment implication for the current study is to consider the importance of completing this research and intervention work with younger girls, given that the outcomes may
be more substantial than for college women. Cororve-Fingeret et al., (2006) found strong support for interventions that focus on selective groups, such as young teenage girls, who are beginning to internalize the thin ideal (Striegel-Moore, 1995), but have not yet shown eating pathology. In fact, results of the Cororve-Fingeret et al. (2006) meta-analysis suggested that those individuals actually responded more positively than those who were already showing symptomology (e.g., indicated groups such as college age women). Therefore, interventions on selective, rather than indicated groups, might be superior in that they can ultimately provide reductions in the thin ideal prior to the emergence of any significant eating pathology. Thus, middle school aged females in grades 7-8 are deemed a particularly important group for eating disorder interventions due to their internalization of the thin ideal without the likelihood of emergent eating pathology, often not found in significant clinical levels until ages 15-19 (Stice, 2004).

Future Research

The results and limitations of the current study provide important information regarding future research directions. First, it is important to continue research in this area and see if findings in the current study are replicable since moderating/mediating factors have not been previously explored within the sociocultural internalization-body dissatisfaction relationship.

In addition, it would seem appropriate to continue this research with other ages (e.g., middle school) and community-based samples in order to account for any differences that may be unique to college women, and more specifically college women in psychology. Because research has suggested that early teenage and pre-teen years are associated with developmental transition, new stress, and sex role exaggeration, these times have been associated with vulnerability to the development and emergence of body dissatisfaction. Therefore, it may be.
particularly important to consider these transitional timeframes outside of college, especially early adolescence, to determine if the relationships supported by the current model change. Specifically, it would be important for future research to see if the current variables act in mediating or moderating fashion when the model is applied to young girls. Knowing if there are differences for sample age would have allowed for better understanding of the generalizability of these results and treatment implications for prevention programming.

Additionally, given the current study findings on perfectionism, it would seem important to have future research that focuses on better understanding the role of adaptive and maladaptive perfectionism in the sociocultural model of eating disorders. Since the current study only examined socially-prescribed and self-oriented perfectionism and did not account for positive versus negative perfectionism, it is unclear exactly what these results means. Recent research that has distinguished positive and negative perfectionism has shown differences in their outcomes (Ashby, Rice & Martin, 2006; Delagard, 2005). For instance, one study showed that maladaptive perfectionism is correlated positively with state-shame, state-guilt, and shame-proneness, whereas positive/adaptive perfectionism has been correlated with pride and negatively correlated with state shame and anxiety (Fedewa, Burns, & Lawrence, 2005). This suggests the importance of addressing this issue in future research.

Future researchers may also benefit from exploring established protective factors in the development of the internalization, shame, body surveillance, perfectionism, and neuroticism as related to the current model. For instance, current research has shown parental control and attitudes as greatly related to the development of perfectionism (McVey, Pepler, & Davis, 2002), and therefore addressing the potential of additional family relations parameters in future research may help in understanding the factors that influence perfectionism.
Additionally, future research focused on reducing sociocultural internalization appears important in directly reducing the mediating factors and indirectly decreasing body dissatisfaction. Therefore, continuing to improve upon empirically-supported interventions, such as media-based primary prevention programs and cognitive dissonance programming, would likely be an important direction for future researchers.

Conclusions

The relationship between sociocultural internalization-body dissatisfaction was found to be significant. Several variables were tested for potential moderating and mediating effects, including shame, body surveillance, socially-prescribed perfectionism, self-oriented perfectionism and neuroticism. None of the tested variables was found to have significant moderating properties, but all (with the exception of self-oriented perfectionism) were found to have significant mediating effects in the sociocultural internalization-body dissatisfaction relationship. These findings are consistent with most available research, which shows a strong association with each of the variables and body dissatisfaction/eating disordered outcomes. However, several of the variables in the current study were previously tested and found to be significant by Brannan and Petrie (2008) and Tylka (2004) as moderators of the body dissatisfaction-eating disorder relationship. Since moderating relationships were not found in the current study, this suggests the possibility that these variables may play a different role when considering each relationship within the sociocultural model of eating disorders.

Treatment implications of the current study include, creating prevention-based and intervention programming that focuses on decreasing sociocultural internalization, shame, body surveillance, perfectionism, and neuroticism. Also, findings of the current study suggest the
importance of working with younger girls who have less established body dissatisfaction and have not yet shown the emergence of eating pathology.

Future research should focus on replicating the current results, continuing to focus on sociocultural internalization-body dissatisfaction relationship, better understanding the role of perfectionism (e.g., adaptive vs. maladaptive), and focusing on creating interventions that can protect against shame, body surveillance, perfectionism, and neuroticism as a way to decrease body dissatisfaction.
Table 1

Descriptive Statistics for Measured Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. Items</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Internal Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAAR-AT</td>
<td>10</td>
<td>2.68</td>
<td>1.11</td>
<td>.635</td>
<td>.215</td>
<td>.877</td>
</tr>
<tr>
<td>BPSS-BODY</td>
<td>7</td>
<td>3.19</td>
<td>1.16</td>
<td>.427</td>
<td>-.391</td>
<td>.895</td>
</tr>
<tr>
<td>BSQ-SHAME</td>
<td>4</td>
<td>12.14</td>
<td>4.27</td>
<td>-.258</td>
<td>-.902</td>
<td>.912</td>
</tr>
<tr>
<td>MPS-SOCIAL S.</td>
<td>15</td>
<td>54.42</td>
<td>12.75</td>
<td>.244</td>
<td>-.107</td>
<td>.856</td>
</tr>
<tr>
<td>MPS-SELF-O.</td>
<td>15</td>
<td>69.09</td>
<td>14.76</td>
<td>-.133</td>
<td>.037</td>
<td>.904</td>
</tr>
<tr>
<td>SDS</td>
<td>12</td>
<td>5.17</td>
<td>1.73</td>
<td>.266</td>
<td>.484</td>
<td>.636</td>
</tr>
<tr>
<td>OBSC-BODY SURVEILLANCE</td>
<td>8</td>
<td>4.11</td>
<td>.877</td>
<td>-.316</td>
<td>-.033</td>
<td>.81</td>
</tr>
<tr>
<td>NEO</td>
<td>12</td>
<td>55.51</td>
<td>9.07</td>
<td>-.155</td>
<td>-.470</td>
<td>.84</td>
</tr>
</tbody>
</table>

Note. BAAR-AT= Beliefs About Attractiveness Attractive and Thin Subscale (importance of attractiveness: scores range 1[low importance] to 7[high importance]; BPSS-BODY = Body Parts Satisfaction Scale-Revised, Body Subscale (level of body dissatisfaction: scores range 1[very dissatisfied] to 6 [very satisfied]; BSQ-SHAME = Body Shame Questionnaire Shame Subscale (body shame scores range from 4[little body shame] to 20 [high body shame]); MPS- SP = Multidimensional Perfectionism Scale – Socially-Prescribed Subscale (want to do what society says is desirable: scores range from 15[low] to105 [high]); MPS- SO = Multidimensional Perfectionism Scale – Self-Oriented Subscale (hold self to high standards: scores range from 15 [low]to105 [high] ; SDS= Social Desirability Scale (tendency to respond in socially desirable direction: scores range from 0[low social desirability] to 12[high social desirability]; OBSC-BODY SURVEILLANCE = Objectified Body Consciousness Scale – Body Surveillance Subscale (tendency to compare body shape and size to others: scores range from 1[strongly agree] to 7 [strongly disagree]); NEO = NEO Five Factor Inventory Neuroticism subscale (tendency to have anxiety or worry: scores range from 0[strongly disagree] to 4 [strongly agree])
Table 2

**Correlation Matrix of Measured Variables and Demographic Variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BAAR-AT</td>
<td>--</td>
<td>--</td>
<td>-.335**</td>
<td>.359**</td>
<td>.333**</td>
<td>.150**</td>
<td>.252**</td>
</tr>
<tr>
<td>2. BPSS-BODY</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.724**</td>
<td>-.248**</td>
<td>.009</td>
<td>-.416**</td>
</tr>
<tr>
<td>3. BSQ-SHAME</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.317**</td>
<td>.098</td>
<td>.505**</td>
</tr>
<tr>
<td>4. MPS-SOCially</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.460**</td>
<td>.406**</td>
</tr>
<tr>
<td>PRESCRIBED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. MPS-SELF-Oriented</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.070</td>
</tr>
<tr>
<td>6. NEO</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>7. OBSC-BODY</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>SURVEILLANCE</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Note. BAAR-AT = Beliefs About Attractiveness Attractive and Thin Subscale; BPSS-BODY = Body Parts Satisfaction Scale-Revised, Body Subscale; BSQ-SHAME = Body Shame Questionnaire Shame Subscale; MPS-SP = Multidimensional Perfectionism Scale – Socially-Prescribed Subscale; MPS-SO = Multidimensional Perfectionism Scale – Self-Oriented Subscale; SDS = Social Desirability Scale; OBSC-BODY SURVEILLANCE = Objectified Body Consciousness Scale – Body Surveillance Subscale; NEO = NEO Five Factor Inventory Neuroticism subscale. *

* = p < .05; ** = p < .01.
Table 3
Hierarchical Moderating Regression Analyses Predicting Body Dissatisfaction (N=399)

<table>
<thead>
<tr>
<th>Step/Predictor</th>
<th>Adjusted $R^2$</th>
<th>$\Delta R^2$</th>
<th>$\Delta F$</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative $R^2$ at Step 4 = .531, overall $F (5, 394) = 111.697^{***}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1 Social desirability</td>
<td>.013</td>
<td>.016</td>
<td>6.441**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2 Sociocultural internal (A)</td>
<td>.113</td>
<td>.102</td>
<td>45.726***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3 Shame (B)</td>
<td>.527</td>
<td>.413</td>
<td>348.018***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4 A x B interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictors at Step 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social desirability</td>
<td>.014</td>
<td>.035</td>
<td>.014</td>
<td>.407</td>
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<td>-.080</td>
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<td>.037</td>
<td>-.693</td>
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<td>.144</td>
<td>77.045***</td>
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<td>-.199</td>
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<td>-.025</td>
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<td>Cumulative $R^2$ at Step 4 = .136, overall $F (4, 394) = 15.543^{***}$</td>
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<tr>
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<td>.017</td>
<td>7.941**</td>
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<td>Step 3 Self-oriented per (B)</td>
<td>.115</td>
<td>.004</td>
<td>1.708</td>
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<td>Step 4 A x B interaction</td>
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<td>.000</td>
<td>.126</td>
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<td>.080</td>
<td>1.673</td>
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<td>.049</td>
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<td>.063</td>
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<td>.043</td>
<td>-.017</td>
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Table 3 (Continued)

Hierarchical Moderating Regression Analyses Predicting Body Dissatisfaction (N=399)

<table>
<thead>
<tr>
<th>Step/Predictor</th>
<th>Adjusted $R^2$</th>
<th>$\Delta R^2$</th>
<th>$\Delta F$</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$t$</th>
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<tbody>
<tr>
<td><strong>Step 3</strong> Neuroticism (B)</td>
<td>.219</td>
<td>.114</td>
<td>56.803***</td>
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<tr>
<td><strong>Step 4</strong> A x B interaction</td>
<td>.217</td>
<td>.000</td>
<td>.072</td>
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<td>Predictors at Step 4</td>
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<tr>
<td>Social desirability</td>
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<tr>
<td>Sociocultural internal (A)</td>
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<tr>
<td>A x B interaction</td>
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</tbody>
</table>

Cumulative $R^2$ at Step 4 = .225, overall $F (4, 384) = 27.826$***

| | | | | | | |
| **Step 3** Combined moderators (B) | .548 | .096 | 76.408*** |
| Shame | | | | | | |
| Body Surveillance | | | | | | |
| Socially-Pre Perf | | | | | | |
| Self-oriented Perf | | | | | | |
| Neuroticism | | | | | | |
| **Step 4** A x B interactions | .545 | .003 | .439 |
| SI x Shame | | | | | | |
| SI x Body Surveillance | | | | | | |
| SI x Socially-Pre Perf | | | | | | |
| SI x Self-oriented Perf | | | | | | |
| SI x Neuroticism | | | | | | |
| Predictors at Step 4 | | | | | | |
| Social desirability | | | | | | |
| Sociocultural internal (A) | | | | | | |

Cumulative $R^2$ at Step 4 = .136, overall $F (4, 394) = 15.543$***

**Note.** The regression results in the table indicate values related to each variable at each step in the model. The order of variable entry into the model was as follows: Step 1, social desirability; Step 2, Sociocultural internalization; Step 3, moderator; and Step 4, Sociocultural internalization x Moderator interaction. The $\Delta F$ test indicates the amount of change with each step of the model, whereas the overall $F$ indicates the final step of the model. The Body Part Satisfaction Scale, Body Subscale (BPSS-Body) was used to measure level of body satisfaction and is the dependent variable. Step 1 (Social desirability) and Step 2 (Sociocultural Internalization) are the same for all models, and therefore are only presented in first model and assumed for all subsequent models in the table.

* = $p < .05$; ** = $p < .01$, *** = $p < .001$
### Table 4

*Regression Analyses For Sociocultural Internalization, Body Dissatisfaction and Mediating Variables (N=399)*

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Criterion Variable</th>
<th>Adjusted $R^2$</th>
<th>$\Delta R^2$</th>
<th>$\Delta F$</th>
<th>$B$</th>
<th>SE</th>
<th>$B$</th>
<th>$t$</th>
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</thead>
<tbody>
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<td><strong>Model 1a</strong></td>
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<tr>
<td>Sociocultural Internal</td>
<td>Body Dissatisfaction</td>
<td>.110</td>
<td>.112</td>
<td>50.037***</td>
<td>-.349</td>
<td>.049</td>
<td>-.335</td>
<td>7.074</td>
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<tr>
<td>Sociocultural Internal</td>
<td>Shame</td>
<td>.127</td>
<td>.129</td>
<td>58.705***</td>
<td>1.382</td>
<td>.180</td>
<td>.359</td>
<td>7.662</td>
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<tr>
<td>Shame</td>
<td>Body Dissatisfaction</td>
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<td>.524</td>
<td>437.816***</td>
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<td>.010</td>
<td>-.693</td>
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<tr>
<td>Internal+Shame</td>
<td>Body Dissatisfaction</td>
<td>.528</td>
<td>.006</td>
<td>5.397*</td>
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<td>-.086</td>
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<td>Sociocultural Internal</td>
<td>Body Surveillance</td>
<td>.104</td>
<td>.106</td>
<td>46.911***</td>
<td>.411</td>
<td>.060</td>
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<td>Body Dissatisfaction</td>
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<td>.224</td>
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<td>.060</td>
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<td>Body Dissatisfaction</td>
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<td>.036</td>
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<td>Socially-Pre Perfect</td>
<td>.109</td>
<td>.111</td>
<td>49.466***</td>
<td>.045</td>
<td>.006</td>
<td>.333</td>
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<td>Body Dissatisfaction</td>
<td>.059</td>
<td>.062</td>
<td>26.017**</td>
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<td>.007</td>
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<td>.071</td>
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<tr>
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<td>Self-Oriented Perfect</td>
<td>.020</td>
<td>.023</td>
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<td>.019</td>
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<tr>
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<td>.063</td>
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*Note. The regression results in the table indicate values related to each simple regression analysis within each model. Predictor and criterion variables were determined by following Baron and Kenny (1986) procedures. Beta values represent the regression coefficient for each relationship. Sociocultural Internalization as predictor and Body Dissatisfaction as criterion variables is used in each model tested. Therefore are only presented in Model 1a and assumed for all subsequent models in the table.*

* = $p < .05$; ** = $p < .01$, *** = $p < .001$
Figure 1. Basic diagram of the sociocultural model of eating disorders.
Figure 2. Diagram of proposed moderators in the sociocultural internalization-body dissatisfaction relationship.
Figure 3. Analysis of Model 1 with Shame as a moderator in the Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 4. Analysis of Model 2 with Body Surveillance as a moderator in the Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 5. Analysis of Model 3 with Socially-Prescribed Perfectionism as a moderator in the Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 6. Analysis of Model 4 with Self-Oriented Perfectionism as a moderator in the Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 7. Analysis of Model 5 with Neuroticism as a moderator in the Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 8. Analysis of Model 6 with all moderators in the Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 9. Post hoc analysis of Model 1a with Shame mediating relationship between Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 10. Post hoc analysis of Model 2a with Body Surveillance mediating relationship between Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 11. Post hoc analysis of Model 3a with Socially-Prescribed Perfectionism mediating relationship between Sociocultural Internalization-Body Dissatisfaction relationship.
**Figure 12.** Post hoc analysis of Model 4a with Self-Oriented Perfectionism mediating relationship between Sociocultural Internalization-Body Dissatisfaction relationship
Figure 13. Post hoc analysis of Model 5a with Neuroticism mediating relationship between Sociocultural Internalization-Body Dissatisfaction relationship.
Figure 14. Graph showing insignificant interaction of Model 1 with Shame as moderator.
Figure 15. Graph showing insignificant interaction of Model 2 with Body Surveillance as moderator.
Figure 16. Graph showing insignificant interaction of Model 3 with Socially-Prescribed Perfectionism as moderator.
Figure 17. Graph showing insignificant interaction of Model 4 with Self-Oriented Perfectionism as moderator.
Figure 18. Graph showing insignificant interaction of Model 5 with Neuroticism as moderator.
REFERENCES


