

2010

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VARIABLES HYPOTHESIZED TO MODERATE THE EFFECTS OF THIN-IDEAL
MEDIA ON BODY IMAGE: BORDERLINE PERSONALITY
TENDENCIES, PAST ABUSE, AND SELF-ESTEEM

Thesis

Submitted to

The College of Arts and Sciences

of the

UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for

The Degree

Master of Arts in Clinical Psychology

By

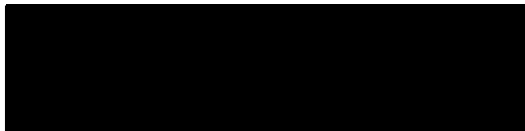
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UNIVERSITY OF DAYTON


Dayton, Ohio

May 2010

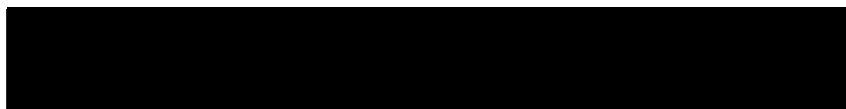
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ABSTRACT

Variables Hypothesized to Moderate the Effects of Thin-Ideal Media on Body Image: Borderline Personality Tendencies, Past Abuse, and Self-Esteem

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One factor that has been found to contribute to the development of eating disorders is thin-ideal media present in Western culture. However, not everyone is susceptible to negative effects of thin-ideal media, so it is important to understand how other variables moderate this relationship. In order to explore the main hypothesis of the study, that a set of interrelated psychosocial variables (self-esteem, borderline personality disorder tendencies, past abuse/neglect) moderate the effects of thin-ideal media on body image, the study first aimed to demonstrate that body image becomes more negative after viewing thin-ideal media. Support for this hypothesis was obtained by utilizing a series of Analysis of Variance procedures. Also, a post-experimental inquiry demonstrated that even if participants were aware of the study's purpose, a majority reported changes in body image because of viewing thin-ideal media. The second hypothesis, that there is a relationship between body image problems and eating disorder tendencies, was supported by bivariate correlational analyses. Greater body image disturbance is related to more disordered eating tendencies. The third hypothesis, that there is a correlation between the hypothesized moderator variables and eating/body image problems, was also supported

by bivariate correlational analyses. Low self-esteem and higher levels of borderline personality traits and past abuse/neglect are related to body image/eating problems. A series of hierarchical multiple regression analyses were employed to explore whether self-esteem, borderline personality tendencies, and past abuse/neglect moderated the effect of thin-ideal media on body image. Partial support was found for this hypothesis; borderline personality disorder tendencies and past abuse/neglect (specifically sexual abuse, physical abuse, and emotional neglect) moderated the effects of thin-ideal media on negative emotion. Self-esteem closely approached significance as a moderator variable on negative affect as well. These variables moderated the effect of thin-ideal media on negative emotion and not on other body image measures, which reflects that affect may be a fluctuating attribute. The results are important in that they lead to a more comprehensive understanding of eating disorder etiology and can inform prevention and intervention programs at the individual and community level. Limitations of this study and recommendations for future research are presented.

ACKNOWLEDGEMENTS

I would like to give special thanks to my thesis chair and advisor, Dr. Roger N. Reeb, for his support and time throughout this process, as well as his willingness to help me complete this project in a timely fashion. I would also like to thank Dr. Melissa Guadalupe and Dr. Catherine Zois for their flexibility, willingness to serve on this thesis committee, and genuine interests in the program of research.

I would like to thank the Graduate School at the University of Dayton for helping fund this research through the 2009 Summer Fellowship Grant and the Psychology Department at the University of Dayton for also helping fund this research. Thanks is given to Dr. Frederick Coolidge for allowing me to use the Coolidge Axis II Inventory – Revised to measure borderline personality disorder tendencies. Special thanks are due to Kathleen Burkhart, who helped with the more tedious, but very important, data scoring and entry.

Special thanks are given to the graduate students at the University of Dayton who have explored this line of research before me, including Nicole Bosse, Melanie Ferrell, and Michelle Jessup. Their research and findings helped form this present study. I would like to thank my parents, Will and Mary Folger, and my siblings, Chris, Shannon, and Tim, for their unconditional love and continued support in whatever endeavor I pursue.

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CHAPTER 1

Introduction

The eating disorders (ED) anorexia nervosa (AN) and bulimia nervosa (BN) are common types of psychopathology for young women¹, and these disorders are debilitating conditions that warrant clinical attention. The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition text revision (DSM-IV-TR), as published by the American Psychiatric Association (APA, 2000), notes that body image is a central criterion of ED. Furthermore, one factor believed to contribute to the development of body image problems and ED is the thin-ideal media present in Western culture, as the DSM-IV-TR notes that "... in industrialized societies... being considered attractive is linked to being thin" (APA, 2000, p. 542). In a meta-analysis by Groesz, Levine, and Murnen (2002) of 25 studies examining the effects of thin-ideal media on body image, body satisfaction was found to be more negative after viewing thin media images as compared to viewing average size models, plus size models, or inanimate models. Not everyone is highly susceptible to the negative effects of thin-ideal media, as evidenced by the fact that not all people who view the media in Western society develop ED or body image problems. Therefore, it is important to understand how other variables influence this relationship; that is, under what circumstances or for whom does thin-ideal media have this debilitating effect?

To explore the effects that other variables have on the relationship between the thin-ideal media and eating disorder tendencies/body image disturbance, it is important to distinguish between moderating variables and mediating variables. Confusion exists in the literature regarding moderator and mediating variables; therefore, Frazier, Tix, and Barron (2004) clarify these issues. A moderator variable "...alters the direction or strength of the relation between a predictor and an outcome" (Frazier et al., 2004, p. 116). Moderator variables attempt to answer questions of "when" or "for whom" a variable has a given effect. In other words, a moderating effect is "... an interaction whereby the effect of one variable depends on the level of another" (Frazier et al., 2004, p. 116). In contrast, a mediator "... explains the relation between a predictor and an outcome" (Frazier et al., 2004, p. 116). A mediator variable attempts to answer "how" or "why" a predictor causes an outcome variable. A mediating variable is the "... mechanism through which a predictor influences an outcome variable" (Frazier et al., 2004, p. 116), and an example of such is when changes in body image (the mediator variable) is the mechanism through which psychotherapy leads to improvement in ED. The present study seeks to examine the extent to which a set of interrelated psychosocial variables (self-esteem, borderline personality disorder tendencies, and history of abuse) moderates the effect of thin-ideal media on body image. While previous research documents the relationship between each of these variables and body image/eating disorder tendencies, the hypothesis that they play a role in moderating effects of thin-ideal media has not been examined, and so this study is expected to yield unique contributions to the literature.

The introduction is divided into four sections. In the first section, a general description of ED will be provided, including associated disorders and a description of

subclinical ED. The second section will provide a selective review of research demonstrating the negative effect that thin-ideal media has on body image. The third section, which focuses on variables hypothesized to moderate effects of thin-ideal media on body image, will (a) provide a selective review of research examining the relationship of each of these variables (borderline personality tendencies, history of abuse/neglect, and self-esteem) to body image and eating problems and (b) consider each variable's potential as a moderator. The final section will lay the groundwork for the present study and state the hypotheses to be examined.

Description of Eating Disorders

Anorexia nervosa (AN) and bulimia nervosa (BN) are the two specific eating disorders (ED) that are included in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition text revision (DSM-IV-TR), as published by the American Psychiatric Association (APA, 2000). AN is characterized in the DSM-IV-TR by weighing less than 85% of what is expected for a specific age and height (APA, 2000). This can occur through weight loss or a lack of weight gain during a developmental period of growth. AN involves an intense fear of becoming fat or overweight, and those suffering from AN experience their bodies in disturbing ways. For example, they may deny the seriousness of being underweight, or their self-evaluation may depend on their own body shape and weight. Also, in postmenarcheal females, amenorrhea (consecutively missing three menstrual cycles) occurs (APA, 2000).

BN is characterized in the DSM-IV-TR by recurrent episodes of binge eating, in which a person consumes a larger amount of food than what would be expected for the given period of time and situation, and the person experiences a lack of control over food

intake during the binge eating session (APA, 2000). A person repeatedly engages in compensatory behaviors in order to not gain weight, like self-induced vomiting, fasting, excessive exercise, and the misuse of diuretics, laxatives, or enemas. For someone with BN, body weight and shape influence self-evaluation. These behaviors of bingeing and purging occur at least twice a week for three months, and the disturbance does not occur only within the context of AN (APA, 2000).

There are two subtypes of each ED that depend on behavior in the current ED episode. For AN, the DSM-IV-TR notes that the binge-eating/purging subtype is diagnosed based on binge-eating or purging behaviors (i.e. the use of laxatives, diuretics, or self-induced vomiting) that are engaged in to lose weight. The restricting subtype is diagnosed based on excessive exercise, dieting, and/or fasting that are utilized to lose weight (APA, 2000). For BN, the DSM-IV-TR notes that the purging subtype is diagnosed if a person regularly engages in purging behaviors, like self-induced vomiting or misuses diuretics, laxatives, or enemas. The nonpurging subtype is diagnosed if a person does not regularly engage in typical purging behaviors. Rather, the person engages in other compensatory behaviors, like excessive exercise and fasting, to lose weight (APA, 2000).

In addition to clinical diagnoses, many people exhibit ED tendencies that do not meet criteria as outlined by the DSM-IV-TR for AN or BN. Herzog, Hopkins, and Burns (1993) explain that someone may not meet criteria for amenorrhea and therefore not be diagnosed with AN, even though they display the other destructive symptoms. Similarly, someone may not binge two times a week for three consecutive months, and therefore would not be diagnosed with BN, even though all other symptoms were displayed. These

behaviors are still problematic and are labeled as subclinical ED. Herzog and colleagues found that people with subclinical eating disturbances were at higher risk to develop clinical ED. In a study investigating disordered eating behaviors in adolescents, Croll, Neumark-Sztainer, Story, and Ireland (2002) found that 56% of ninth-grade females, 28% of ninth-grade males, 57% of twelfth-grade females, and 31% of twelfth-grade males reported disturbed eating behaviors. The disordered eating behaviors designed to lose or control weight were skipping meals, fasting, binge-eating, vomiting, using diet pills and laxatives, and smoking cigarettes. Croll and colleagues (2002) emphasized the importance for health professionals to be aware of the high prevalence of subclinical eating disorder patterns, so that such problems can be identified and the proper resources made available. This would help lessen full ED development. Subclinical ED are important to consider, as Hoyt and Ross (2003) acknowledged high prevalence rates of these problems, especially in the college setting, in which they found that 12.9% of the population struggled with subclinical ED.

Associated Disorders

The DSM-IV-TR notes that people suffering from AN or BN often exhibit depressive symptoms, but AN and BN are different from major depressive disorder (MDD) because, even if depressed individuals experience weight loss, they do not exhibit a desire to lose weight or fear of weight gain (APA, 2000). Comorbidity does exist though, and Pearlstein (2002) noted in a review that those with AN have a lifetime prevalence rate of 46 to 74% for MDD and those with BN have a lifetime prevalence rate of 50 to 65% for MDD. Bulik, Sullivan, Tozzi, Furberg, Lichtenstein, and Pedersen (2006) found similar results, in that 59.4% of 102 people with AN had MDD as well.

Anxiety disorders, like generalized anxiety disorder, social phobia, and specific phobia, may also develop more often in people with AN than in people without AN (Lilenfeld et al., 1998). However, a second diagnosis of social phobia is not warranted as long as social fears are limited to eating behavior (APA, 2000). The DSM IV-TR notes that individuals with BN often have an increase of anxiety symptoms as well (APA, 2000). People with AN or BN often display obsessive and compulsive behaviors, but the DSM-IV-TR explains that, only when these thoughts and behaviors are not related to food, weight, or body shape, should an additional diagnosis of Obsessive-Compulsive Disorder (OCD) be given (APA, 2000). It has been reported that those with AN have a lifetime prevalence rate of 62% for OCD, and those with BN have a lifetime prevalence rate 21% for OCD (Lilenfeld et al., 1998).

Substance abuse or dependence is associated with BN; the lifetime prevalence rate of such problems is at least 30% for individuals with BN (APA, 2000). There is also overlap between BN and personality disorders, especially borderline personality disorder. One characteristic of borderline personality disorder is "impulsivity in at least two areas that are potentially self-damaging," and examples of this include binge eating (APA, 2000, p. 707). Polivy and Herman (2002) note that one major difference between AN and BN is impulsivity: those with BN will exhibit impulsive behavior to a greater degree, which may explain why borderline personality disorder is associated with BN more so than AN. In a study by Godt (2008), of 545 people with some type of ED, 6.2% had borderline personality disorder. When only studying people with BN, Zeeck, Birindelli, Sandholz, Joos, Herzog, and Hartmann (2007) found that 13.8% of a sample had borderline personality disorder.

The Effect of Thin Ideal Media

Thin Ideal

EDs are thought to be more prevalent in western cultures because of a thin ideal body type and this is often portrayed in the media. In a study by Murray, Touyz, and Beumont (1996), over 90% of a control group and ED patients combined believed that American society has an ideal body shape for women, which was most frequently described as slim. Furthermore, females that suffered from an ED were more likely to strive for the slim ideal than females in the control group (Murray et al.). The landmark study by Garner, Garfinkel, Schwartz, and Thompson (1980) documented that the size of playboy centerfold models and Miss America pageant contestants between 1959 and 1978 revealed a thin standard, even as weight in the normal population increased during these years. For women under 30 years of age, weight increased about five or six pounds over the course of the study. Over the 20 year period, the average weight for Playboy centerfold models and Pageant contestants decreased significantly. In addition, following 1970, the Pageant winners weighed significantly less than other contestants. There was also an increase in diet articles in women's magazines during that 20 year period (Garner et al., 1980).

The latest continuation of the Playboy centerfold study by Sypeck et al. (2006) studied Playboy centerfolds from 1979 to 1999 and found that models continued to have low body mass indices. However, the increasing thinness trend seemed to have stabilized and perhaps started to reverse, which is not surprising as model sizes cannot continue to decrease. Between 1989 and 1999, models were 10 to 15% below normal body weight, and although this was less than in earlier years, it still illustrates how thinness is valued

and desired (Sypeck et al.). Furthermore, being 15% below normal body weight is actually one criterion of AN as outlined in the DSM-IV-TR (APA, 2000), which emphasizes the danger for these models.

Media Effect

Western culture has a thin ideal for body shape and size that permeates society. It has been found that this ideal portrayed in the media negatively influences people's own body image. This negative body image is problematic because it can lead to ED, like AN and BN. A meta-analysis by Grabe, Ward, and Hyde (2008) reviewed 77 experimental and correlational studies and concluded that exposure to media images depicting the thin-ideal body type is related to body image concerns for women. Small to moderate effect sizes were obtained (Grabe et al.). Groesz, Levine, and Murnen (2001) reviewed 25 studies and concluded that after viewing thin media images instead of images of average or plus size models or inanimate objects, body image became more negative. The forms of media consisted of magazine photos and slides or television commercials. Furthermore, people younger than 19 years of age may be more susceptible to media messages, as the negative body image effect was stronger for this younger population (Groesz et al.).

Similarly, Brown and Dittmar (2005) investigated the effect of exposure to thin images from fashion magazines that were flashed on a computer screen to college women. They found that, if the thin ideal was internalized as measured by the internalization subscale of the Sociocultural Attitudes Towards Appearance Questionnaire, the images negatively affected weight-focused anxiety. Furthermore, independent of internalization, or the extent to which people adopt the thin ideal, if

images were given greater attention, weight-focused anxiety also increased. The findings by Brown and Dittmar suggest that thin-ideal media is damaging to women, and this relationship occurs either when the message is internalized or if greater attention is given to the media images. Bessenoff (2006) found that exposure to thin-ideal advertisements led to increased body dissatisfaction and negative mood in female college students as compared to exposure to neutral advertisements. Hawkins, Richard, Granley, and Stein (2004) found similar results in that exposure to thin-ideal photographs led to body dissatisfaction, negative mood states, and low self-esteem in female college students. In addition to these, exposure to such media also led to increased eating disorder symptoms (Hawkins et al., 2004).

As the previous studies have illustrated, our society values a thin body type. This ideal is portrayed through the media and has the potential to negatively influence people's body image and eating disorder tendencies. An exhaustive literature review is beyond the scope of this paper, but interested readers can refer to specific studies (e.g., Becker, Burwell, Gilman, Herzog, and Hamburg, 2002; Stice, Schupak-Neuberg, Shaw, and Stein, 1994) or a review by Stice (2002). Although the research suggests that women are negatively influenced by thin ideal media, not all people who are subjected to these messages develop problems. Thus, it is important to investigate other variables that may moderate this relationship.

Hypothesized Moderator Variables

Borderline Personality Disorder Tendencies

Relationship to problematic eating behavior/body image. Studies investigating the relationship between personality factors and problems with eating behavior or body

image have highlighted the finding that borderline personality traits are often associated with such problems. Lilenfeld, Jacobs, Woods, and Picot (2008) examined the relationship between borderline personality symptoms and obsessive-compulsive personality symptoms with disordered eating prospectively over a two-year period in an ethnically diverse sample of female college undergraduates. It was found that borderline personality disorder traits significantly predicted disordered eating regardless of ethnicity, while obsessive-compulsive personality traits significantly predicted disordered eating in African American women only. These important findings document the relationship between borderline personality traits and eating disorder tendencies. Furthermore, it illustrates that such personality traits are predictive of disordered eating, which is helpful in attempting to prevent this psychopathology.

In a study by Sansone, Wiederman, and Monteith (2001), it was found that body image disturbance was related to borderline personality disorder traits in a sample of women in an adult psychiatric outpatient clinic. Even after the variable of body weight was controlled, body dissatisfaction was positively correlated with borderline traits. Those with higher levels of body disturbance portrayed more borderline personality disorder traits (Sansone et al., 2001). A comprehensive literature review that pertains to this subject is beyond the scope of this paper. But, further information can be obtained from a literature review on the subject (e.g., Sansone, Levitt, and Sansone, 2005) or specific studies (e.g., Godt, 2008; Zeeck, Birindelli, Sandholz, Joos, Herzog, & Hartmann, 2007), each of which provide further evidence of a relationship between borderline personality traits and eating disorder/body image problems.

Potential as a moderator variable. As the relationship between borderline personality disorder traits and eating disorder tendencies has been established, and it is known that thin-ideal media contributes to body image problems in some people, it is possible that borderline personality disorder traits moderates effects of thin-ideal media on body image and eating behaviors. Borderline personality disorder traits may be one factor that explains for whom or in what situations the media negatively affects people's body image. However, studies investigating this relationship have not been documented in the literature, but there are reasons to believe that borderline traits play a moderating role, as delineated below.

One symptom of borderline personality disorder is an identity disturbance, which is characterized by "markedly and persistently unstable self-image or sense of self" (APA, 2000, p. 707). People's view of themselves shifts dramatically, which can be reflected in changing values or goals. This instability extends into relationships with other people, as those with borderline personality disorder often idealize another person at one time and somewhat abruptly change to devaluing that same individual at another time (APA, 2000). Further, DSM-IV-TR notes that some individuals with borderline personality disorder "...develop...body image distortions...during times of stress" (APA, 2000, p. 708). Because people with borderline personality disorder have such a vacillating sense of themselves and others, they may be easily influenced by external situations or factors, such as the media. These people struggle with their identity, and when subjected to media that promotes a thin body shape, they may be more susceptible than the typical person to the negative media effects.

Borderline personality disorder is also characterized by impulsivity, and DSM-IV-TR explains that binge eating is a common way that individuals with this disorder exhibit impulsivity (APA, 2000). Impulsive individuals who are subjected to thin-ideal media and who are unsatisfied with their bodies, may be more likely to act in ways that are symptomatic of ED. Impulsivity involves a failure to consider consequences of potentially damaging behavior and, if the thin ideal that media portrays is desired, then the individual may binge eat, exercise excessively, or pursue starvation.

Another feature of borderline personality disorder is a fear of abandonment, and people with this disorder often "... make frantic efforts to avoid real or imagined abandonment" (DSM-IV-TR, APA, 2000, p. 706). The efforts to avoid rejection or being alone may include impulsive behavior. If individuals with borderline personality disorder feel that they fall short of the thin-ideal body type as portrayed by media, they may act in drastic ways to achieve the thin ideal, as a way to prevent abandonment. Because these individuals do not want to be rejected, they may be overly sensitive to the media's emphasis of a thin body type and excessively comply with the message. They may do whatever it takes to achieve such "perfection" because, if this is not attained, their fear of being abandoned may increase. These thoughts and behaviors could lead to eating disorder tendencies and body image problems.

The aforementioned characteristics of borderline personality disorder explain why it is possible that borderline personality disorder traits may moderate the effects of thin-ideal media on body image and eating behavior. The influence of the media may be stronger for such people, perhaps partly explaining why these individuals are more likely to engage in problematic eating behaviors.

Self-Esteem

Relationship to problematic eating behavior/body image. Low levels of self-esteem are considered to be a risk factor for ED tendencies and negative body image. Peck and Lightsey (2008) investigated the relationship between ED and self-esteem, perfectionism, and ED behavior while conceptualizing the construct of ED along a continuum. This problematic behavior was considered eating disordered (having an ED), symptomatic (having some ED tendencies) or asymptomatic (no disordered eating). The authors found that in the sample of female college undergraduates, the eating disordered individuals differed from the other groups on all dependent measures. They had lower self-esteem, higher levels of perfectionism, and more ED behavior. Furthermore, the symptomatic and asymptomatic groups differed from each other on body dissatisfaction, perfectionism, self-esteem, ineffectiveness, and interoceptive awareness. The asymptomatic group had the highest self-esteem and the disordered eating group had the lowest self-esteem, which supports the relationship between ED and self-esteem (Peck & Lightsey).

From a more positive outlook, high self-esteem is thought to be a protective factor against ED. O'Dea and Abraham (2000) implemented an interactive, school-based education program for 11 to 14 year olds in Australia that was designed to improve body image through building self-esteem. Results showed that the program improved body satisfaction and resulted in the decreased importance of physical appearance, decreased importance of athletic ability, and the decreased importance of social acceptance, which are a few aspects of self-esteem. Greater body satisfaction and a lower drive for thinness remained one year after the program for the intervention group, which included

individuals considered at risk for ED (O'Dea & Abraham, 2000). This study highlights the relationship between self-esteem and body image, and provides support for the protective factor that self-esteem may have on body image and eating disorder tendencies.

An extensive review of the literature on the relationship between low self-esteem and the emergence of ED and negative body image, or the potential for high self-esteem to act as a protective factor against such effects, is beyond the purpose of this selective review. For further information however, interested readers are referred to studies in the literature (e.g., McVey, Pepler, Davis, Flett, and Abdoell, 2002; Newns, Bell, and Thomas, 2003; O'Dea, 2004; Shea and Pritchard, 2007).

Potential as a moderator variable. As the relationship between low self-esteem and increased prevalence of ED and body image disturbance is well established, it is possible that self-esteem moderates thin-ideal media's effect on body image. In other words, individuals with low or insecure self-esteem may be more susceptible to thin-ideal media. O'Dea (2004) notes that children with high self-esteem are better able to cope with teasing, anxiety, criticism, and stress, which are all associated with ED. People with low self-esteem may be less able to cope with such stressors. Thus, when people with low self-esteem are subjected to thin-ideal media, they may be more susceptible to its negative effects; the difficulties they are already facing coupled with the pressure to comply with the thin ideal may be too much to adequately cope with.

Although body image disturbances can be part of self-esteem, the construct of self-esteem encompasses a greater range of ideas, characteristics, and behaviors; it measures self-worth or self-competence. If a person's body image dominates her sense

of self, then it is possible that this will constitute her self-esteem. However, other aspects of life, like interpersonal relationships, academics or job status, play a role in self-esteem as well. This situation would apply to all aspects of self-esteem; if academic pursuits or athletic performance excessively dominated a person's sense of self, these abilities could constitute self-esteem entirely as well. Thus, it would be inaccurate to equate body image with self-esteem.

Furthermore, the commonly used Rosenberg Self-Esteem Scale, which will be utilized to measure self-esteem, includes items distinct from body image, such as "I am able to do things as well as most other people" and "I certainly feel useless at times" (Rosenberg, 1965). No items on the Rosenberg Self-Esteem Scale pertain to body image. This is different, for instance, from the body dissatisfaction scale of the Eating Disorder Inventory (EDI), which include items like "I think that my stomach is too big" and "I feel satisfied with the shape of my body" (Garner, 1991). Therefore, the items measuring self-esteem and body image disturbance appear to pertain to separate (albeit related) entities.

Studies examining how different levels of self-esteem may moderate the effects of thin-ideal media on eating disorder tendencies and body image have not been documented in the literature. However, research exploring self-esteem as a moderator variable in different contexts does exist and is relevant to the present study. Vohs and colleagues (2001) investigated whether self-esteem moderates the relationship between perfectionism and body dissatisfaction in a sample of undergraduate females. It was found that, for those with high perfectionism, low self-esteem predicted high body dissatisfaction, which led to an increase in bulimic symptoms. In comparison, for those

with high perfectionism, high self-esteem did not predict body dissatisfaction. A different study examined whether self-esteem serves as a moderator variable in the relationship between perfectionism and internalization of thin-ideal media, but found no support for such a relationship (Tissot & Crowther, 2008). Tissot and Crowther (2008) believed their results contrasted with Vohs and colleagues' findings because of methodological differences (e.g., a cross-sectional design as opposed to a longitudinal design, which may not have allowed a moderating influence to emerge), or defining perfectionism as a multidimensional construct instead of a unidimensional construct (i.e., as in the Vohs et al. study). Regardless of the contrasting findings, Tissot and Crowther (2008) acknowledged the importance and need for future research to investigate self-esteem as a moderator variable from other perspectives. In brief, the study by Vohs and colleagues (2001) suggests that self-esteem may play a role of moderator variable in this general area of research.

Childhood Abuse/Neglect

Relationship to problematic eating behavior/body image. All types of childhood abuse have been associated with the prevalence of ED. In a review of ED and comorbid psychopathology, Pearlstein (2002) concluded that women with AN or BN report higher rates of childhood sexual abuse (27 to 51%), which parallels rates of reported childhood sexual abuse in other clinical populations. Pearlstein noted that the literature is mixed; some studies report that childhood sexual abuse is an independent risk factor for ED tendencies, while others report that it is a general risk factor for ED as it interacts with other variables. Neumark-Sztainer, Story, Hannan, Beuhring, and Resnick (2000) examined a large sample of middle and high school students and found that, after

controlling for physical abuse, sociodemographics, and family and psychosocial factors, students who reported sexual abuse were at an increased risk of disordered eating.

Neumark-Sztainer et al. (2000) also investigated the relationship between physical abuse and ED tendencies and found that students who reported physical abuse were at an increased risk of disordered eating, after controlling for sexual abuse and the other variables studied. Treuer, Koperdak, Rozsa, and Furedi (2005) examined the relationship between ED tendencies and both sexual and physical abuse in a clinical sample of people with ED. These researchers found that people who had been physically abused experienced greater body image distortions, and this was not found for those who had been sexually abused. Also, a greater number of the people had been physically abused (57%) as compared to sexually abused (29%) in the sample of people with ED (Treuer et al.).

Emotional abuse has also been related to ED. Kennedy, Ip, Samra, and Gorzalka (2007) tested two different models that related abuse to ED in a large sample of undergraduate students. In model one, the direct effect of childhood emotional abuse and possible mediators were tested. Model two tested the effects of childhood emotional abuse as a moderator of the relationship between other types of abuse (physical, sexual, neglect) and ED. Results were inconsistent for physical abuse and sexual abuse, but it was found the childhood emotional abuse had a direct effect on ED tendencies (Kennedy et al.). Other studies (e.g., Kent, Waller, and Dagnan, 1997; Witkiewitz and Dodge-Reyome, 2000), have found that emotional abuse is more predictive of ED than other kinds of abuse.

As the previously cited research illustrates, there is support for the relationship between childhood abuse and the development of ED tendencies. There is much research on this specific topic, but an exhaustive review is not the purpose of the present study. Therefore, for more information, interested readers can refer to specific studies (e.g., Hund and Espelage, 2006; Wonderlich, Rosenfeldt, Crosby, Mitchell, Engel, Smyth, et al., 2007), or a literature review (e.g., Wonderlich, Brewerton, Jolic, Dansky, and Abbott, 1997). The underlying processes of the relationship between abuse and ED are not clear and data are inconclusive as to what kind of abuse (emotional, sexual, or physical) is most damaging. However, the general conclusion that childhood abuse is related to ED is important and relevant to understanding the development of such problems.

Potential as a moderator variable. As previously explained, thin-ideal media contributes to the development of ED for some people. Therefore, it is possible that experiencing abuse or neglect in childhood may moderate the effect of thin-ideal media. That is, those individuals having experienced abuse may be more susceptible to the debilitating messages the media portrays regarding body size. As a moderator variable, past abuse/neglect might explain in what situations or for what type of people, the media has a significant negative effect. No research investigating the moderating effect of abuse on the relationship between the media and body image is present in the literature; thus, this study is expected to contribute unique knowledge to the field of study. There are reasons to believe that past abuse/neglect may play a moderating role, as delineated below, and results from this research will uniquely contribute to the empirical literature.

Abuse experiences are related to ED tendencies for various reasons, one of which is an increase in body dissatisfaction. Murray, MacDonald, and Fox (2008) found that a

population of individuals who self-harmed and experienced childhood sexual abuse reported greater body dissatisfaction and ED behaviors than individuals who self-harmed but did not experience childhood sexual abuse. Similarly, Tripp and Petrie (2001) found that in a sample of college females, sexual abuse predicted higher levels of shame regarding the body, which in turn was related to body disparagement, which directly predicted ED tendencies. Childhood abuse can lead to feelings of shame and self-loathing about the body, and as illustrated, these feelings may lead to ED tendencies. This relationship may be heightened when subjected to the media because individuals who already have a negative or unstable body image may be more likely to internalize the thin-ideal value. The person who experienced childhood abuse may be more susceptible to the negative effects of thin-ideal media because of already present and continuously increasing body dissatisfaction.

Another explanation for the link between childhood abuse and ED tendencies or body image disturbance is that people who experienced abuse may have a decreased ability to manage strong affect (Rorty & Yager, 1993). Because of this inability, ED tendencies may arise as a way to deal with negative feelings. Kent, Waller, and Dagnan (1999) found that childhood emotional abuse predicted unhealthy eating attitudes, and this relationship was mediated by anxiety. These results suggest that problematic eating attitudes arose when anxiety was present, which supports Rorty and Yager's model that ED tendencies are a result of an inability to deal with strong affect. As childhood abuse leads to difficulty coping with strong feelings, those that have this problem may be more influenced by external sources because of these individuals' tendency to avoid and not focus on their own feelings. Therefore, survivors of childhood abuse may be more

susceptible to the negative effects of thin-ideal media because of behavior and cognitions that aim to avoid the person's own feelings.

Childhood abuse has also been related to the other hypothesized moderator variables in the present study, self-esteem and borderline personality disorder traits. Kent and Waller (2000) review the literature and propose that childhood emotional abuse decreases self-esteem, which increases vulnerability to ED. Similarly, Kennedy et al. (2007) found that self-esteem mediated the relationship between childhood neglect and ED tendencies. The association between childhood abuse and borderline personality disorder traits has also been established, as the DSM-IV-TR notes that "physical and sexual abuse [and] neglect... are more common in the childhood histories of those with Borderline Personality Disorder" (APA, 2000, p. 708). Therefore, the rationales for why self-esteem and borderline personality disorder tendencies may be moderator variables, as reviewed in previous sections, are also relevant in detailing the rationale for the hypothesis that childhood abuse will moderate the relationship between thin-ideal media and body image disturbance.

The Present Study

Although research documents the negative effects of thin-ideal media on body image and eating problems (e.g., Brown & Dittmar, 2005), research examining hypothesized moderators is lacking. As indicated in the DSM-IV-TR, low self-esteem, history of abuse, and borderline personality traits are associated with eating disorders (APA, 2000) and, as explained in this proposal, there is reason to hypothesize that these variables moderate the effects of thin-ideal media. This research has theoretical implications, since an understanding of variables that moderate the effects of thin-ideal

media on body image would enhance conceptual models of etiology. From a clinical perspective, a better understanding of risk and protective factors of ED and subclinical problems will allow us to alleviate (or even prevent) these dangerous conditions.

The purpose of the present study was to examine the following hypotheses:

1. Consistent with past research, it is hypothesized that women's body image will become more negative after viewing thin-ideal media, whereas such a change is not expected in women viewing neutral media.
2. Consistent with past research, an association between body image problems and eating disordered behavior is hypothesized.
3. As found in past research, the aforementioned psychosocial factors (low self-esteem, borderline personality tendencies, and past abuse) are hypothesized to correlate with eating disorder tendencies and body image problems.
4. The main emphasis of the present study is to examine the hypothesis that self-esteem, borderline personality disorder tendencies, and history of abuse/neglect moderate the effect of thin-ideal media on body image. Given the dearth of research on factors moderating the effects of thin-ideal media, an examination of this hypothesis is expected to yield unique contributions to the empirical literature.

CHAPTER II

Method

Participants

The sample consisted of 100 female undergraduate students (84% of whom were Caucasian) at a private Midwestern university. The age of participants ranged from 18 to 24 years, with an average of 19.24 years and a standard deviation of 1.10. A college sample is ideal for the present study because ED are often a problem for this age group. The DSM-IV-TR notes that the onset of AN is usually during mid- to late adolescence or is often associated with a stressful event (e.g., transition to college) and the onset of BN is during late adolescence or early adult life (APA, 2000). For at-risk females (those between 15 and 29 years of age), Polivy and Herman (2002) note that prevalence rates are estimated to range from 3 to 10%, which is more than the lifetime prevalence rate of 0.5% for AN in females and the lifetime prevalence rate of 1-3% for BN in females (DSM-IV-TR; APA, 2000). Participants were recruited from introductory psychology courses and received course related credit for their participation or were recruited from upper-level psychology courses and received extra credit for participating. Prior to data collection, the study was approved by the Research Review and Ethics Committee, Department of Psychology, University of Dayton, and procedures were in accordance with the Ethical Principles of Psychologists (American Psychological Association, 2002).

Materials

Demographic questionnaire. Participants completed a demographics questionnaire (Appendix A) at the beginning of the study to obtain information regarding age, ethnicity, height, weight, and desired weight of the participants. To measure socioeconomic status, the demographic questionnaire had questions about the level of education acquired by each parent and the annual income for each parent. The questionnaire asked participants to disclose if they were currently involved in therapy with a mental health practitioner and the current marital status of their biological parents.

Self-esteem. Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES; Appendix B; Rosenberg, 1965), which consists of ten items with scores ranging from 1 (strongly disagree) to 5 (strongly agree) that explore a person's global self-worth. Higher scores on the RSES indicate higher levels of self-esteem. An example of one item is "I feel that I have a number of good qualities" (Rosenberg, 1965). According to Byrne (1996), alpha coefficients range from .72 to .88, and test-retest reliability coefficients range from .62 over a six month time period in college students (Byrne, 1983) to .82 over a one-week interval in college students (Silber & Tippet, 1965). Convergent validity coefficients range from .64 to .79 with measures of constructs related to self-esteem (e. g., the General-Self subscale of the Self Description Questionnaire-III, Self Concept subscale of the Affective Perception Inventory), and this was thought to be adequate and supported the idea that the scale measured a one-dimensional construct of self-esteem (Byrne, 1996).

Borderline personality disorder tendencies. The Coolidge Axis II Inventory – Revised (CATI+; Appendix C; Coolidge, 1984) was used to measure borderline

personality disorder traits. In its entirety, this self-report inventory contains 225 questions on a Likert-type scale, ranging from 1 (strongly false) to 4 (strongly true), which comprise 42 scales. 14 scales pertain to personality disorders according to criterion of DSM-IV and DSM-III-R, and the current study employed only the 23 items pertaining to Borderline Personality Disorder. Therefore, in this study, scores could range from 23 to 92 and higher scores suggested the presence of borderline personality disorder traits. An example of one item is "My moods change quite fast" (Coolidge, 1984). Test-retest reliability of the entire CATI is .90 (Coolidge, 1993). Regarding internal consistency, alpha for the borderline personality subscale is .80 (Coolidge & Merwin, 1992). One standard deviation above the mean of a normative sample is a marker for the presence of a personality disorder according to the CATI manual, and a 50% concordance rate was obtained between this measure and clinical diagnoses. Convergent validity for the scores on the borderline personality disorder subscale of the CATI and of the Millon Clinical Multiaxial Inventory-II is .87 (Coolidge & Merwin).

Past abuse/neglect. The Childhood Trauma Questionnaire (CTQ; Appendix D; Bernstein & Fink, 1998) was used to measure past abuse. This 28 item inventory employs a Likert-like scale that ranges from 1 (never true) to 5 (very often true). The CTQ examines five dimensions of abuse (emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect) and each subscale is comprised of five items. An example of one item from the physical neglect domain is "I didn't have enough to eat" (Bernstein & Fink, 1998). Factor analysis factors confirmed a five factor solution (Bernstein & Fink). A minimization/denial subscale is designed to detect extreme response bias, such as socially desirable responding or a tendency to minimize past abuse

or neglect. The CTQ manual provides cut off scores for each subscale associated with minimal, low, moderate, or severe abuse (Bernstein & Fink). Internal consistency coefficients were .85 for emotional abuse, .82 for physical abuse, .95 for sexual abuse, .92 for emotional neglect, and .63 for physical neglect subscales. Test-retest reliability over a three and a half month period was .80 for both emotional and physical abuse, .81 for both sexual abuse and emotional neglect, and .79 for physical neglect. Regarding criterion related validity, CTQ subscales correspond with similar dimensions of the Child Maltreatment Interview, like the sexual abuse subscale of the CTQ and the child molestation and penetration scale of the Child Maltreatment Interview (Bernstein & Fink).

In this study, participants' overall responses on the CTQ did not indicate extensive histories of abuse or neglect. Most participants reported little or no abuse in their past. For example, on the physical abuse subscale in which scores can range from 5 to 25, participants' scores ranged from 5 to 12, and participants' mean score and scores within one standard deviation of the mean corresponded to the None or Minimal category. Thus, scores on the CTQ reflect a severe restriction in range.

Eating Disorder Inventory-3 (EDI-3). The EDI-3 (Appendix E; Garner, 1991) consists of 91 items that constitute 12 different scales: drive for thinness, bulimia, body dissatisfaction, low self-esteem, personal alienation, perfectionism, interpersonal insecurity, interpersonal alienation, interoceptive deficits, emotional dysregulation, asceticism, and maturity fears. The sum of three of the scales (drive for thinness, bulimia, and body dissatisfaction) constitutes the eating disorder risk composite score, with high scores indicating risk for an eating disorder. Likewise, high scores on the other

nine scales indicate symptomatic responses in eating-disordered tendencies. Participants noted the extent to which each item pertained to them, with scores ranging from 0 (never) to 4 (always). An example of one item is "I exaggerate or magnify the importance of weight" (Garner, 1991). Alpha coefficients ranging from .65 to .90 indicate good internal consistency, and test-retest reliability coefficients over one day to one-week time periods range from .86 to .98. Regarding convergent validity, females with anorexia had significantly higher scores on all subscales than a female comparison group of college students and a male comparison group of college students (Garner et al., 1983). The correlation between the drive for thinness subscale and the Eating Attitudes Test was at .51, also suggesting convergent validity (Garner et al., 1983).

Body Esteem Scale. The Body Esteem Scale (BES; Appendix F; Franzoi & Shields, 1984) was administered to participants before and after viewing the media. The BES examines the strength and valence of people's feelings towards their body parts and body shape, like width of shoulders or buttocks. A Likert-like scale is used, with scores ranging from 1 (strong negative feelings) to 5 (having strong positive feelings). Scores are derived for three dimensions; sexual attractiveness, which pertains to body features that can change through cosmetic use but not exercise; physical condition, which items pertain to stamina, agility, and strength; and weight concern, which includes items pertaining to body parts that can physically change through exercise or food intake (Franzoi & Shields, 1984). Internal consistency is strong, with alpha coefficients of .78 for the attractiveness factor, .87 for the weight concern factor, and .82 for the physical condition factor. Convergent validity is established for the BES, as Franzoi and Herzog (1986) found that it significantly correlated with numerous scales on the Body

Consciousness Questionnaire that measure similar constructs (i.e., body competence scores, time spent on aerobic exercise, and time spent thinking about food as adding weight to the body). Further supporting construct validity, Ferrell and Reeb (2006) found a decrease in scores across all three dimensions after viewing self-objectifying media, and Bosse and Reeb (2008) found a decrease in scores for the physical condition and weight concern subscales after viewing thin-ideal media. As the BES was used before and after viewing media, difference scores on the BES were calculated by subtracting pre-viewing scores from post-viewing scores. Higher BES scores indicate higher body esteem and lower BES scores indicate lower body esteem. Therefore, negative difference scores indicated a decrease in body esteem from pre to post media viewing. Positive difference scores suggested an increase in body esteem from pre to post media viewing.

Positive and negative affect schedule (PANAS). The PANAS (Appendix G; Watson, Clark, & Tellegen, 1988) measures positive and negative affect at the present time. It consists of 10 positive affect (PA) items, like proud or determined, and 10 negative affect (NA) items, like ashamed or afraid, and responses on a Likert-type scale range from 1 (very slightly or not at all) to 5 (extremely). Regarding internal consistency, alphas ranged from .86 to .90 for the PA and from .84 to .87 for NA. Convergent validity for the PANAS was demonstrated by a .74 correlation between the NA scale and the Hopkins Symptom Checklist, and an inverse correlation (-.36) between the PA scale and the Beck Depression Inventory (Watson et al., 1988). Regarding construct validity, Bardone-Cone and Cass (2006) used the PANAS to assess mood state changes in college females viewing pro-anorexia websites and found negative affect to be higher for those viewing pro-anorexia websites as compared to those viewing fashion

websites with averaged-size models or home décor websites. Similarly, Bosse and Reeb (2008) found an increase in NA in college females after viewing thin-ideal media but not for those that viewed neutral media. In the present study, the PANAS was used to measure pre- to post- media changes in mood. Difference scores for the PANAS were calculated by subtracting the pre media scores from the post media scores. High scores on the PA scale indicate greater positive affect and low scores indicate less positive affect. Therefore, a positive difference score indicated an increase in positive affect and a negative difference score indicated a decrease in positive affect. High scores on the NA scale indicate greater negative affect and low scores indicate less negative affect. Therefore, a positive difference score indicated an increase in negative affect and a negative difference score for the NA subscale of the PANAS indicated a decrease in negative affect.

Appearance self-efficacy scale (ApSES). The ApSES (Appendix H) was used by Bardone-Cone and Cass (2006) to measure appearance self-efficacy and is a modified version of the general subscale of the Self-Efficacy Scale (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982). The ApSES consists of 17 items with responses that range from 1 (strongly disagree) to 5 (strongly agree) and an example of one item is "I feel insecure about my ability to develop my desired body weight and shape." The original Self-Efficacy Scale has demonstrated strong psychometric properties (Sherer et al.). For the modified version, internal consistency before viewing media was at .90 and after viewing media, the coefficient alpha was .86 (Bardone-Cone & Cass). Bardone-Cone and Cass noted that appearance self-efficacy decreased for college women who viewed pro-anorexia websites, suggesting construct validity. For

example, these women felt less confident in their abilities to achieve a desired weight. In the present study, this scale was used to measure pre- to post- media changes in appearance self-efficacy. Difference scores were obtained for the ApSES by subtracting the pre media score from the post media score. Higher scores on the ApSES indicate greater appearance self-efficacy and lower scores indicate lower levels of self-efficacy. Therefore, positive difference scores indicated an increase in self-efficacy after viewing the media and negative difference scores indicated a decrease in appearance self-efficacy.

Sociocultural attitudes towards appearance questionnaire (SATAQ). The SATAQ (Appendix I; Heinberg, Thompson, & Stormer, 1995) examines women's recognition and acceptance of society's standards for appearance. Responses on a Likert-like scale range from 1 (completely disagree) to 5 (completely agree). The SATAQ consists of an eight-item internalization subscale that has an alpha coefficient of .88 and a six-item awareness subscale that has an alpha coefficient of .71. An example of an item is "Photographs of thin women make me wish I were thin." The internalization subscale was utilized in the present study, as Heinberg et al. found this measure of acceptance of appearance standards to be a stronger predictor of body image disturbance, and past research has utilized this one subscale in some studies (e.g., Bosse & Reeb, 2008; Brown & Dittmar, 2005). Convergent validity coefficients for this subscale ranged from .36 to .61 with various measures of eating disorder symptomatology, such as subscales of the EDI and the PASTAS (Heinberg et al., 1995). Although the studies reviewed that utilized the SATAQ (e.g. Bosse & Reeb; Brown & Dittmar; Hawkins et al., 2004) incorporated it as a post media measure only, the SATAQ was used as a pre and post media measure in the present study, as expected increases in internalization after viewing

thin-ideal media would contribute to the construct validity of the scale. Higher scores on the SATAQ indicate greater internalization of the thin ideal and lower scores indicate less internalization. Therefore, positive difference scores indicated an increase in internalization after viewing the media and negative difference scores indicated a decrease in internalization.

Physical appearance state and trait anxiety scale (PASTAS). The PASTAS (Appendix J; Reed, Thompson, Brannick, & Sacco, 1991) examines state and trait body image anxiety. The 48 items of the state version ask how anxious people are “right now” about various body parts, like “my chin” or “my waist” and responses are based on a five point Likert-like scale that ranges from 0 (not at all) to 4 (exceptionally so). Regarding reliability, Reed et al. reported that the PASTAS had a test-retest reliability coefficient of .87 in a sample of college students, with alpha coefficients ranging from .82 to .92. Convergent validity coefficients for the weight-related items ranged from .36 to .74 with various subscales of the EDI (Reed et al.). In a shortened version of the PASTAS with 16 items that includes only weight related body sites, a coefficient alpha of .94 was obtained (Halliwell & Dittmar, 2004). This shortened version was utilized in the present study. Previous studies that made use of the PASTAS included it as a post media assessment only (e.g., Bosse & Reeb, 2008; Brown & Dittmar, 2005), but it will be utilized as a pre and post measure in the present study, as expected increases in state anxiety about the body after viewing thin-ideal media would contribute to the construct validity of the scale. Higher scores on the PASTAS indicate greater body anxiety about physical appearance and lower scores indicate less anxiety. Therefore, positive

difference scores indicated an increase in anxiety after viewing the media and negative difference scores indicated a decrease in anxiety.

Procedure

Before participants were recruited and data collection began, the study was approved by the Research Review and Ethics Committee, Department of Psychology, University of Dayton. Participants were recruited from a pool of undergraduate students enrolled in introductory psychology courses or upper-level psychology courses and received credit for participation. Participants signed up for a certain time slot and read and signed a consent form (Appendix L) before participating. The following procedures allowed for the exploration of the extent to which hypothesized variables moderated the effect of thin-ideal media on body image. To begin, participants completed a packet of self-report questionnaires in a group setting, which included the demographics form, the Rosenberg Self-Esteem Scale, the Eating Disorder Inventory-3, a select portion of the Coolidge Axis II Inventory-Revised, and the Childhood Trauma Questionnaire. Participants completed the demographics form, the Rosenberg Self-Esteem Scale, and then the remaining three surveys in a counterbalanced order. This way, self-esteem reports was not affected by possible negative cognitions that arose after answering questions regarding borderline personality disorder tendencies, eating habits, or past abuse. An experimental design was utilized with participants randomly assigned to (a) an experimental condition (i.e., view thin-ideal media) or (b) a control condition (i.e., view neutral media images). About 65% of the participants were assigned to the experimental condition and about 35% were assigned to the control condition to maximize power.

Next, each participant completed the media-viewing part of the study individually. Before and after viewing media, participants completed body image questionnaires in the individual setting, including the Body Esteem Scale, the Positive and Negative Affect Schedule, the Appearance Self-Efficacy Scale, the Physical Appearance State and Trait Anxiety Scale, and the Sociocultural Attitudes Toward Appearance Questionnaire. Questionnaires were completed in the same order before and after media viewing for consistency and because measures were thought to represent the same construct of body image. There was no reason to believe that completion of one body image measure would influence answers on other body image measures. Table 1 outlines the order in which surveys were administered for the study.

The thin-ideal media consisted of 10 pictures, which were of models found on various fashion websites, and the control-media consisted of 10 magazine advertisements from various websites but do not contain images of models. Bosse and Reeb (2008) utilized the same images and found significant effects in the expected directions (i.e., after viewing thin-ideal images, body image became more negative, while no such change occurred after viewing neutral images). Experimental and control groups viewed the media images for 10 seconds per picture on computers, as Brown and Dittmar (2005) also used this exposure time and found increases in weight-related anxiety after viewing thin-ideal media. Both the thin-ideal and neutral media images were utilized in a previous study that found expected changes in body image disturbance after viewing the thin-ideal media (Bosse & Reeb, 2008). Following the completion of the study, participants were asked to answer two general questions regarding the study, to assess if

Table 1

Order of Survey Administration

Group Setting		
Demographic Questionnaire		
Rosenberg Self-Esteem Scale (RSES)		
Coolidge Axis II Inventory – Revised (CATI+)		
Eating Disorder Inventory – 3 (EDI-3)		
Childhood Trauma Questionnaire (CTQ)		
Individual Setting		
Pre-Media Viewing	Media	Post-Media Viewing
Body Esteem Scale (BES)	→	Body Esteem Scale (BES)
PANAS	→	PANAS
ApSES	→	ApSES
SATAQ	→	SATAQ
PASTAS	→	PASTAS
		Post-Experimental Inquiry

Note. PANAS = Positive and Negative Affect Schedule, ApSES = Appearance Self-Efficacy Scale, SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire, PASTAS = Physical Appearance State and Trait Anxiety Scale

they were able to detect its purpose (Appendix K), and participants were debriefed both orally and verbally (Appendix M).

Overview of Statistical Analysis Procedures

In this subsection, each hypothesis is reiterated and statistical analysis procedures employed to examine each hypothesis are delineated.

Hypothesis 1

Statement of hypothesis 1. Consistent with past research, it is hypothesized that women's body image will become more negative after viewing thin-ideal media, whereas such a change is not expected in women viewing neutral media.

Data analysis procedures. A 2 by 2 multivariate analysis of variance (MANOVA) with one between subjects factor (thin versus neutral media), one within subjects factor (pre- versus post-media), and with body image as the dependent variable will be used to determine if overall body image became more negative after viewing thin-ideal media. Then, a series of 2 x 2 ANOVAs will be used to determine the extent to which this hypothesis is supported, with a body image measure serving as dependent variable in each analysis. Each ANOVA will include one between-subjects factor (thin-ideal versus neutral media) and one within-subjects factor (pre- versus post-media measures). Each ANOVA that yielded a significant interaction effect will be followed by post-hoc analyses to determine locus of significance.

Hypothesis 2

Statement of hypothesis 2. Consistent with past research, an association between body image problems and eating disordered behavior is hypothesized.

Data analysis procedures. Bivariate correlational analyses will be utilized to determine the extent to which the hypothesis is supported. To control for type one error, the Bonferroni multistage procedure will be used, in which a more stringent significance level is adopted as the criterion for significance.

Hypothesis 3

Statement of hypothesis 3. As found in past research, the aforementioned psychosocial factors (low self-esteem, borderline personality tendencies, and past abuse/neglect) are hypothesized to correlate with eating disorder tendencies and body image problems. It is expected that self-esteem will exhibit an inverse correlation with eating disorder tendencies and body image problems, and both borderline personality tendencies and past abuse/neglect will exhibit a positive correlation with eating disorder tendencies and body image problems.

Data analysis procedures. Bivariate correlational analyses will be used to determine the level of support for this hypothesis. To control for type one error, the Bonferroni multistage procedure will be used, in which a more stringent significance level is adopted as the criterion for significance.

Hypothesis 4

Statement of hypothesis 4. The main emphasis of the present study is to examine the hypothesis that self-esteem, borderline personality disorder tendencies, and history of abuse/neglect moderate the effect of thin-ideal media on body image. Given the dearth of research on factors moderating the effects of thin-ideal media, an examination of this hypothesis is expected to yield unique contributions to the empirical literature.

Data analysis procedures. A series of hierarchical multiple regressions will be used to determine the extent of support for this hypothesis. Pre- to post- body image difference scores will be used as the dependent variable in each multiple regression analysis. As recommended by Frazier et al. (2004), experimental condition (i.e., thin-ideal media versus neutral media) and the hypothesized moderator (i.e., self-esteem, borderline personality tendencies, or past abuse) will be entered at step 1, with the interaction between experimental condition and hypothesized moderator entered at step 2.

CHAPTER III

Results

The following results section is divided into four subsections. Each subsection corresponds to one of the four hypotheses for this study that were delineated on pages 19 and 20.

Effects of Thin-Ideal Media on Body Image

Hypothesis 1 states that women's body image will become more negative after viewing thin-ideal media, whereas such a change is not expected in women viewing neutral media. To examine this hypothesis, a 2x2 multivariate analysis of variance (MANOVA) was employed, with group (thin versus neutral media) as the between subjects factor, time (pre- versus post-media) as the within subjects factor, and body image measures as the dependent variable. As expected, there was a statistically significant interaction between group and time, $F(8, 88) = 2.26, p = .03$. The main effect for time (pre- versus post-media viewing) was significant, $F(8, 88) = 2.26, p = .03$, but the main effect for group (thin versus neutral media) was nonsignificant, $F(8, 88) = 1.08, p = .38$.

Given the significant MANOVA interaction, a follow-up ANOVA was employed for each dependent measure, with group as the between-subjects factor and time as the within subjects factor, and a body image measure as the dependent variable in each

analysis. Table 2 presents means and standard deviations for each group at each measurement point.

With the Sexual Attractiveness subscale of the BES as the dependent variable, there was a significant interaction between group and time, $F(1, 97) = 4.99, p = .03$. Post-hoc t-tests were utilized to determine specific differences between the groups. As expected, the difference between groups at pre-media viewing was nonsignificant, $t(97) = .12, p = .91$. As hypothesized, the following pattern was observed: (a) the thin-ideal media group changed in the clinical direction (decreased body esteem regarding sexual attractiveness) from pre-media viewing to post-media viewing, $t(63) = 3.35, p < .01$; (b) in contrast, the neutral media group did not change from pre-media viewing to post-media viewing, $t(34) = -.84, p = .41$.

In the next ANOVA, the Weight Concern subscale of the Body Esteem Scale (BES) served as the dependent variable, and there was a significant interaction between group and time, $F(1, 98) = 6.36, p = .01$. Post-hoc t-tests were utilized to identify specific group differences. As expected, there was not a significant difference between groups pre-media viewing, $t(98) = -1.36, p = .18$. As hypothesized, the following pattern was observed for the groups: (a) the thin-ideal media group changed in the clinical direction (decreased body esteem regarding weight concern) from pre-media viewing to post-media viewing, $t(63) = -4.48, p < .01$; and (b) in contrast, the neutral media group did not change from pre-media viewing to post-media viewing, $t(35) = .83, p = .41$.

With the Physical Condition subscale of the BES as the dependent variable, there was a significant interaction between group and time, $F(1, 98) = 8.11, p = .01$. To

Table 2

Means and Standard Deviations for Body Image Measures as a Function of Group and Time

Body Image Measure	N	Before		After	
		Mean	SD	Mean	SD
BES: Sexual Attractiveness**					
Thin-Ideal Media Group	64	44.44	5.89	43.19	7.58*
Neutral Media Group	35	44.26	9.45	45.23	6.79
BES: Weight Concern**					
Thin-Ideal Media Group	64	26.14	8.69	23.92	9.51*
Neutral Media Group	36	28.56	8.15	28.19	8.25
BES: Physical Condition**					
Thin-Ideal Media Group	64	31.20	7.31	29.69	8.29*
Neutral Media Group	36	31.53	6.08	31.86	5.92
PANAS: Negative Affect**					
Thin-Ideal Media Group	64	14.11	4.04	15.70	5.86*
Neutral Media Group	36	14.69	4.83	13.78	5.19
Physical Appearance State and Trait Anxiety ⁺⁺					
Thin-Ideal Media Group	64	18.48	10.13	20.77	12.25*
Neutral Media Group	36	15.81	11.34	16.36	12.47
PANAS: Positive Affect					
Thin-Ideal Media Group	64	28.12	6.88	25.36	8.26* ⁺
Neutral Media Group	36	30.67	7.71	29.33	8.84
Appearance Self-Efficacy					
Thin-Ideal Media Group	63	55.48	13.33	54.13	13.99*
Neutral Media Group	35	59.23	9.90	59.11	11.34
Sociocultural Attitudes Towards Appearance					
Thin-Ideal Media Group	64	27.83	7.97	28.02	8.81
Neutral Media Group	36	26.86	7.69	27.78	7.11

Notes. 1. Abbreviations. SD = Standard Deviation; BES = Body Esteem Scale; PANAS = Positive and Negative Affect Scale.

2. Significance Levels. ** p = Interaction between group and time significant for ANOVA procedure. ⁺⁺ p = Interaction between group and time closely approached significance for ANOVA procedure. * p = Follow-up t-tests showed significant, within group differences in means before and after viewing media. ⁺ p = Follow up t-tests showed significant, between group differences in means after viewing media.

identify specific group differences, post-hoc t-tests were utilized. As expected, there was no significant difference between groups pre-media viewing, $t(98) = -.23, p = .82$. The following hypothesized pattern was observed for the groups: (a) the thin-ideal media group changed in the expected direction (a decrease in body esteem) from pre-media viewing to post-media viewing, $t(63) = 3.44, p < .01$; and (b) the neutral media group did not change from pre-media viewing to post-media viewing, $t(35) = -.91, p = .37$.

The next ANOVA, with the Negative Affect subscale of the Positive and Negative Affect Scale (PANAS) as the dependent variable, also yielded a significant interaction between group and time, $F(1, 98) = 6.43, p = .01$. Post-hoc t-tests were utilized to determine specific group differences. As expected, there was not a significant difference in negative affect between groups pre-media viewing, $t(98) = .65, p = .52$. As hypothesized, the following pattern provided support for the hypothesis: (a) the thin-ideal media group changed in the clinical direction (negative affect increased) from pre-media viewing to post-media viewing, $t(63) = -2.46, p = .02$; and (b) in contrast, the neutral media group showed no change from pre-media viewing to post-media viewing, $t(35) = 1.43, p = .16$.

With the Physical Appearance State and Trait Anxiety Scale (PASTAS) serving as the dependent variable, the interaction between group and time closely approached significance, $F(1, 98) = 3.54, p = .06$. Since the p value closely approached the .05 criterion, post-hoc t-tests were used to explore specific group differences. As expected, there was not a significant difference in physical appearance anxiety between groups at pre-media viewing, $t(98) = 1.22, p = .23$. The following pattern was observed: (a) as

hypothesized, the thin-ideal media group changed in the clinical direction (increase in physical appearance anxiety) from pre-media viewing to post-media viewing, $t(63) = -3.78, p < .01$; and (b) as expected, the neutral media group showed no change from pre-media viewing to post-media viewing, $t(35) = -.95, p = .35$.

The interaction between group and time was nonsignificant when ANOVA was employed with the other dependent measures of body image, including the Positive Affect subscale of the PANAS ($F(1, 98) = 1.70, p = .20$), the Appearance Self-Efficacy Scale (ApSES) ($F(1, 96) = 1.53, p = .22$), and the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) ($F(1, 98) = 1.64, p = .20$). Although the interaction was nonsignificant in these analyses, exploratory follow-up analyses were employed to examine trends in specific group differences. Positive affect changed in the expected direction (decreased) after viewing thin-ideal media, $t(63) = 4.33, p < .01$, while no such change was documented for those viewing neutral media, $t(35) = 1.44, p = .16$. Also, after viewing media, the thin-ideal media group had significantly less positive affect than the neutral media group, $t(98) = -2.25, p = .03$. Similarly, appearance self-efficacy changed in the expected direction (decreased) after viewing thin-ideal media, $t(62) = 2.31, p = .02$, and no change was documented for those viewing neutral media, $t(34) = .14, p = .89$.

In summary, there were four dependent variables of body image (i.e., the Sexual Attractiveness, Physical Condition, and Weight Concern subscales of the BES, the Negative Affect subscale of the PANAS) that became more negative after viewing thin-ideal media. Furthermore, the ANOVA interaction involving the PASTAS closely approached significance ($p = .06$), with a follow-up analysis indicating that physical

appearance anxiety became significantly more negative after viewing thin-ideal media. Although interactions were not significant for the other body image measures, results indicated trends in positive affect and appearance self-efficacy that were in the clinically expected direction. As a general summary statement, there was evidence that body image became more negative in participants who viewed thin-ideal media, and this provides support for Hypothesis 1.

Correlation Between Body Image Problems and Eating Disorder Tendencies

Hypothesis 2, that there is an association between body image problems and eating disordered behavior, was tested using bivariate correlational analyses (see Table 3). The Bonferroni multistage procedure (Harris, 1975) was utilized to correct for Type I error by adopting a more stringent significance level as the criterion for significance. At the first stage of the Bonferroni multistage procedure, the significance value of 0.05 was divided by the number of correlations being tested, with the resulting number being the new and more stringent significant level. The p values of correlations were compared to this new significance level. If there was at least one significant correlation, the procedure continued; 0.05 was then divided by the number of correlations being tested minus the number of significant correlations previously found at stage one. In other words, 0.05 was divided by the number of correlations that were not significant, and this number was the new significance level. If correlations were significant when compared to this significance level, the procedure continued. The significance level of 0.05 was divided by a new number, which was the number of correlations left that were not significant. The procedure ended when there were no additional correlations significant at the new significance level. Table 3 notes if correlations are significant according to the 0.05

Table 3

Relationship Between Body Image Measures and Eating Disorder Tendencies

Subscales of the Eating Disorder Inventory – 3													
Body Image Measures	DT	B	BD	RC	LSE	PA	II	IA	ID	ED	P	A	MF
Body Esteem Scale													
SA Before	.041 (.690)	-.113 (.264)	-.007 (.945)	-.015 (.882)	-.185 (.067)	-.204⁺ (.043)	-.215⁺ (.032)	-.141 (.165)	-.072 (.479)	-.144 (.155)	-.076 (.452)	-.197 (.051)	-.198⁺ (.049)
SA After	-.161 (.110)	-.279⁺ (.005)	-.241⁺ (.016)	-.248⁺ (.013)	-.340⁺ (.001)	-.324⁺ (.001)	-.338⁺ (.001)	-.227⁺ (.023)	-.161 (.109)	-.253⁺ (.011)	-.146 (.148)	-.401⁺ (.000)	-.246⁺ (.014)
PC Before	-.337⁺ (.001)	-.385⁺ (.000)	-.538⁺ (.000)	-.489⁺ (.000)	-.548⁺ (.000)	-.445⁺ (.000)	-.221⁺ (.027)	-.313⁺ (.002)	-.234⁺ (.019)	-.285⁺ (.004)	-.011 (.917)	-.281⁺ (.005)	-.143 (.155)
PC After	-.384⁺ (.000)	-.449⁺ (.000)	-.602⁺ (.000)	-.554⁺ (.000)	-.531⁺ (.000)	-.458⁺ (.000)	-.258⁺ (.010)	-.312⁺ (.002)	-.266⁺ (.007)	-.307⁺ (.002)	-.068 (.504)	-.290⁺ (.003)	-.149 (.139)
WC Before	-.684⁺ (.000)	-.513⁺ (.000)	-.843⁺ (.000)	-.810⁺ (.000)	-.566⁺ (.000)	-.500⁺ (.000)	-.238⁺ (.017)	-.248⁺ (.013)	-.257⁺ (.010)	-.381⁺ (.000)	-.167 (.097)	-.467⁺ (.000)	-.205⁺ (.041)
WC After	-.659⁺ (.000)	-.487⁺ (.000)	-.851⁺ (.000)	-.797⁺ (.000)	-.498⁺ (.000)	-.442⁺ (.000)	-.274⁺ (.006)	-.184 (.067)	-.278⁺ (.005)	-.382⁺ (.000)	-.216⁺ (.031)	-.452⁺ (.000)	-.159 (.114)

Notes. 1. Abbreviations of Measures. SA = Sexual Attractiveness; PC = Physical Condition; WC = Weight Concern; DT = Drive for Thinness; B = Bulimia; BD = Body Dissatisfaction; RC = Eating Disorder Risk Composite; LSE = Low Self-Esteem; PA = Personal Alienation; II = Interpersonal Insecurity; IA = Interpersonal Alienation; ID = Interoceptive Deficits; ED = Emotional Dysregulation; P = Perfectionism; MF = Maturity Fears.

2. Significance Levels. ⁺ p = Correlations are significant according to the 0.05 level. * p = Correlations are significant when compared to a more stringent significant level calculated using the Bonferroni multistage procedure.

3. Direction of Correlations. Negative correlations between subscales of the BES and eating disorder tendencies are in the clinical direction.

Eating Disorder Inventory – 3 Subscales

Body Image Measures	DT	B	BD	RC	LSE	PA	II	IA	ID	ED	P	A	MF
Positive and Negative Affect Scale													
NA Before	.214⁺ (.032)	.149 (.140)	.171 (.089)	.190 (.059)	.135 (.180)	.235⁺ (.019)	.124 (.217)	.195 (.052)	.304⁺ (.002)	.270⁺ (.007)	.075 (.460)	.172 (.086)	.123 (.233)
NA After	.435⁺ (.000)	.488⁺ (.000)	.423⁺ (.000)	.478⁺ (.000)	.380⁺ (.000)	.392⁺ (.000)	.285⁺ (.004)	.323⁺ (.001)	.467⁺ (.000)	.395⁺ (.000)	.126 (.213)	.378⁺ (.000)	.172 (.087)
PA Before	-.055 (.587)	-.104 (.303)	-.091 (.369)	-.085 (.403)	-.207⁺ (.039)	-.205⁺ (.041)	-.309⁺ (.002)	-.201⁺ (.045)	-.059 (.559)	-.121 (.230)	-.105 (.298)	-.125 (.216)	-.210 (.236)
PA After	-.006 (.950)	-.102 (.314)	-.105 (.299)	-.071 (.480)	-.250⁺ (.012)	-.253⁺ (.011)	-.328⁺ (.001)	-.259⁺ (.009)	-.119 (.237)	-.163 (.106)	-.149 (.139)	-.167 (.096)	-.162 (.108)
ApSES Before	-.217⁺ (.031)	-.232⁺ (.021)	-.390⁺ (.000)	-.338⁺ (.001)	-.374⁺ (.000)	-.339⁺ (.001)	-.242⁺ (.016)	-.236⁺ (.019)	-.267⁺ (.008)	-.182 (.071)	-.013 (.898)	-.214⁺ (.034)	-.133 (.188)
ApSES After	-.190 (.059)	-.244⁺ (.015)	-.378⁺ (.000)	-.325⁺ (.001)	-.312⁺ (.002)	-.263⁺ (.008)	-.217⁺ (.031)	-.184 (.068)	-.212⁺ (.035)	-.197 (.051)	-.049 (.633)	-.182 (.071)	-.134 (.184)

Notes. 1. Abbreviations of Measures. NA = Negative Affect; PA = Positive Affect; ApSES = Appearance Self-Efficacy Scale; DT = Drive for Thinness; B = Bulimia; BD = Body Dissatisfaction; RC = Eating Disorder Risk Composite; LSE = Low Self-Esteem; PA = Personal Alienation; II = Interpersonal Insecurity; IA = Interpersonal Alienation; ID = Interoceptive Deficits; ED = Emotional Dysregulation; P = Perfectionism; MF = Maturity Fears.

2. Significance Levels. ⁺p = Correlations are significant according to the 0.05 level. *p = Correlations are significant when compared to a more stringent significant level calculated using the Bonferroni multistage procedure.

3. Direction of Correlations. Negative correlations between PA and ApSES with eating disorder tendencies are in the clinical direction. Positive correlations between NA and eating disorder tendencies are in the clinical direction.

Eating Disorder Inventory – 3 Subscales

Body Image Measures	DT	B	BD	RC	LSE	PA	II	IA	ID	ED	P	A	MF
PASTAS Before	.644* (.000)	.533* (.000)	.738* (.000)	.746* (.000)	.436* (.000)	.500* (.000)	.275 [†] (.006)	.299* (.003)	.360* (.000)	.419* (.000)	.205 [†] (.040)	.513* (.000)	.329* (.001)
PASTAS After	.651* (.000)	.565* (.000)	.748* (.000)	.761* (.000)	.452* (.000)	.521* (.000)	.339* (.001)	.334* (.001)	.411* (.000)	.472* (.000)	.268 [†] (.007)	.561* (.000)	.347* (.000)
SATAQ Before	.674* (.000)	.372* (.000)	.580* (.000)	.638* (.000)	.401* (.000)	.345* (.000)	.206 [†] (.040)	.207 [†] (.038)	.342* (.001)	.303* (.002)	.292* (.003)	.328* (.001)	.256 [†] (.010)
SATAQ After	.625* (.000)	.332* (.001)	.553* (.000)	.597* (.000)	.363* (.000)	.271* (.006)	.187 (.063)	.150 (.137)	.262 [†] (.008)	.213 [†] (.034)	.259 [†] (.009)	.242 [†] (.015)	.173 (.085)

Notes. 1. Abbreviations of Measures. PASTAS = Physical Appearance State and Trait Anxiety Scale; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire. DT = Drive for Thinness; B = Bulimia; BD = Body Dissatisfaction; RC = Eating Disorder Risk Composite; LSE = Low Self-Esteem; PA = Personal Alienation; II = Interpersonal Insecurity; IA = Interpersonal Alienation; ID = Interoceptive Deficits; ED = Emotional Dysregulation; P = Perfectionism; MF = Maturity Fears.

2. Significance Levels. [†]*p* = Correlations are significant according to the 0.05 level. **p* = Correlations are significant when compared to a more stringent significant level calculated using the Bonferroni multistage procedure.

3. Direction of Correlations. Positive correlations between the PASTAS and SATAQ with eating disorder tendencies are in the clinical direction.

significance level or to the significance level adopted using the Bonferroni multistage procedure. Correlations that are significant according to the Bonferroni multistage procedure are discussed within the text of this thesis, but the number of correlations significant according to the standard .05 significance level is also noted for readers interested in data trends for purposes of speculation or hypothesis building.

Participants completed five body image measures both before and after viewing media images in this study (Table 3). One body image measure (the BES) is comprised of three subscales (i.e., body esteem for physical condition, body esteem for weight control, body esteem for sexual attractiveness) and another body image measure (the PANAS) is comprised of two subscales (i.e., positive affect, negative affect). Eating disorder tendencies were measured by the 13 subscales of the Eating Disorder Inventory - 3 (EDI-3). Thus, correlational analyses were computed between the 13 subscales of the EDI-3 and a total of 16 body image scores.

Drive for Thinness

As shown in Table 3, this subscale of the EDI-3 is correlated in the expected direction with 4 of the 8 body image measures at pre-media viewing and 5 of the 8 body image measures at post-media viewing. Collectively, 9 of the 16 correlations are significant and in the expected direction. These results, as expected, indicate that higher scores on the drive for thinness subscale are related to body image problems. For those readers interested in trends, prior to adopting a more stringent significance level by utilizing the Bonferroni multistage procedure, 11 of the 16 correlations were significant and in the expected direction.

Bulimia

The bulimia subscale of the EDI-3 correlates in the expected direction with 4 of the 8 body image measures at pre-media viewing and 6 of the 8 body image measures post-media viewing. Collectively, 10 of the 16 body image measures are significantly related in the expected direction to the bulimia subscale. As hypothesized, results indicate that a tendency to engage in bulimic behaviors is related to body image disturbance (see Table 3). Before adopting a more stringent significance level by utilizing the Bonferroni multistage procedure, 12 of the 16 correlations were significant and in the expected direction.

Body Dissatisfaction

This third subscale of the EDI-3 correlates in the expected direction with 5 of the 8 body image measures before viewing media and with 6 of the 8 body image measures after viewing media. In total, 11 of the 16 correlations are significant and in the expected direction (see Table 3). Results illustrate that people with higher levels of body dissatisfaction reported more body image disturbance. When compared to a significance level of .05 instead of the significance level calculated according to the Bonferroni multistage procedure, 12 of the 16 correlations were significant and in the expected direction.

Eating Disorder Risk Composite

The eating disorder risk composite score, which is obtained by summing scores on the drive for thinness, bulimia, and body dissatisfaction subscales, correlates in the expected direction with 5 of the 8 body image measures at pre-media viewing and 6 of the 8 body image measures post-media viewing. Taken together, 11 of the 16 body

image measures significantly correlate with the eating disorder risk composite score in the expected direction (see Table 3). This indicates that people with a higher risk composite score for eating disorders reported greater body image disturbance, as expected. When comparing correlations to the .05 significance level prior to use of the Bonferroni multistage procedure, 12 of the 16 correlations were significant and in the hypothesized direction.

Low Self-Esteem

As seen in Table 3, this subscale of the EDI-3 correlates with 5 of the 8 body image measures in the hypothesized direction at pre-media viewing. Scores on low self-esteem correlate in the expected direction with 8 of the 8 body image measures post-media viewing. Collectively, 13 of the 16 correlations are significant and in the expected direction. As hypothesized, this indicates that people with low self-esteem report greater body image disturbance. Prior to utilizing the Bonferroni multistage procedure, 14 of the 16 correlations were significant and in the expected direction when compared to the .05 significance level.

Personal Alienation

The personal alienation subscale of the EDI-3 correlates in the expected direction with 5 of the 8 body image measures before viewing media and 8 of the 8 body image measures after viewing media. In sum, 13 of the 16 body image measures are significantly related in the expected direction to personal alienation (see Table 3). These results suggest that people with higher levels of personal alienation who may feel alone or have a poor sense of self-understanding (Garner, 2004) reported more body image disturbance, as expected. Before adopting a more stringent significance level by using

the Bonferroni multistage procedure, 16 of the 16 correlations were significant and in the expected direction according to the significance level of .05.

Interpersonal Insecurity

This subscale correlates in the hypothesized direction with 1 of the 8 body image measures at pre-media viewing and 4 of the 8 body image measures post-media viewing (see Table 3). Collectively, 5 of the 16 correlations are significant and in the expected direction. This provides partial support for the belief that people with higher levels of interpersonal insecurity or people who have difficulties expressing their own thoughts and feelings with others (Garner, 2004) report greater body image disturbance. Before using the Bonferroni multistage procedure, 14 of the 16 correlations were significant and in the expected direction.

Interpersonal Alienation

Interpersonal alienation, another subscale on the EDI-3, was correlated in the expected direction with 2 of the 8 body images measures before viewing media and 3 of the 8 body image measures after viewing media. As seen in Table 3, in total, 5 of the 16 correlations were significant and in the hypothesized direction. These results partially support the notion that, as expected, people with higher levels of interpersonal alienation who are distant from others or lack trust in relationships (Garner, 2004) report more problems with body image. Prior to adopting a more stringent significance level by using the Bonferroni multistage procedure, 11 of the 16 correlations were significant and in the expected direction.

Interoceptive Deficits

The subscale of interoceptive deficits, which measures difficulty understanding and reacting to emotions (Garner, 2004), was correlated in the hypothesized direction with 3 of the 8 body image measures pre-media viewing and 3 of the 8 body image measures post-media viewing. Collectively, 6 of the 16 correlations were significant and in the expected direction (see Table 3). These results partially support the hypothesis that people who have greater difficulty recognizing emotional states report more body image disturbance. When comparing p values to the significance level of .05 before using the Bonferroni multistage procedure, 12 of the 16 correlations were significant and in the expected direction.

Emotional Dysregulation

As seen in Table 3, this subscale of the EDI-3 correlates in the expected direction with 4 of the 8 body image measures before viewing media and 4 of the 8 body image measures after viewing media. In sum, 8 of the 16 correlations between body image measures and emotional dysregulation were significant and in the expected direction. Results indicate that people with higher scores on emotional dysregulation that may exhibit impulsivity, anger, instability, or self-destruction (Garner, 2004) reported some greater body image disturbance, as hypothesized. Before comparing p values to the more stringent significance level computed using the Bonferroni multistage procedure, 11 of the 16 correlations were significant and in the expected direction.

Perfectionism

The subscale of perfectionism correlates with 1 of the 8 body image measures pre-media viewing and no body image measures post-media viewing. Thus, only 1

correlation was significant and in the hypothesized direction (see Table 3). This provides limited support for the belief that people who strive to attain the highest possible standards (Garner, 2004) endorse more beliefs in the thin-ideal message that Western culture promotes. Prior to using the Bonferroni multistage procedure to adopt a more stringent significance level, 5 of the 16 correlations were significant and in the expected direction.

Asceticism

The asceticism subscale of the EDI-3, which measures the tendency to seek virtue through self-discipline or control of the body (Garner, 2004), correlates in the expected direction with 4 of the 8 body image measures at pre-media viewing and 5 of the 8 body image measures post-media viewing (see Table 3). Collectively, 9 of the 16 correlations are significant and in the expected direction. As hypothesized, these results indicate that people who strive for purification through self-restraint or who experience negative emotions in relation to pleasure report greater body image problems. When p values were compared to a significance level of .05 instead of a more stringent significance level that is based on the Bonferroni multistage procedure, 11 of the 16 correlations were significant and in the expected direction.

Maturity Fears

The final subscale of the EDI-3, maturity fears, measures the desire to return to the security of childhood (Garner, 2004), and this subscale correlates in the expected direction with 1 of the 8 body image measures pre-media viewing and 1 of the 8 body image measures post-media viewing. In total, 2 of the 16 correlations were significant and in the expected direction (see Table 3). This provides limited support for the belief

that people with higher levels of maturity fears report greater anxiety regarding their physical appearance. Prior to adopting a more stringent significance level, 6 of the 16 correlations were significant and in the expected direction.

In summary, results illustrate that eating disorder tendencies and body image problems are significantly correlated in the hypothesized direction. Overall, 103 out of 208 correlations between eating disorder tendencies and body image measures were significant, with 147 of the 208 correlations significant prior to adopting a more stringent significance level according to the Bonferroni multistage procedure. In other words, higher levels of eating disorder tendencies are related to more negative body image. Lower levels of disordered eating are associated to more positive body image.

*Relationship between Hypothesized Moderator Variables and
Eating/Body Image Problems*

Hypothesis 3 states that self-esteem, borderline personality tendencies, and past abuse/neglect will correlate with eating disorder tendencies and body image problems. It was expected that self-esteem would exhibit an inverse correlation with problems in eating and body image. Borderline personality tendencies and past abuse/neglect were expected to positively correlate with problems in eating and body image. To control for Type 1 error, the Bonferroni multistage procedure was used (Harris, 1975), in which a more stringent significance level is adopted as the criterion for significance. Correlations significant according to the Bonferroni multistage procedure will be discussed within the text of this thesis, and the number of correlations significant when compared to the .05 significance level will also be noted for interested readers.

Participants completed one measure of eating disorder tendencies, the Eating Disorder Inventory-3 (EDI-3), which is comprised of 13 subscales. As described in a previous subsection of the results, participants completed a total of 16 body image measures both before and after viewing media images in this study. Thus, correlational analyses were computed to determine the extent to which hypothesized moderator variables (i.e., self-esteem, borderline personality disorder tendencies, history of past abuse/neglect) correlated with 13 eating disorder subscales and 16 body image scores. Table 4 presents correlations between hypothesized moderator variables and eating disorder tendencies, whereas Table 5 presents correlations between hypothesized moderator variables and body image measures.

Self-Esteem

As indicated in a previous section, a high score on self-esteem suggests high positive regard for the self or positive feelings of self worth. Self-esteem was inversely and significantly correlated with 12 of the 13 Eating Disorder Inventory-3 (EDI-3) subscales (Table 4). This suggests that people with positive regard for themselves reported fewer eating disorder tendencies. In contrast, people with lower levels of positive regard or a lack of self worth reported more eating disorder tendencies. Prior to utilizing the Bonferroni multistage procedure to adopt a more stringent significance level, self-esteem was correlated with the same number of subscales on the EDI-3. Self-esteem was correlated in the hypothesized direction with 6 of the 8 body image measures pre-media viewing and 8 of the 8 body image measures post-media viewing (Table 5). Collectively, 14 of the 16 correlations were significant and in the expected direction. This indicates that individuals with high self-esteem reported less body image

Table 4

Relationship Between Hypothesized Moderator Variables and Eating Disorder Tendencies

EDI-3 Subscales	Hypothesized Moderator Variables					
	SE	BPD	EA	PA	SA	PN
Drive for Thinness	-.331* (.001)	.460* (.000)	.152 (.132)	.085 (.399)	.227⁺ (.023)	.170 (.091)
Bulimia	-.380* (.000)	.510* (.000)	.038 (.704)	.036 (.722)	-.064 (.527)	.121 (.230)
Body Dissatisfaction	-.389* (.000)	.502* (.000)	.162 (.107)	.168 (.095)	.178 (.077)	.236⁺ (.018)
Eating Disorder Risk Composite	-.413* (.000)	.547* (.000)	.148 (.142)	.128 (.206)	.151 (.132)	-.003 (.977)
Low Self-Esteem	-.757* (.000)	.623* (.000)	.329* (.001)	.143 (.155)	.097 (.337)	.189 (.060)
Personal Alienation	-.694* (.000)	.771* (.000)	.470* (.000)	.438* (.000)	.248⁺ (.013)	.566* (.000)

Notes. 1. Abbreviations of Measures. EDI-3 – Eating Disorder Inventory; SE = Self-Esteem; BPD = Borderline Personality Disorder Tendencies; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect. 2. Significance Levels. ⁺*p* = Correlations are significant according to the 0.05 level. **p* = Correlations significant according to a more stringent significance level calculated using the Modified Bonferroni approach.

Hypothesized Moderator Variables

EDI-3 Subscales	SE	BPD	EA	PA	SA	EN	PN
Interpersonal Insecurity	-.525* (.000)	.489* (.000)	.346* (.000)	.314* (.001)	.101 (.319)	.477* (.000)	.266⁺ (.007)
Interpersonal Alienation	-.551* (.000)	.661* (.000)	.385* (.000)	.319* (.001)	.157 (.119)	.501* (.000)	.340* (.001)
Interoceptive Deficits	-.511* (.000)	.636* (.000)	.275* (.006)	.385* (.000)	.134 (.185)	.288* (.004)	.195 (.052)
Emotional Dysregulation	-.519* (.000)	.703* (.000)	.301* (.002)	.372* (.000)	.094 (.350)	.458* (.000)	.141 (.162)
Perfectionism	.033 (.741)	.156 (.120)	.106 (.295)	.077 (.449)	.109 (.281)	.124 (.221)	.030 (.767)
Asceticism	-.529* (.000)	.570* (.000)	.335* (.001)	.233⁺ (.020)	.188 (.061)	.409* (.000)	.164 (.103)
Maturity Fears	-.249* (.012)	.525* (.000)	.071 (.485)	.272* (.006)	.021 (.834)	.215⁺ (.031)	-.015 (.881)

Notes. 1. Abbreviations of Measures. EDI-3 – Eating Disorder Inventory; SE = Self-Esteem; BPD = Borderline Personality Disorder Tendencies; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect.

2. Significance Levels. ⁺ p = Correlations are significant according to the 0.05 level. * p = Correlations significant according to a more stringent significance level calculated using the Modified Bonferroni approach.

Table 5

Relationship Between Hypothesized Moderator Variables and Body Image Measures

Body Image Measures	Hypothesized Moderator Variables						
	SE	BPD	EA	PA	SA	EN	PN
Body Esteem Scale							
Sexual Attractiveness Before	.157 (.120)	-.111 (.272)	-.125 (.218)	-.156 (.122)	-.093 (.703)	-.189 (.061)	-.089 (.381)
Sexual Attractiveness After	.292* (.003)	-.249* (.013)	-.191 (.057)	-.154 (.125)	-.044 (.661)	-.252* (.011)	-.083 (.410)
Physical Condition Before	.442* (.000)	-.455* (.000)	-.114 (.257)	-.115 (.253)	-.002 (.987)	-.144 (.152)	-.002 (.983)
Physical Condition After	.463* (.000)	-.473* (.000)	-.127 (.209)	-.107 (.290)	-.024 (.813)	-.139 (.169)	-.006 (.956)
Weight Control Before	.449* (.000)	-.492* (.000)	-.137 (.175)	-.133 (.186)	-.108 (.283)	-.227* (.023)	.012 (.903)
Weight Control After	.418* (.000)	-.445* (.000)	-.135 (.181)	-.136 (.178)	-.093 (.358)	-.188 (.060)	.030 (.767)

Notes. 1. Abbreviations. SE = Self-Esteem; BPD = Borderline Personality Disorder Tendencies; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect.

2. Significance Levels. **p* = Correlations are significant according to the 0.05 level. **p* = Correlations are significant according to a more stringent significant level calculated using the Bonferroni multistage approach.

Hypothesized Moderator Variables

Body Image Measures	SE	BPD	EA	PA	SA	EN	PN
Positive and Negative Affect Scale							
Negative Affect Before	-.198* (.049)	.388* (.000)	.231* (.021)	.198* (.048)	.240* (.016)	.191 (.057)	.115 (.255)
Negative Affect After	-.366* (.000)	.516* (.000)	.140 (.164)	.025 (.802)	.082 (.419)	.057 (.570)	-.079 (.437)
Positive Affect Before	.240* (.016)	-.199* (.047)	-.084 (.404)	-.096 (.342)	.098 (.332)	-.166 (.099)	.038 (.709)
Positive Affect After	.277* (.005)	-.215* (.032)	-.049 (.631)	-.078 (.440)	-.009 (.933)	-.155 (.123)	.028 (.782)
Appearance Self-Efficacy Before	.324* (.001)	-.334* (.001)	-.106 (.298)	-.096 (.343)	.083 (.412)	-.172 (.089)	-.082 (.417)
Appearance Self-Efficacy After	.286* (.004)	-.310* (.002)	-.120 (.236)	-.071 (.485)	.112 (.271)	-.191 (.058)	-.091 (.369)

Notes. 1. Abbreviations. SE = Self-Esteem; BPD = Borderline Personality Disorder Tendencies; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect.

2. Significance Levels. * p = Correlations are significant according to the 0.05 level. * p = Correlations are significant according to a more stringent significant level calculated using the Bonferroni multistage approach.

Hypothesized Moderator Variables

Body Image Measures	SE	BPD	EA	PA	SA	EN	PN
Physical Appearance State and Trait Anxiety Before	-.379* (.000)	.480* (.000)	.130 (.198)	.267* (.007)	.219* (.029)	.214* (.033)	.079 (.436)
Physical Appearance State and Trait Anxiety After	-.411* (.000)	.512* (.000)	.146 (.148)	.307* (.002)	.219* (.029)	.238* (.017)	.040 (.694)
Sociocultural Attitudes Towards Appearance Before	-.312* (.002)	.430* (.000)	.153 (.128)	.134 (.182)	.112 (.268)	.164 (.103)	.073 (.468)
Sociocultural Attitudes Towards Appearance After	-.255* (.011)	.323* (.001)	.128 (.206)	.087 (.387)	.111 (.270)	.100 (.321)	.072 (.477)

Notes. 1. Abbreviations. SE = Self-Esteem; BPD = Borderline Personality Disorder Tendencies; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect.

2. Significance Levels. * p = Correlations are significant according to the 0.05 level. * p = Correlations are significant according to a more stringent significant level calculated using the Bonferroni multistage approach.

disturbance, which is consistent with the eating disorder correlations. Before comparing p values to the more stringent significance level that was calculated according to the Bonferroni multistage procedure, 15 of the 16 correlations were significant and in the expected direction.

Borderline Personality Disorder Tendencies

As explained in a previous section, people with high levels of borderline personality disorder tendencies may have an identity disturbance, unstable relationships with other people, and may engage in impulsive behaviors. Borderline personality disorder tendencies were significantly and positively correlated with 12 of the 13 EDI-3 subscales (Table 4). This indicates that people with an unstable sense of self reported more eating disorder tendencies. Conversely, people that have a stable sense of self and stable relationships with other people reported fewer eating disorder tendencies. Prior to use of the Bonferroni multistage procedure, the same number of correlations was significant between borderline personality disorder tendencies and the EDI-3 subscales. Borderline personality disorder tendencies correlated with 6 of the 8 body image measures before viewing media and 6 of the 8 body image measures after viewing media (Table 5). In total, 12 of the 16 correlations were significant and in the expected direction. This indicates that people with more borderline personality disorder tendencies reported more body image disturbance, which is consistent with the positive correlations with eating disorder tendencies. Before adopting a more stringent significance level according to the Bonferroni multistage procedure, 15 of the 16 correlations were significant and in the expected direction.

History of Abuse/Neglect

The third hypothesized moderator variable, a history of past abuse or neglect, was measured using the Childhood Trauma Questionnaire (CTQ), which yields five domains (i.e., emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect). As described in a previous section, high scores on each domain indicate experiencing that type of abuse or neglect.

Emotional abuse. Emotional abuse was significantly and positively correlated with 7 of the 13 EDI-3 subscales (Table 4). This suggests that people who were emotionally abused reported more eating disorder tendencies. Conversely, people that were not emotionally abused during childhood had fewer eating disorder tendencies. Emotional abuse was significantly correlated with the same number of EDI-3 subscales prior to use of the Bonferroni multistage procedure. Emotional abuse was not related to any of the 16 body image measures after adopting the more stringent Bonferroni significance level. However, emotional abuse was related in the expected direction to one body image measure at pre-media viewing when the regular .05 significance level was employed (see Table 5). This is consistent with the relationship between emotional abuse and disordered eating in that higher levels of emotional abuse were related to negative body image.

Physical abuse. Physical abuse was significantly and positively correlated with 6 of the 13 EDI-3 subscales (Table 4). This provides some support for the hypothesis that people who experience physical abuse report more eating disorder tendencies, whereas those without a history of physical abuse report fewer eating disorder tendencies. Before utilizing the Bonferroni multistage procedure in which a more stringent significance level

was adopted, physical abuse was related in the expected direction to 7 of the 13 subscales. Physical abuse did not correlate with any of the body image measures pre-media viewing, but was significantly related to 1 of the 8 body image measures post-media viewing in the expected direction (Table 5). When comparing p values to the .05 significance level instead of a more stringent criterion, physical abuse was correlated with 3 of the 16 body image measures. This provides some limited support for the notion that physical abuse is related to body image disturbance, which is consistent with its positive correlations with eating disorder tendencies.

Sexual abuse. Sexual abuse was not significantly correlated with any of the EDI-3 subscales when compared to the more stringent significance level computed according to the Bonferroni multistage procedure. However, it exhibited a significant and positive correlation with 2 of the 13 EDI-3 subscales when p values were compared to the .05 significance level (see Table 4). This weakly suggests that experiencing sexual abuse was related to higher levels of disordered eating. Likewise, sexual abuse was not correlated with any of the 16 body image measure scores after utilizing the Bonferroni multistage procedure. However, sexual abuse exhibited significant correlations in the expected direction with 3 of the 16 body image measures when p values were compared to the .05 significance level. This indicates through partial support that sexual abuse is related to negative body image, which is consistent with the relationship between abuse and disordered eating tendencies.

Emotional neglect. Emotional neglect was significantly and positively correlated with 7 of the 13 EDI-3 subscales (Table 4). This indicates that people that experienced emotional neglect reported more eating disorder tendencies, and people that did not

experience emotional neglect reported fewer eating disorder tendencies. Prior to adopting a more stringent significance level, 10 of the 13 correlations between emotional neglect and EDI-3 subscales were significant and in the expected direction. Emotional neglect, however, was not significantly related to any of the 16 body image measures after utilizing the Bonferroni multistage procedure. When compared to the significance level of .05, 4 of the 16 correlations were significant and in the expected direction (Table 5). This partially suggests that higher levels of emotional neglect were related to body image disturbance, which is consistent with the positive correlations with eating disorder tendencies.

Physical neglect. Physical neglect was significantly and positively correlated with 2 of the 13 EDI-3 subscales (Table 4). This provides limited support for the hypothesis that people who experience physical neglect report more eating disorder tendencies, and that conversely, people who were not physically neglected report fewer eating disorder tendencies. When comparing p values to the .05 significance level, 3 of the 13 correlations were significant. Physical neglect was not significantly related to any of the 16 body image measure scores either before or after adopting a more stringent significance level.

Moderating Effect of Variables

Hypothesis 4 stated that self-esteem, borderline personality disorder tendencies, and a history of abuse/neglect moderate the effect of thin-ideal media on body image. A series of hierarchical multiple regressions were used to determine the extent of support for this hypothesis. Pre- to post- body image difference scores were used as the dependent variable in each multiple regression analysis. Self-esteem, borderline

personality disorder tendencies, and abuse/neglect were tested as moderators on only those body image measures that changed in the hypothesized direction after viewing thin-ideal media (i.e., the Physical Condition, Sexual Attractiveness, and Weight Concern subscales of the BES, the Negative Affect subscale of the PANAS, and the PASTAS), as presented in the first section of these Results.

As recommended by Frazier et al. (2004), the group variable (i.e., thin-ideal media versus neutral media) and the hypothesized moderator (i.e., self-esteem, borderline personality tendencies, or past abuse) were entered at step 1, with the interaction between the group variable and hypothesized moderator entered at step 2. To test Hypothesis 4, the magnitude and level of statistical significance of R^2_{Δ} at Step 2 of the hierarchical multiple regression was explored. Results are summarized in Table 6.

As can be seen in Table 6, 2 of the 3 hypothesized moderator variables were found to significantly moderate the effect of thin-ideal media on one body image or affect measure, and the third hypothesized moderator variable approached significance as a moderator: (1) Borderline personality disorder tendencies moderated the effects of thin-ideal media on the negative affect subscale of the PANAS; (2) a history of abuse or neglect moderated the effects of thin-ideal media on the negative affect subscale of the PANAS (more specifically, physical abuse, sexual abuse, and emotional neglect were found to be significant moderator variables on the negative affect subscale); and (3) self-esteem approached significance as a moderator of the effect of thin-ideal media on the negative affect subscale of the PANAS.

Table 6a

Hierarchical Multiple Regression Analyses Examining Borderline Personality Disorder Tendencies as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.092	4.886	.010
Step 2: Sexual Attractiveness of BES X Group	.004	.444	.507
Step 1: Physical Condition of BES & Group	.090	4.783	.010
Step 2: Physical Condition of BES X Group	.018	1.937	.167
Step 1: Weight Concern of BES & Group	.063	3.265	.042
Step 2: Weight Concern of BES X Group	.005	.528	.469
Step 1: Negative Affect of PANAS & Group	.116	6.367	.003
Step 2: Negative Affect of PANAS X Group	.077	9.171	.003
Step 1: Physical Appearance State and Trait Anxiety & Group	.109	5.937	.004
Step 2: Physical Appearance State and Trait Anxiety X Group	.003	.278	.599

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Table 6b

Hierarchical Multiple Regression Analyses Examining Emotional Abuse as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.062	3.167	.047
Step 2: Sexual Attractiveness of BES X Group	.013	1.311	.255
Step 1: Physical Condition of BES & Group	.080	4.209	.018
Step 2: Physical Condition of BES X Group	.004	.436	.511
Step 1: Weight Concern of BES & Group	.062	3.186	.046
Step 2: Weight Concern of BES X Group	.005	.501	.481
Step 1: Negative Affect of PANAS & Group	.063	3.260	.043
Step 2: Negative Affect of PANAS X Group	.011	1.121	.282
Step 1: Physical Appearance State and Trait Anxiety & Group	.045	2.296	.106
Step 2: Physical Appearance State and Trait Anxiety X Group	.013	1.359	.247

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Table 6c

Hierarchical Multiple Regression Analyses Examining the Physical Abuse as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.049	2.485	.089
Step 2: Sexual Attractiveness of BES X Group	.000	.036	.850
Step 1: Physical Condition of BES & Group	.077	4.041	.021
Step 2: Physical Condition of BES X Group	.001	.097	.756
Step 1: Weight Concern of BES & Group	.063	3.276	.042
Step 2: Weight Concern of BES X Group	.025	2.609	.110
Step 1: Negative Affect of PANAS & Group	.079	4.141	.019
Step 2: Negative Affect of PANAS X Group	.046	4.999	.028
Step 1: Physical Appearance State and Trait Anxiety & Group	.090	4.787	.010
Step 2: Physical Appearance State and Trait Anxiety X Group	.000	.018	.892

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Table 6d

Hierarchical Multiple Regression Analyses Examining Sexual Abuse as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.053	2.660	.075
Step 2: Sexual Attractiveness of BES X Group	.002	.160	.690
Step 1: Physical Condition of BES & Group	.089	4.746	.011
Step 2: Physical Condition of BES X Group	.002	.221	.639
Step 1: Weight Concern of BES & Group	.062	3.211	.045
Step 2: Weight Concern of BES X Group	.001	.074	.786
Step 1: Negative Affect of PANAS & Group	.066	3.435	.036
Step 2: Negative Affect of PANAS X Group	.075	8.370	.005
Step 1: Physical Appearance State and Trait Anxiety & Group	.052	2.687	.073
Step 2: Physical Appearance State and Trait Anxiety X Group	.000	.005	.944

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Table 6e

Hierarchical Multiple Regression Analyses Examining Emotional Neglect as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.064	3.263	.043
Step 2: Sexual Attractiveness of BES X Group	.000	.045	.832
Step 1: Physical Condition of BES & Group	.078	4.090	.020
Step 2: Physical Condition of BES X Group	.006	.603	.439
Step 1: Weight Concern of BES & Group	.062	3.219	.044
Step 2: Weight Concern of BES X Group	.007	.744	.390
Step 1: Negative Affect of PANAS & Group	.069	3.593	.031
Step 2: Negative Affect of PANAS X Group	.040	4.339	.040
Step 1: Physical Appearance State and Trait Anxiety & Group	.063	3.281	.042
Step 2: Physical Appearance State and Trait Anxiety X Group	.002	.200	.656

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Table 6f

Hierarchical Multiple Regression Analyses Examining Physical Neglect as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.049	2.488	.088
Step 2: Sexual Attractiveness of BES X Group	.044	.367	.546
Step 1: Physical Condition of BES & Group	.078	4.082	.020
Step 2: Physical Condition of BES X Group	.003	.308	.580
Step 1: Weight Concern of BES & Group	.062	3.179	.046
Step 2: Weight Concern of BES X Group	.004	.400	.529
Step 1: Negative Affect of PANAS & Group	.091	4.828	.010
Step 2: Negative Affect of PANAS X Group	.019	2.025	.158
Step 1: Physical Appearance State and Trait Anxiety & Group	.038	1.932	.150
Step 2: Physical Appearance State and Trait Anxiety X Group	.000	.030	.862

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Table 6g

Hierarchical Multiple Regression Analyses Examining Self-Esteem as a Moderator Variable of Thin-Ideal Media Effects on Body Image

	R^2_{Δ}	F_{Δ}	Significance of F_{Δ}
Step 1: Sexual Attractiveness of BES & Group	.095	5.506	.008
Step 2: Sexual Attractiveness of BES X Group	.017	1.772	.186
Step 1: Physical Condition of BES & Group	.094	5.013	.008
Step 2: Physical Condition of BES X Group	.001	.054	.817
Step 1: Weight Concern of BES & Group	.061	3.148	.047
Step 2: Weight Concern of BES X Group	.005	.467	.496
Step 1: Negative Affect of PANAS & Group	.118	6.503	.002
Step 2: Negative Affect of PANAS X Group	.034	3.853	.053
Step 1: Physical Appearance State and Trait Anxiety & Group	.091	4.875	.010
Step 2: Physical Appearance State and Trait Anxiety X Group	.008	.848	.359

Note. BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule.

Each variable that moderated the effects of thin-ideal media on body image was correlated with the previously computed body image difference score. These correlational analyses were conducted separately for groups in order to ascertain if the significant moderator variable related to the body image difference score in the expected direction for the thin-ideal media group, and significant correlations were not expected for the neutral media group. The presentation of the results below is organized according to the body image measures that, as demonstrated in the first section of the Results, changed in the expected, negative direction after viewing thin-ideal media.

Negative Affect Subscale of the PANAS

With the negative affect difference score as the dependent variable, hierarchical multiple regressions (see Table 6) illustrated that 2 of the 3 independent variables moderated the effects of thin-ideal media. Borderline personality disorder tendencies and a history of abuse/neglect both significantly moderated the effects of thin-ideal media on negative affect. More specifically, physical abuse, sexual abuse, and emotional neglect were the types of abuse/neglect that moderated its effects. Self-esteem approached significance as a moderator variable of the effect of thin-ideal media on negative affect. Correlations between the negative affect difference scores and each moderating variable were explored.

As expected, for those that viewed thin-ideal media, the correlation between borderline personality disorder tendencies and the negative affect difference score was statistically significant, $r = .41, p < .01$. Because the difference score was obtained by subtracting pre-media score from post-media score, a positive difference score for the negative affect measure indicates an increase in negative emotion. In other words, the

positive correlation indicates that higher levels of borderline traits are related to greater pre-to-post increases in negative emotion. Also as expected, for those that viewed neutral media, the correlation between borderline traits and the negative affect difference score was not statistically significant, $r = -.21, p = .22$.

In contrast to what was expected, the correlation between physical abuse and the negative affect difference score for the thin-ideal media group was not statistically significant, $r = .08, p = .56$. For those that viewed neutral media, the correlation between physical abuse and the negative affect difference score was statistically significant, $r = -.52, p < .01$, which suggests that those participants who viewed neutral media and experienced higher levels of physical abuse reported lower levels of pre-to-post increases in negative emotion. In other words, these participants demonstrated a decrease in negative affect.

The correlation for those that viewed thin-ideal media between sexual abuse and the negative affect difference score was statistically significant, $r = .25, p = .04$; the positive correlation indicates that a higher level of sexual abuse is related to greater pre-to-post increases in negative affect. Contrary to expectation, for those that viewed neutral media, the correlation between sexual abuse and the negative affect difference score was statistically significant, $r = -.39, p = .02$. The negative correlation indicates that participants who viewed neutral media and experienced higher levels of sexual abuse reported less pre-to-post increases in negative affect, or in other words, they demonstrated a decrease in negative affect.

In contrast to what was expected, the correlation between emotional neglect and the negative affect difference score for those that viewed thin-ideal media was not

statistically significant, $r = .10, p = .44$. Also contrary to expectation, for those that viewed neutral media, the correlation between emotional neglect and the negative affect difference score was statistically significant, $r = -.43, p < .01$. This negative correlation indicates that for people who viewed the neutral media images, those that experienced higher levels of emotional neglect reported less of a pre-to-post increase in negative emotion. This suggests that these people displayed decreases in negative affect after viewing neutral images.

Because self-esteem approached significance as a variable that moderated the effects of thin-ideal media on negative affect, the correlation between self-esteem and the negative affect difference score was explored. As expected, for those that viewed thin-ideal media, the correlation between self-esteem and the negative affect difference score was statistically significant, $r = -.36, p < .01$; the negative correlation indicates that lower self-esteem is related to greater pre-to-post increases in negative affect. Also, as expected, for those that viewed neutral media, the correlation between self-esteem and the negative affect difference score was not statistically significant, $r = .01, p = .97$.

Body Esteem Scale (BES)

As previously described, scores on the BES subscales (physical condition, sexual attractiveness, and weight concern) decreased significantly for participants who viewed thin-ideal media, while no such change was documented for those that viewed neutral media. However, self-esteem, borderline personality disorder tendencies, or a history of abuse/neglect did not moderate the effects of thin-ideal media on body esteem for any of the subscales.

Physical Appearance State and Trait Anxiety Scale (PASTAS)

As previously explained, participants who viewed thin-ideal media showed the expected trend (i.e., increase) in physical appearance anxiety, with the interaction between group and time approaching significance. However, self-esteem, borderline personality disorder tendencies, or a history of abuse/neglect did not moderate the effects of thin-ideal media on physical appearance anxiety.

In summary, of the three hypothesized moderator variables, borderline personality disorder tendencies and a history of abuse/neglect moderated the effects of thin-ideal media. Furthermore, self-esteem approached significance as a moderator variable. Of the dependent variables that illustrated the expected, decrease in body image, the effect of thin-ideal media on negative affect was moderated. In other words, the effect that thin-ideal media has on negative emotion depends on the level of borderline personality tendencies or severity of past abuse/neglect. The effect may also depend on a person's self-esteem.

Exploratory Qualitative Data: The Post-Experimental Inquiry

In a post-experimental inquiry (Kazdin, 1992), participants were asked to answer two additional questions at the end of the study, as a way to obtain additional data regarding participants' level of awareness regarding the purpose of the study. Participants were asked to respond to, in writing, the following questions: (1) *What do you think was the purpose of this study?* (2) *You may have noticed that you completed some measures in this study twice. If you think your answers changed on these measures, why?* After examining the qualitative responses, themes were noted for the participants

who viewed thin-ideal media (i.e., the experimental group) and for participants who viewed neutral media (i.e., the control group), as delineated below.

Purpose of Study: Perceptions by Participants in the Experimental Group

Themes were identified for the answers given by the participants who viewed thin-ideal media regarding the purpose of the study. Although there were 64 participants who viewed the thin-ideal media, a total of 80 separate responses were given; many participants' responses had multiple answers that corresponded to one or more themes.

Exploration of body image. In answering the question about the purpose of the study, the first theme identified was exploration of women's body image. That is, 63 of the 80 responses (79%) pertained to this theme in some way, such as: a general correspondence to this idea (2 responses, 3%), exploration of body image so it can be improved (2 responses, 3%), a comparison of body image to eating disorder tendencies that arise later in life (1 response, 1%), and to increase awareness of body image (1 response, 1%). A subset of responses indicated that the study's purpose was to explore changes in body image and factors that affect it (57 responses, 71%), such as: media/pictures (23 responses, 29%) or a person's history, which includes their backgrounds and past experiences (10 responses, 13%).

Exploration of self-esteem. The second theme identified was exploration of self-esteem. That is, 17 of the 80 responses (21%) pertained to this theme in some way, such as: an exploration of how media or outside stimuli affect self-esteem (12 responses, 15%), a comparison of peoples' self-esteem (2 responses, 3%), to determine what caused women's feelings towards the self (1 response, 1%), or to determine how childhood experiences affect self-esteem (1 response, 1%).

Exploration of Reasons for Change in Body Image: Perceptions of Participants in the Experimental Group

Participants also answered why they believed their answers to the same questions (which were body image measures) changed throughout the study. A total of 64 responses were generated, as some participants' answers were detailed and pertained to different themes.

Perceived negative change because of thin-ideal media. The first identified theme was a negative change in body image because of viewing the thin-ideal media. That is, 34 of 64 responses (53%) pertained to this theme in some way, such as: highlighting the discrepancy between the ideal and self (11 responses, 17%), increased feelings of insecurity and self-consciousness (6 responses, 9%), highlighting parts of body that could be better and that she felt insecure about (4 responses, 6%), increased thoughts about the body (4 responses, 6%), judging the self more harshly (3 responses, 5%), a general correspondence to the idea (3 responses, 5%), increased anger (1 response, 2%), less determination to get in shape (1 response, 2%), and decreased positive affect (1 response, 2%).

No perceived change. The second theme identified was that some participants believed that answers on body image measures did not change (5 responses, 8%). Only a couple responses indicated reasons as to why no change occurred, which included: feeling comfortable with the self (1 response, 2%), and the belief that "things" cannot be changed (1 response, 2%).

Slight perceived change in unspecified direction. The third identified theme was a perceived slight change in answers (18 responses, 28%) without any indication of

direction. A variety of reasons were noted, which included: additional thought given to the response when answering again (7 responses, 11%), uncertainty between two answers which led to choosing the alternative when asked again (4 responses, 6%), a reminder of how she felt about her body (5 responses, 8%), mood change (1 response, 2%), and a more honest approach with self when answering again (1 response, 2%). The responses did not specify whether changes were in the negative or positive direction.

Slight perceived positive change. The fourth theme identified was a slight change in a positive direction (7 responses, 11%) for numerous reasons, which included: believing that thin models seemed unhealthy, too skinny, and unattractive (4 responses, 6%), an increase in motivation to try to be in better shape which led to more positive thoughts about the self (2 responses, 3%), and feeling better about her body after viewing thin models (1 response, 2%). This last response did not specify as to why viewing thin models led to more positive feelings.

Purpose of Study: Perceptions by Participants in the Control group

Themes emerged from the control group's responses as to what they believed to be the purpose of the study.

Exploration of body image. The first theme identified was exploration of women's body image. That is, 27 of the 38 responses (71%) pertained to this theme in some way, such as: corresponding to this general idea (6 responses, 16%), how answering twice affected body image (1 response, 3%), comparing people's body image (1 response, 3%), and comparing current body image to body image in childhood (1 response, 3%). A subset of responses (17 responses, 45%) indicated that the purpose was to identify what factors affected body image perceptions, such as: media, pictures, or

products in the pictures (6 responses, 16%), background or past experiences (3 responses, 8%), and environment (2 responses, 5%).

Exploration of self-esteem. The second identified theme was related to self-esteem. Overall, 7 of the 38 responses (18%) suggested that the purpose of the study was related to this idea in some way, including: a general correspondence to this idea (2 responses, 5%), to see how outside stimuli or the media affect self-esteem (2 response, 5%), what causes feelings about the self (1 response, 3%), how childhood experiences affect self-esteem (1 response, 3%), determine the average self-esteem for young women (1 response, 3%), and identify ways to help people feel more comfortable (1 response, 3%). Of the 38 responses, 3 (8%) indicated that the purpose of the study was to compare body image and self-esteem, thus relating the two previously identified themes.

Exploration of Reasons for Change in Body Image: Perceptions of Participants in the Control Group

Participants who viewed neutral media images also explained why their responses may have changed when answering the same questions twice.

No perceived change. The first theme identified was no perceived change in measures administered twice, all of which were body image measures. That is, 8 of the 33 responses (24%) suggested that there was no change.

Slight perceived change in unspecified direction. The second identified theme was that answers changed slightly (15 responses, 46%) without any indication of direction. A number of reasons were noted, including: thinking more about the question when answering the second time (7 responses, 21%), uncertainty if the first answer was correct which led to answering differently the second time (3 responses, 9%), mood

changes over the course of the study (2 responses, 6%), pictures affecting answers (2 responses, 6%), and being more honest with herself (1 response, 3%).

Slight positive perceived change. The third identified theme was that body image changed in a positive direction because of pictures viewed. That is, 4 of the 33 responses (12%) pertained to this theme in some way, including: the pictures of beautiful things and products increased the positive mood of participants and made participants think of ways that appearance could be improved (3 responses, 9%), or because the pictures led to the realization that she was too hard on herself the first time she answered the questions (1 response, 3%).

Perceived negative change. The fourth theme identified was that changes in answers resulted in more negative body image. Overall, 5 of the 33 responses (15%) pertained to this theme in a number of ways, including: viewing the neutral media highlighted insecurities and parts of the self that could be better (3 responses, 9%), viewing the pictures led to judging herself more harshly (1 response, 3%), and changes occurred because she thought more about her answers (1 response, 3%).

In general, qualitative responses from the experimental group indicated that these participants had a more accurate idea of the purpose of the study in comparison to the control group. This was expected given that participants in the experimental condition viewed thin-ideal media and participants in the control condition viewed neutral images. Although a similar percentage (79% for experimental group vs. 71% for control group) of responses suggested that the purpose of the study was to explore body image, 71% of responses from the experimental group indicated that the purpose was to see what factors affected body image, whereas only 45% of responses from the control group had this

perception. Furthermore, 29% of responses from participants in the experimental group suggested that the purpose was to specifically see how media and pictures affected body image, while only 8% of responses from the control group indicated this perception.

Differences also existed between the experimental and control groups when explaining why responses changed on measures administered twice. As was expected, a greater percentage of responses from the control group suggested that no change occurred in comparison to the experimental group, 24% to 8%, respectively. In addition, more responses from the control group (46%) in comparison to the experimental group (28%) indicated a slight change in scores, which was expected given the hypothesis that body image would not change for those who viewed neutral media. Interestingly, about the same percentage of responses from each group indicated a positive change in body image (11% for experimental group, 12% for control group). However, the qualitative responses support the finding that thin-ideal media leads to negative body image; that is, about 53% of responses from participants in the experimental group suggested that negative changes occurred because of viewing the media and about 15% of responses from participants in the control group suggested that negative changes occurred in body image because of viewing the media.

CHAPTER IV

Discussion

The discussion is divided into two major sections. The first section discusses results that correspond with the hypothesis that women's body image will become more negative after viewing thin-ideal media, whereas such a change will not occur for women viewing neutral media. In the second section, results are discussed that correspond with the following interrelated hypotheses that: (a) body image problems correlate with eating disorder tendencies; (b) hypothesized moderator variables (low self-esteem, borderline personality disorder tendencies, and past abuse/neglect) correlate with eating and body image problems; and (c) the aforementioned hypothesized moderator variables will significantly moderate the effects of thin-ideal media on body image. Within each section, limitations of the present study, recommendations for future research, and theoretical and clinical implications are discussed.

Effect of Media on Body Image

Hypothesis 1 stated that body image would become more negative after viewing thin-ideal media, while body image would not change for females viewing neutral media. In support of this hypothesis, for four of the eight body image measures, the group by time interaction was significant, with follow up tests showing that body image became more negative for those viewing thin-ideal media but not for those viewing neutral media. For one of the eight body image measures, the group by time interaction approached

significance ($p = .06$). Follow-up tests showed that body image of those viewing thin-ideal media became more negative, and body image did not change for those viewing neutral media. For two body image measures, the group by time interaction was not significant, but exploratory follow-up analyses also suggested the above hypothesized results.

As expected, scores on the Sexual Attractiveness, Physical Condition, and Weight Concern subscales of the Body Esteem Scale (BES) decreased significantly after viewing thin-ideal media. These subscales measure body esteem for body parts and functions related to facial attractiveness and sexuality, body esteem for stamina, agility, and strength, and body esteem regarding body parts that can be physically altered through controlling food intake or body functions that pertain to weight, respectively. Also as hypothesized, scores on the Negative Affect subscale of the Positive and Negative Affect Scale (PANAS), which measures negative emotions, increased significantly after viewing thin-ideal media. Scores on the Physical Appearance State and Trait Anxiety Scale (PASTAS), which measures anxiety about body parts at the present time, increased after viewing thin-ideal media and approached significance. These findings set the stage for analyses attempting to identify variables that moderate the effects of thin-ideal media on body image, as discussed later.

These findings are consistent with previous findings by Grabe et al. (2008) and Groesz et al. (2001) who conducted meta-analyses and concluded that exposure to media images depicting the thin-ideal body type was related to negative body image. In addition, Brown and Dittmar (2005) found that viewing thin models and either adopting the thin-ideal or viewing images at a high attention level (10 second exposure time)

increased weight-focused anxiety. Similarly, Bessenoff (2006) found that exposure to thin-ideal advertisements led to increased body dissatisfaction and negative mood in female college students. Hawkins et al. (2004) found similar results in that exposure to thin-ideal photographs led to body dissatisfaction, negative mood states, and low self-esteem in female college students. Recently, Bosse and Reeb (2008) also found that body image became more negative after viewing thin-ideal media.

Changes in scores on the Physical Appearance State and Trait Anxiety Scale (PASTAS) after viewing thin-ideal media as compared to neutral media closely approached significance ($p = .06$). Follow-up analyses illustrated that physical appearance anxiety demonstrated significant changes in the expected direction (became more negative for participants who viewed thin-ideal media). The present study asked participants how anxious they were “right now” about various body parts, but the scale has not been used to measure changes in anxiety pre-to-post-media viewing in previous studies. Rather, studies that utilized the PASTAS included it as a post media assessment tool only (e.g., Bosse & Reeb, 2008; Brown & Dittmar, 2005). Thus, to the best of this researcher’s knowledge, there are no existing findings to which the present results can be compared. However, given the observed changes for those that viewed thin-ideal media, research should continue to use the PASTAS as a pre- and post-media assessment tool in order to better understand the effect of thin-ideal media on anxiety associated with body image.

For a few body image measures, the group by time interaction was not significant, but follow-up exploratory analyses revealed significant within-group changes for participants viewing thin-ideal media. One such instrument is the Appearance Self-

Efficacy Scale (ApSES), which measures self-efficacy regarding the ability to change one's own appearance. Contrary to Bardone-Cone and Cass's (2006) finding that scores on the ApSES decreased significantly after viewing pro-anorexia websites as compared to a neutral websites, the present study did not find a significant interaction between group and time, though ApSES scores significantly changed in the expected direction (i.e., decrease in self-efficacy after viewing thin-ideal media). Bosse and Reeb (2008), who used the same media images as in the present study, did not find statistically significant changes in ApSES scores after viewing thin-ideal media. It is speculative, but perhaps this scale is less sensitive to the effects of thin-ideal media because beliefs regarding the ability to change body appearance may be somewhat more stable in comparison to current feelings about body parts.

A methodological difference exists between the present study and the study by Bardone-Cone and Cass (2006). Bardone-Cone and Cass had participants view extremely thin "pro-anorexia" images, whereas the present study and the Bosse and Reeb study had participants view less extreme thin-ideal images. Perhaps the degree of "thinness" plays a role in whether or not thin-ideal media affects appearance self-efficacy. In Bardone-Cone and Cass's study, participants may have believed that achieving an extremely thin body was impossible, leading them to have a decrease in self-efficacy for changing their body. However, because the models in the present study were not as extreme as in the Bardone-Cone and Cass study, perhaps some participants believed that the thin body type was attainable, while others thought it was unattainable, overall leading to less evidence of change on average. This discrepancy in beliefs is supported by qualitative responses. A few responses (3%) indicated that viewing thin

models may act as a motivating factor to achieve a similar body type, which would likely reflect increases in appearance self-efficacy. For example, one participant noted, "I saw girls that were in really good shape and that makes me want to try harder to look like that, but in a healthy way." In contrast, about 2% of responses specifically indicated that viewing thin models decreased motivation to change. For example, one participant noted, "Looking at pictures of attractive, skinny women made me feel more insecure about my body and the way look. I also feel less determined to get into better shape..." Although it is impossible to know, some other participants may have experienced similar reactions but did not document them in the post-experimental inquiry. Changes in appearance self-efficacy may have depended on participants' personal cognitions and attitudes, and since both increases and decreases are likely to have occurred, this may be one reason that group by time interaction was non-significant.

For the Positive Affect subscale of the Positive and Negative Affect Schedule (PANAS), which measures positive emotions, the group by time interaction was non-significant, though a follow-up exploratory within-subjects analysis showed a significant change in the expected direction for those that viewed thin-ideal media. Perhaps images promoting the thin ideal may be less likely to influence positive feelings such as excitement, interest, or determination; rather, negative feelings, such as upset, irritable, and nervous, are more likely to increase after viewing such media. This is consistent with previous studies that documented increases in negative affect after viewing thin-ideal media while not even investigating positive mood (i.e., Bessenoff, 2006; Hawkins et al., 2004) or increases in negative affect and no changes in positive affect after viewing thin-ideal media (i.e., Bosse & Reeb, 2008). However, because results suggested that

positive affect may change in the expected direction for those viewing thin-ideal media (i.e., lessened), future research of this kind should continue to use positive affect as a dependent measure in order to clarify the effects of thin-ideal media on positive affect.

No significant changes were found in scores on the Sociocultural Attitude Towards Appearance Questionnaire Scale (SATAQ). The internalization subscale of the SATAQ was used in the present study, which measures the degree of acceptance of society's standards for appearance (Heinberg et al., 1995). Previous studies that included the SATAQ utilized it as a post-media assessment tool only (e.g., Bosse & Reeb, 2008; Brown & Dittmar, 2005; Hawkins et al., 2004). Therefore, a comparison of the present findings to changes in SATAQ scores pre-to-post media viewing in other studies, to the best of this experimenter's knowledge, is not possible. Dittmar, Stirling, and Halliwell (2005) counterbalanced the order in which women were exposed to thin-ideal media and when they completed the internalization subscale of the SATAQ, and found no differences in SATAQ scores across the orders. Dittmar and colleagues thus concluded that media exposure did not affect internalization of society's standards for appearance and that internalization was a stable variable. The current findings that SATAQ scores did not change from pre-to-post-media viewing and that the difference in SATAQ scores between groups at post-viewing was non-significant seems consistent with conclusions by Dittmar and colleagues.

One major issue that needs to be explored in future research is the extent to which changes on body image measures following exposure to thin-ideal media are due to demand characteristics, pretest sensitization, or posttest sensitization (Kazdin, 1992). Demand characteristics refer to "cues in the experimental situation that may influence

how subjects respond" (Kazdin, p. 307). Pretest sensitization occurs when "administration of the pretest may in some way sensitize the subjects so that they are affected differently by the intervention" (Kazdin, p. 31). Posttest sensitization refers to the finding that a "posttest might sensitize subjects to the previous intervention that they have received and yield results that would not have been evident without the assessment" (Kazdin, p. 32). In the present study, a post-experimental inquiry was employed, and the corresponding results shed some light on this matter, thereby making a unique contribution to the literature.

About 79% of the qualitative responses from participants who viewed thin-ideal media indicated that an exploration of body image was the purpose of the study. Overall, about 71% of responses from participants that viewed thin-ideal media indicated that, more specifically, the purpose of the study was to explore factors that affect body image. About 73% of responses from participants in the experimental group who articulated that the purpose was to explore factors affecting body image also reported that their responses to body image measures changed in the negative direction due to viewing the thin-ideal media. *Thus, it is important to note that, even among participants who had a general idea about the purpose of the study, qualitative responses supported the view that exposure to thin-ideal media led to more negative body image.* Furthermore, no participants indicated that knowing the purpose of the study led them to purposely complete body image measures in ways that either conformed to, or went against, what they perceived to be the expectation.

A separate analysis of qualitative responses was completed for participants who demonstrated a negative change of any magnitude on at least one body image measure

after viewing thin-ideal media. The qualitative responses provided by these participants demonstrated that over 80% of them knew the purpose of the study and/or implied that the changes in responses were due to viewing the thin-ideal media. Thus, even when knowing what the study was about, participants answered in such a way that demonstrated a worsening of body image, specifically due to viewing the thin-ideal media, as explained in detail below.

For the weight concern subscale of the BES, 42 of 64 participants who viewed thin-ideal media exhibited a decrease in body esteem. The post-experimental inquiry demonstrated that, of these 42 participants, 26 (62%) accurately described the purpose of the study and articulated that responses changed because of viewing thin-ideal media, and an additional 11 (26%) participants were able to describe either the purpose of the study or that responses changed because of viewing the images. For the sexual attractiveness subscale of the BES, 38 participants demonstrated decreases in body esteem. Of these participants, 20 (53%) participants correctly explained the purpose of the study and indicated that responses changed because of viewing thin-ideal media, and 11 (29%) explained either the purpose or reason for change. Of the 34 participants who demonstrated a decrease in scores on the physical condition subscale of the BES, 18 (53%) articulated correctly the purpose and reason for change, and an additional 10 participants (29%) described either the purpose or reason for change. Lastly, of the 30 participants who demonstrated an increase in scores on the negative affect scale of the PANAS (indicating greater negative emotion), 18 (60%) explained correctly the purpose of the study and indicated that change occurred because of viewing thin-ideal images, and

9 participants (30%) articulated correctly either the purpose of the study or reason for change.

In brief, the qualitative responses from the post-experimental inquiry demonstrate that participants who exhibited decreases in body image after viewing thin-ideal media were still aware of the study's purpose. Furthermore, as already noted, the qualitative responses support the conclusion that viewing thin-ideal media had its intended effect of worsening body image. Nevertheless, since a high percentage of participants were aware of the general purpose of the study, future research needs to examine the extent to which demand characteristics, pretest sensitization, and posttest sensitization play a role in pre-to-post changes in body image for those viewing thin-ideal media.

Recommendations for Research

As a way to determine if an awareness of the study's purpose plays a role when measuring changes in body image after viewing thin-ideal media, future research could employ the Solomon Four-Group Design (Kazdin, 1992). In this design, participants are randomly assigned to one of four groups, which differ depending on whether participants are administered a pretest or not, and whether participants experience the intervention or not. Thus, a 2 by 2 ANOVA is utilized to determine if there is an interaction between tests administered and treatment. Such a design allows researchers to determine if there is an effect of treatment by comparing within group or between groups, while also making sure that administering a pretest does not affect treatment outcome (Kazdin, 1992). For example, if such a design were utilized for the present study, one group of participants would take pretest measures of body image, view thin-ideal media, and then take posttest measures of body image. Another group would take pretest measures, view

neutral media, and complete posttest measures. The third group would view thin-ideal media and complete posttest measures only, and the fourth group would view neutral media and complete posttest measures only. Results from this design would illustrate whether demand characteristics and pretest sensitization played a role in study findings.

If knowing the purpose of the study influences the way participants respond, future studies should employ techniques to decrease the likelihood that the purpose of the study is evident. In addition to the possibility of measures revealing the purpose of the study, the images utilized may also highlight the purpose for some participants. One idea for controlling demand characteristics is to replace current thin-ideal media with a movie or television clip that portrays the thin ideal (e.g., *Gossip Girls*). Because a television program or movie has a plot, participants may be less aware of why they are viewing it. Another idea involves incorporating "filler" measures into the study. If participants complete a variety of measures (with some pertaining to body image and others relating to irrelevant factors), the purpose of the study may be less evident.

Future studies can utilize any or all of these suggestions as a way to determine if, and/or decrease the likelihood that, demand characteristics, pretest sensitization, or posttest sensitization affect participants' changes in body image after viewing thin-ideal media. Further, due to the interesting findings from the post-experimental inquiry of the present study, researchers should consider further utilization of this procedure. Given the importance of this issue (i.e., determining the effects of thin-ideal media on body image), Reeb and Folger (in progress) are conceptualizing such studies as the next steps in our program of research.

In summary, results provide evidence of body image becoming more negative after viewing thin-ideal media. The post-experimental inquiry suggests that (a) although participants were aware of the purpose of the study, (b) their responses supported the notion that thin-ideal media had a negative impact on body image. Recommendations for future research (e.g., utilizing the Solomon Four-Group design) were provided for controlling demand characteristics, pretest sensitization, and posttest sensitization.

Theoretical and Clinical Implications

Regarding theoretical implications, the findings from the present study document that the sociocultural variable of media has a negative influence on women's body image. Even if people do not develop eating disorders in their entirety, many individuals display subthreshold eating disorder behaviors. However, the media does not affect people in the same way. Thus, an accurate etiology of eating disorders needs to specify when or for whom thin-ideal media leads to damaging outcomes. In order to develop a comprehensive biopsychosocial model of the etiology of eating disorders, these variables that affect people's susceptibility to thin-ideal media need to be explored.

The present study's results have clinical implications as well. Negative changes in body image were documented after viewing thin-ideal media and backed up by qualitative comments in post-experimental inquiry. The use of a post-experimental inquiry contributes to the literature by illustrating that viewing thin-ideal media had the intended effect of decreasing body image, even if participants were aware of the purpose of the study. Although changes in body image were statistically significant, the magnitude of change was not large, which could be perceived as having little clinical significance. However, these changes were documented after one brief exposure to thin-

ideal media. This suggests that over time, as people continue to be subjected to thin-ideal media, changes in body image that are clinically significant may occur as well. Thus, it is very important that media outlets, whether it is television, magazines, or movies, are aware of the great effect that thin images can have on people.

Furthermore, the negative changes in body image were documented in a college, rather than clinical, population. It is likely that females with eating disorders or other forms of psychopathology may be even more susceptible to the negative effects of the media. Prevention programs with the goal to change how the media portrays beauty should be implemented. School personnel, parents, and doctors should be aware of the powerful effects that the media can have on body image, so that steps can be taken to counter such effects. Also, psychotherapists working with women who suffer from eating disorders or who have eating disorder tendencies should be aware of the effects of thin-ideal media, so that they can discuss these issues with their clients.

Relationships Among Variables and Exploration of Moderator Variables

Body Image and Eating Disorder Tendencies

Results supported Hypothesis 2, in that body image was significantly correlated with eating disorder tendencies (see Table 3). Of the 208 possible correlations between body image measures and eating disorder tendencies, 103 were significant and in the expected direction after adopting a more stringent significant level according to the Bonferroni multistage procedure. The total number of correlations that were significant and in the expected direction according to a .05 significance level, prior to use of the Bonferroni multistage procedure, was 147. An additional 6 correlations approached significance ($.05 < p \leq .06$), and 60 other correlations suggested trends in the expected

direction. Furthermore, there were no correlations between body image measures and eating disorder tendencies that were significant and in the opposite direction of what was expected. In other words, as a general statement, it seems fair to conclude that body image disturbance was related to greater disordered eating tendencies.

These results are consistent with previous research findings that documented a significant relation between body dissatisfaction and eating disorder tendencies (e.g., Stice et al., 1994). It is also consistent with research in which viewing thin-ideal media led to body dissatisfaction, negative mood states, low self-esteem, and an increase in eating disorder symptoms (e.g., Hawkins et al., 2004). Documenting that media exposure is related to both body dissatisfaction and a greater endorsement of disordered eating tendencies, Hawkins and colleagues, along with a meta-analysis by Grabe et al. (2008), highlight that both variables change in response to thin-ideal media. Although the present study illustrated that changes in body image occurred after viewing thin-ideal media, the correlations between body image and eating disorder tendencies suggest a link between thin-ideal media and eating disorder tendencies as well.

Hypothesized Moderator Variables and Eating/Body Problems

Results supported Hypothesis 3, that hypothesized moderator variables (self-esteem, borderline personality disorder tendencies, and a history of abuse/neglect) are related to eating disorder tendencies (see Table 4) and body image disturbance (see Table 5). Of the 91 correlations between the hypothesized moderator variables and eating disorder tendencies, 46 were significant and in the expected direction. Prior to adopting a more stringent significance level by utilizing the Bonferroni multistage procedure, 53 of the correlations were significant and in the expected direction. Furthermore, an

additional 33 of the 38 remaining correlations that were not significant were in the expected direction. Of the 112 correlations between hypothesized moderator variables and body image scores, 27 were significant and in the expected direction. Before utilizing the Bonferroni multistage procedure to adopt a more stringent significance level, 42 of the correlations were significant and in the expected direction. In addition, 62 of the 70 remaining correlations that were not significant were in the expected direction. Thus, the results generally support Hypothesis 3.

Self-esteem. A vast majority of the correlations between self-esteem and disordered eating tendencies/body image problems were significant and in the expected direction (see Tables 4 and 5). In other words, higher levels of self-esteem were related to lower levels of eating disorder tendencies and body image disturbance. Conversely, lower levels of self-esteem were related to more disordered eating and body image problems. These results are consistent with previous research, including a study by Peck and Lightsey (2008) in which female college students that reported disordered eating tendencies had lower self-esteem, and another study in which a program designed to increase self-esteem led to improved body satisfaction (O'Dea & Abraham, 2000).

Borderline personality disorder tendencies. The vast majority of correlations between borderline personality disorder tendencies and eating disordered behavior/body image disturbance were significant and in the expected direction (see Tables 4 and 5). In other words, higher levels of borderline personality disorder traits were related to body image disturbance and more eating disorder tendencies. Likewise, lower levels of borderline personality disorder traits were associated with fewer body and eating problems. These results are consistent with prior research by Lilienfeld et al. (2008) who

found that borderline personality disorder traits significantly predicted disordered eating in a sample of female college undergraduates and by Sansone et al. (2001) who demonstrated that borderline personality disorder traits were related to body dissatisfaction in a sample of women in an adult psychiatric outpatient clinic even after the variable of weight was controlled.

Abuse/neglect. Experiencing abuse or neglect was correlated in the expected direction with 23 of the possible 145 correlations with eating disorder tendencies and body image problems (see Tables 4 and 5). Prior to adopting a more stringent significance level by utilizing the Bonferroni multistage procedure, 41 of the possible 145 correlations were significant and in the expected direction. Of the 104 correlations not significant, 92 were in the expected directions. Thus, results indicate that higher levels of abuse or neglect in the past are associated with a greater tendency towards disordered eating and body image problems. Conversely, participants with less abuse or neglect in their past reported fewer eating and body image problems. These results are consistent with previous findings, as studies have demonstrated links between abuse and neglect with eating and body problems (e.g., Kennedy et al., 2007; Neumark-Sztainer et al., 2000; Pearlstein, 2002). Such research is inconclusive regarding what type of abuse is the strongest predictor of later eating and body problems, and in the present study, emotional abuse, physical abuse, and emotional neglect had more significant correlations with body image and eating problems than sexual abuse or physical neglect.

The number of correlations that were significant for the different types of abuse and neglect with body image/eating problems was less than the number of significant correlations for self-esteem and borderline personality disorder traits. This may be

because participants in the present study did not report extensive histories of abuse or neglect. Scores on the emotional abuse subscale of the CTQ ranged from 5 (the lowest possible score) to 19, had a mean of 7.13, and a standard deviation of 2.85. The mean corresponded to the None (or Minimal) classification and scores within one standard deviation of the mean corresponded to the None (or Minimal) and Low (to Moderate) classifications (Bernstein & Fink, 1998). Regarding the physical abuse subscale, scores ranged from 5 to 12, had a mean of 5.46 (which corresponded to the None or Minimal range), and a standard deviation of 1.16. The range of scores within one standard deviation of the mean all corresponded to the None (or Minimal) classification. The range of scores on the sexual abuse subscale was from 5 to 19, had a mean of 5.57 (which corresponded to the Low to Moderate range), and a standard deviation of 2.06. Sexual abuse scores that were within one standard deviation of the mean corresponded to the None (or Minimal) and Low (to Moderate) classifications. Scores on the emotional neglect subscale ranged from 5 to 21, had a mean of 7.32, and a standard deviation of 3.24. The mean score corresponded to the None or Minimal classification, and the range of scores within one standard deviation of the mean were in the None (or Minimal) or Low (to Moderate) categories. Physical neglect scores ranged from 5 to 13, had a mean of 5.56 (which corresponded to the None or Minimal classification), and a standard deviation of 1.28. The range of scores within one standard deviation of the mean corresponded to the None (or Minimal) category.

The classifications for scores on the CTQ were derived based on a nonclinical “normal” sample of female members of a health maintenance organization, the majority of whom were Caucasian and middle class (Bernstein & Fink, 1998), meaning that the

norms are highly relevant to the sample of the current study. That the mean scores were very low indicates that on average, most participants did not report experiencing abuse. Thus, a restriction in range of scores on the abuse/neglect subscales may have precluded an adequate examination of the relationship.

An Exploration of Moderator Variables

As previously explained, results illustrated that self-esteem, borderline personality disorder tendencies, and a history of abuse/neglect are related to body image and eating problems. This set the stage for the present study to explore Hypothesis 4, that the interrelated psychosocial factors will moderate the effects of thin-ideal media on body image. As mentioned in the Results section, difference scores were obtained for body image measures by subtracting pre- from post-media scores. A hierarchical multiple regression analysis was then employed for each body image difference score, with group (thin-ideal media versus neutral media) and one of the interrelated psychosocial variables entered at Step 1, and the group-by-variable interaction entered at Step 2. Given the dearth of research on variables that moderate the effects of thin-ideal media, the results were expected to make a unique contribution to the literature. Some support for Hypothesis 4 was found.

Results of the hierarchical multiple regressions illustrated that borderline personality disorder tendencies and a history of abuse/neglect (specifically, physical abuse, sexual abuse, and emotional neglect) both acted as moderator variables. In addition, self-esteem closely approached significance as a moderator variable ($p = .053$). Each variable moderated the effects of thin-ideal media on negative affect. In other words, out of the five body image measures serving as dependent variables, the scores on

one variable (the negative affect subscale of the PANAS) were moderated. This illustrates that the effect of thin-ideal media on negative emotion depended on the level of borderline personality disorder tendencies a person exhibited or the amount of physical abuse, sexual abuse, or emotional neglect a person experienced in the past. It may also depend on a person's self-esteem.

The effect of thin-ideal media on body image measures other than the negative affect subscale of the PANAS was not moderated by any of the variables in this study. This may reflect the fact that affect is, by definition, a fluctuating attribute, whereas body image is a somewhat more stable attribute. To speculate, perhaps self-esteem, borderline personality disorder tendencies, and a history of abuse/neglect pertain more to changes in emotion that occur during exposure to thin-ideal media (as opposed to changes in body image). People with borderline personality disorder tendencies can experience significant instability in mood (APA, 2000). Unstable emotions may influence how a person views the self and world. Thus, the presence of borderline personality disorder traits may moderate the effect of thin-ideal media on negative emotion rather than body image because of the salience of unstable emotions in people with borderline personality disorder tendencies. Being abused or neglected can cause great distress and difficulty managing strong affect (Rorty & Yager, 1993). Experiencing abuse is an emotionally laden experience, and thus, subsequent changes in emotion may be more salient than the effect the abuse can have on body image. Body image, in general, is likely to be a more stable characteristic relative to emotional reactivity. Self-esteem may have moderated the effects of thin-ideal media on negative affect and not body image because self-esteem encompasses feelings about many personal factors in addition to physical appearance

(i.e., athletic ability, grades in school, relationships). Furthermore, items on the Rosenberg Self-Esteem Scale (Rosenberg, 1965), which was used in the present study, ask about general beliefs and emotions (i.e., attitude towards the self) rather than specific questions about feelings towards the body. Thus, affect may be more central in determining self-esteem and it is more likely to fluctuate than a person's body image.

Each variable that moderated the effects of thin-ideal media on negative emotion was correlated with the negative affect difference score. These correlational analyses were conducted separately for groups to ascertain if the moderator variables related to the negative affect difference score in the expected direction for the thin-ideal media group. The correlation between borderline personality disorder tendencies and the negative affect difference score was in the expected direction, indicating that higher levels of borderline personality disorder traits were related to an increase in negative affect after viewing thin-ideal media. As expected, the correlation was not significant for women who viewed neutral media images. Women with borderline personality disorder tendencies often have unstable moods, an unstable view of themselves, engage in impulsive behavior, and are afraid of being abandoned (APA, 2000) and therefore, may be easily influenced by external factors, such as the media. This may explain why the mood of such people is likely to become more negative after viewing thin-ideal media.

A history of abuse/neglect moderates the effect of thin-ideal media on negative emotion, and the following reasons may help explain this finding. Experiencing abuse has been found related to an increase in body dissatisfaction or feelings of shame about the body (e.g., Murray et al., 2008; Tripp & Petrie, 2001) and also to a decreased ability to manage strong affect (Rorty & Yager, 1993). Therefore, when subjected to media

images promoting the thin ideal, it may be harder for people with a history of abuse to manage feelings that arise. In addition, negative feelings that the person already has towards the body may be highlighted. It is important to document that abuse/neglect acts as a moderator variable because experiencing abuse or neglect is related to many different types of psychopathology. Understanding the negative consequences of abuse in one context (i.e., eating disorder tendencies and body image problems) can highlight its power in leading to psychopathology in other contexts as well.

In contrast to what was expected, the correlation between physical abuse and the negative affect difference score was non-significant for participants who viewed thin-ideal media but significant and negative for people who viewed neutral media images. This finding was very surprising. However, given the distribution of scores for the physical abuse measure, it may be the case that this correlation should not be taken too seriously, and that future cross-validation research is needed with a community sample of individuals with a wide variety of backgrounds of abuse. That is, there was a restriction of range, with 34 out of 36 scores in the None or Minimal category. When the other two outlying scores are excluded, the correlation coefficient drops in magnitude and is no longer statistically significant. Nevertheless, the finding is intriguing, and so it is strongly recommended that researchers follow-up to determine the nature of the relationship when there is a wide range of abuse histories.

The same surprising findings occurred for emotional neglect. The correlation between emotional neglect and the negative affect difference score was non-significant for those who viewed thin-ideal media but significant and in the negative direction for people who viewed neutral media images. This suggests that for people in the control

group, those that experienced higher levels emotional neglect had a decrease in negative affect after viewing neutral media images. This finding is very similar to the surprising finding noted above involving the physical abuse measure, and the same problem (restriction of range in emotional neglect scores) is evident, again requiring future research to determine the relationship between these variables when there are a wide variety of abuse histories. Of 36 scores, 27 corresponded to the None or Minimal category, and when outlying scores are excluded, the correlation decreases in magnitude and is no longer significant.

As expected, the correlation between sexual abuse and the negative affect difference score was significant and positive for the thin-ideal media group. However, contrary to expectation, the correlation was significant and negative for those that viewed neutral media. This suggests that people who experienced sexual abuse had a greater increase in negative affect after viewing thin-ideal media but a decrease in negative affect after viewing neutral images. This finding is very similar to the surprising findings already noted for the physical abuse and emotional neglect subscales. The problem of a restricted range in sexual abuse scores is evident, again requiring future research to determine the relationship between these variables when there are a wide variety of abuse histories. In fact, when the above approach was employed (i.e., dropping outlier scores), the restriction of range in emotional abuse scores became so extreme that SPSS would not even compute correlation coefficient.

As self-esteem approached significance as a moderator variable, correlations between this variable and the negative affect difference score were examined for the thin-ideal group and neutral media group. As expected, there was a significant and negative

correlation for those that viewed thin-ideal media, suggesting that people with lower levels of self-esteem exhibited a greater increase in negative affect after viewing thin-ideal media. Also as expected, the correlation was not significant for those that viewed neutral images. O'Dea (2004) documented that people with high self-esteem are better able to cope with stress, criticism, and anxiety. Thus, people with low self-esteem may have a hard time coping with the negative feelings, stress, and criticisms that can arise from being subjected to thin-ideal media. This helps to explain why the effect that thin-ideal media has on negative affect may depend on a person's self-esteem.

Recommendations in Research

The variables in the present study only moderated the effect that thin-ideal media has on negative emotion. However, variables are likely to exist that moderate the effect of thin-ideal media on body image. This is because although research has documented that thin-ideal media is prevalent and negatively influences people's body image and eating disorder tendencies (e.g., Bessenoff, 2006; Grabe et al., 2008; Groesz et al., 2001), not all people subjected to the thin ideal develop body and eating problems. Future research should continue to explore factors that may moderate the effect of thin-ideal media on body image. Bosse and Reeb (2008) found that certain personality factors (i.e., neuroticism, conscientiousness) moderated the effect of thin-ideal media on body image, and a more in depth exploration of characteristics of personality factors (i.e., impulsiveness, excitement seeking) that lead to moderation would be helpful. Also, other person-specific variables related to psychopathology, such as depression or anxiety, could be examined. Ferrell and Reeb (2006) found that certain family variables (i.e., lower levels of control, cohesion, and expressiveness) were related to more positive body

esteem after viewing self-objectifying video clips. Thus, these variables or similar family variables (i.e., perceived support, communication style) could be tested as moderators because of the strong influence family can have on a person's development.

Participants in the present study were undergraduate students from a private, Mid-western college. Although the sample represents the typical population in which eating disorders may arise, there was a lack of racial and ethnic diversity. Future research could utilize a community sample, as this would probably yield a more diverse participant group. However, the college sample that was used was primarily Caucasian from the upper middle class, and this is representative of the type of people who are at risk to develop eating disorders (APA, 2000). However, the range of scores for borderline personality disorder tendencies and past abuse/neglect experiences may have been restricted in the college sample, making it difficult to examine hypothesized relationships between these variables and other variables of interest. Thus, future research should also utilize a clinical population in which participants have experienced different degrees of abuse or neglect and demonstrate borderline personality disorder tendencies. Then, past abuse/neglect and borderline personality disorder tendencies can be tested again as moderator variables to determine if they moderate the effects of thin-ideal media on body image measures.

Theoretical and Clinical Implications

Evidence that borderline personality disorder tendencies, a history of abuse/neglect, and self-esteem may moderate the effects of thin-ideal media on negative affect has important implications. From a theoretical perspective, documenting that the effects of thin-ideal media depend on the level of these variables helps develop a more

comprehensive understanding of the etiology of eating disorders. It is necessary to recognize that, as Engel first did in 1977, in addition to biological and psychological factors, social factors play a role in leading to psychopathology. This biopsychosocial model (Engel, 1977) also highlights that factors do not occur in isolation; rather, their interactions can lead to various outcomes (Kiesler, 2000). Thus, the etiology of eating disorders is complex, and involves social factors (i.e., thin-ideal media), psychological factors (i.e., borderline personality disorder tendencies), and biological factors (i.e., increased serotonin levels) as illustrated in a biopsychosocial model of eating disorders by Polivy and Herman (2002). A thorough understanding of factors is essential to understanding how eating disorders arise.

From a clinical perspective, it is also important to understand what variables may protect people against or increase the risk for negative outcomes following exposure to thin-ideal media. This line of research is essential in that it can improve interventions and psychotherapy with people who experience eating disorders by identifying additional variables to target. Further, this area of research highlights certain traits indicating that community members (or individual clients) are at-risk to develop an eating disorder. Research that documents that certain factors can increase susceptibility to negative effects of thin-ideal media can lead to better prevention programs, as these factors can be incorporated into such programs.

A popular classification of prevention programs includes primary, secondary, and tertiary categories (see Caplan, 1964), and the present study's results are relevant to each type of prevention. For example, primary prevention would aim to reduce the number of new cases of eating disorders, and the knowledge that certain factors moderate the effects

of thin-ideal media can highlight risk factors to address as a way to avoid the development of new cases. Individual therapy could focus on improving self-esteem, helping clients to develop a more stable sense of self, or coping with past abuse. In secondary prevention, early signs of eating disorders are detected, so that full development of the disorder can be prevented. The present study's findings can inform this type of prevention by encouraging psychotherapists to explore eating disorder tendencies that may be present in clients or community samples (e.g., college population) who experienced abuse or display borderline personality disorder tendencies. Tertiary prevention aims to improve functioning and decrease impairment from already existing conditions, and the present study's findings highlight the importance of addressing how thin-ideal media can contribute to both the etiology and maintenance of an eating disorder.

Summary and Conclusions

The present study explored the effects of thin-ideal media on body image in college women and whether a set of interrelated psychosocial variables (self-esteem, borderline personality disorder tendencies, and past abuse/neglect) moderate this relationship.

Hypothesis 1 stated that body image would become more negative after viewing thin-ideal media, whereas no such change would occur for those viewing neutral media. Support for this hypothesis was obtained by utilizing a series of Analysis of Variance (ANOVA) procedures. Also, a post-experimental inquiry was employed that demonstrated that regardless if participants were aware of the study's purpose, a majority of participants reported changes in body image due to viewing thin-ideal media.

Hypothesis 2, that there is a relationship between body image problems and eating disorder tendencies, was supported by bivariate correlational analyses even after adopting a more stringent significance level according to the Bonferroni multistage procedure. A greater disturbance in body image is related to more disordered eating tendencies.

Hypothesis 3, that there is a correlation between the hypothesized moderator variables (self-esteem, borderline personality disorder tendencies, past abuse/neglect) and eating/body image problems, was also supported by bivariate correlational analyses after adopting a more stringent significance level according to the Bonferroni multistage procedure. Low self-esteem, more borderline personality disorder tendencies, and a more extensive history of abuse/neglect are associated with more body image and eating problems.

Hypothesis 4, the main emphasis of the study that explored whether self-esteem, borderline personality disorder tendencies, and past abuse/neglect moderated the effect of thin-ideal media on body image, was partially supported by using a series of hierarchical multiple regressions. Borderline personality disorder tendencies and past abuse/neglect (specifically sexual abuse, physical abuse, and emotional neglect) moderated the effects of thin-ideal media on negative affect. Self-esteem closely approached significance as a moderator variable on negative affect as well.

In general, results of this study replicate past research that (a) thin-ideal media negatively influences body image, (b) body image disturbance is positively correlated with disordered eating tendencies, and that (c) low self-esteem, a higher level of borderline personality disorder tendencies, and a more extensive history of abuse/neglect are related to body and eating problems. Results contribute uniquely to the literature by

(a) utilizing a post-experimental inquiry which documented that changes in body image occurred regardless if participants were aware of the study's purpose, and (b) documenting that borderline personality disorder tendencies and a history of abuse/neglect moderate the effects of thin-ideal media on negative affect. Self-esteem closely approached significance as moderating the effects of thin-ideal media on negative affect as well. Findings have theoretical implications, in that they can lead to a more comprehensive understanding of the etiology of eating disorders and have clinical implications as well, by helping inform prevention and intervention programs at individual and community levels.

APPENDIX A

Demographic Questionnaire

Date of Birth: _____

Height: _____

Weight: _____ (lbs.)

Desired Weight: _____ (lbs.)

Ethnicity: ☐ Caucasian ☐ African American ☐ Asian ☐ Hispanic

Other (please specify) _____

Are you currently in therapy with a mental health practitioner? Yes No

If yes, for what diagnosis or symptoms? _____

Are your biological parents divorced? Yes No

Age when parents divorced: _____

Please answer the following questions as they pertain to the male parental figure and female parental figure in the household in which you grew up. For example, if you primarily were raised by your step-mother and father, then rate your step-mother and father. If there was only one parental figure in your home as you grew up, please answer only the questions that apply to you.

Annual Income Categories: 1 = 10,000-30,000 per year
2 = 30,000-50,000 per year
3 = 50,000-80,000 per year
4 = 80,000-100,000 per year
5 = more than 100,000 per year

What is your father's occupation? _____

What is your father's annual income category? _____

What is your mother's occupation? _____

What is your mother's annual income category? _____

Please rate your father's educational level by circling the appropriate number on the following scale:

- 1 = completed grade school and/or high school
- 2 = completed some college or graduated from college
- 3 = completed some graduate work or a master's degree
- 4 = earned a professional degree, such as a Ph.D. or M.D.

Please rate your mother's educational level by circling the appropriate number on the following scale:

- 1 = completed grade school and/or high school
- 2 = completed some college or graduated from college
- 3 = completed some graduate work or a master's degree
- 4 = earned a professional degree, such as a Ph.D. or M.D.

APPENDIX B

Rosenberg Self-Esteem Scale (RSES)

On the items below, indicate the degree to which each statement represents your personal reactions or feelings. Marking 5 would indicate that you strongly agree with the statement and marking 1 would indicate that you strongly disagree with the statement.

1. I feel that I am a person of worth, at least on an equal basis with others.

1	2	3	4	5
Strongly Disagree		Neutral	Strongly Agree	

2. I feel that I have a number of good qualities.

1	2	3	4	5
Strongly Disagree		Neutral	Strongly Agree	

3. All in all, I am inclined to feel that I am a failure.

1	2	3	4	5
Strongly Disagree		Neutral	Strongly Agree	

4. I am able to do things as well as most other people.

1	2	3	4	5
Strongly Disagree		Neutral	Strongly Agree	

5. I feel I do not have much to be proud of.

1	2	3	4	5
Strongly Disagree		Neutral	Strongly Agree	

6. I take on a positive attitude toward myself.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

7. On the whole, I am satisfied with myself.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

8. I wish I could have more respect for myself.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

9. I certainly feel useless at times.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

10. At times I think I am no good at all.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

APPENDIX C

Select Portion of the Coolidge Axis II Inventory – Revised (CATI+)

The things written in this questionnaire ask you to answer as you see yourself. Some sentences will seem strongly false, and some sentences will seem strongly true. Other sentences will seem somewhere in between the strongly false and strongly true. You are to choose if they are more false than true, or more true than false. It is important that you try to not leave out any answers. If the sentence does not exactly describe you, do your best to find the answer that most closely is like you. Read each sentence carefully. After each sentence, you will find four possible answers: **SF** for “Strongly False,” **MF** for “More False than True,” **MT** for “More True than False,” and **ST** for “Strongly True.” Put a circle around the answer that is more like you.

- | | | | | |
|---|----|----|----|----|
| 1. My feelings don't change a lot. | SF | MF | MT | ST |
| 2. I wonder who I am most of the time. | SF | MF | MT | ST |
| 3. I can get sad pretty quickly. | SF | MF | MT | ST |
| 4. I try hard to not be alone. | SF | MF | MT | ST |
| 5. I feel strong emotional feelings. | SF | MF | MT | ST |
| 6. I am more calm than other people. | SF | MF | MT | ST |
| 7. My moods change quite fast. | SF | MF | MT | ST |
| 8. People tell me that I am a cold person. | SF | MF | MT | ST |
| 9. I am very afraid of being left alone by someone. | SF | MF | MT | ST |
| 10. I have said I would kill myself, or tried to, more
than once in my life. | SF | MF | MT | ST |
| 11. I've had a lot of temper tantrums. | SF | MF | MT | ST |
| 12. I see myself as a person whose feelings are well
controlled. | SF | MF | MT | ST |

13. I seem able to change my feelings quickly.	SF	MF	MT	ST
14. I do not often feel empty or bad.	SF	MF	MT	ST
15. More than once, I have hurt myself badly on purpose, like cutting my wrists or smashing my fist against a wall.	SF	MF	MT	ST
16. Recently, I have felt like killing myself.	SF	MF	MT	ST
17. When I get stressed, I start to feel unreal, weird, or strange.	SF	MF	MT	ST
18. I have gotten into at least one hitting fight in the past few years.	SF	MF	MT	ST
19. I usually have heavy and up and down relationships.	SF	MF	MT	ST
20. I am a person who has to do things right away.	SF	MF	MT	ST
21. I have been very thoughtless in my spending money, or sex, drug use, shoplifting, reckless driving, or binge eating.	SF	MF	MT	ST
22. My anger gets out of control easily.	SF	MF	MT	ST
23. I try not to get into physical fights.	SF	MF	MT	ST

APPENDIX D

Childhood Trauma Questionnaire (CTQ)



Instructions

These questions ask about some of your experiences growing up as a child and a teenager. Although these questions are of a personal nature, please try to answer as honestly as you can. For each question, circle the dot under the response that best describes how you feel. If you wish to change your response, put an X through it and circle your new choice.

Example of corrected response:

Original Response

Never True	Rarely True	Sometimes True	Often True	Very Often True
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changed Response

Never True	Rarely True	Sometimes True	Often True	Very Often True
<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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ISBN 015-4102-28-8



9 780154 102287

Name: _____

Age: _____ Sex: _____

Ready Score®
Answer Document

Scales

The diagram illustrates the structure of the Scale for Family Abuse, organized into five vertical columns representing different types of abuse. Each column contains a series of rectangular boxes representing items on the scale. Arrows at the bottom of each column point to a corresponding box labeled "Scale Total Score (5-25)".

- Emotional Abuse:** Contains 6 items (boxes) arranged vertically, with an arrow pointing to the "Emotional Abuse Scale Total Score (5-25)" box at the bottom.
- Physical Abuse:** Contains 6 items (boxes) arranged vertically, with an arrow pointing to the "Physical Abuse Scale Total Score (5-25)" box at the bottom.
- Sexual Abuse:** Contains 6 items (boxes) arranged vertically, with an arrow pointing to the "Sexual Abuse Scale Total Score (5-25)" box at the bottom.
- Emotional Neglect:** Contains 6 items (boxes) arranged vertically, with an arrow pointing to the "Emotional Neglect Scale Total Score (5-25)" box at the bottom.
- Physical Neglect:** Contains 6 items (boxes) arranged vertically, with an arrow pointing to the "Physical Neglect Scale Total Score (5-25)" box at the bottom.

Item Response Scores

	Never True	Rarely True	Sometimes True	Often True	Very Often True	on item a score on an item
1.	1	2	3	4	5	
2.	5	4	3	2	1	
3.	1	2	3	4	5	
4.	1	2	3	4	5	
5.	5	4	3	2	1	
6.	1	2	3	4	5	
7.	5	4	3	2	1	
8.	1	2	3	4	5	
9.	1	2	3	4	5	
10.	1	2	3	4	5	0
11.	1	2	3	4	5	
12.	1	2	3	4	5	
13.	5	4	3	2	1	
14.	1	2	3	4	5	
15.	1	2	3	4	5	
16.	1	2	3	4	5	
17.	1	2	3	4	5	
18.	1	2	3	4	5	
19.	5	4	3	2	1	
20.	1	2	3	4	5	
21.	1	2	3	4	5	
22.	1	2	3	4	5	0
23.	1	2	3	4	5	
24.	1	2	3	4	5	
25.	1	2	3	4	5	
26.	5	4	3	2	1	
27.	1	2	3	4	5	
28.	5	4	3	2	1	

Minimize
Density
Scale Total
(0-3)

Classification

_____ % _____ % _____ % _____ % _____ % Percentile Rank (Reference Group: _____)



Name: _____

Age: _____ Sex: _____

Ready Score®
Answer Document

When I was growing up ...	Never True	Rarely True	Sometimes True	Often True	Very Often True
1. I didn't have enough to eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I knew that there was someone to take care of me and protect me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. People in my family called me things like "stupid," "lazy," or "ugly."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My parents were too drunk or high to take care of the family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. There was someone in my family who helped me feel that I was important or special.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I had to wear dirty clothes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I felt loved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I thought that my parents wished I had never been born.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. There was nothing I wanted to change about my family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. People in my family hit me so hard that it left me with bruises or marks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I was punished with a belt, a board, a cord, or some other hard object.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. People in my family looked out for each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. People in my family said hurtful or insulting things to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I believe that I was physically abused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I had the perfect childhood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I felt that someone in my family hated me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. People in my family felt close to each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Someone tried to touch me in a sexual way, or tried to make me touch them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I had the best family in the world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Someone tried to make me do sexual things or watch sexual things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Someone molested me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I believe that I was emotionally abused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. There was someone to take me to the doctor if I needed it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I believe that I was sexually abused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. My family was a source of strength and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Scoring

1. For each item, transfer the numerical score for the response that is circled to the corresponding box to the left of the item. Note that Items 2, 5, 7, 13, 19, 26, and 28 are reverse scored. For example, for these items, an endorsement of Very Often True is scored 1 rather than 5.
2. For each maltreatment scale, add the values in the boxes that appear in the column for the scale and enter the sum in the box at the bottom of the column. This number is the Scale Total Score. The range of scores in parentheses underneath the Scale Total Score indicates the minimum and maximum sums for the scale. The higher the score is, the more maltreatment is being reported.
3. For the Minimization/Denial Scale (Items 10, 16, and 22), score the responses as follows:
 - For an item endorsed with a 5 (Very Often True), circle the 1 in the box to the right of the item.
 - For an item endorsed with a 1-4, circle the 0 in the box to the right of the item.

Add the values for these 3 items and enter the sum at the bottom of that column to derive the Minimization/Denial Scale Total Score. This score reflects the tendency of the respondent to give exaggerated, desirable responses. The range of scores in parentheses indicates the minimum and maximum sums for the scale.

4. In the space below each Scale Total Score, enter the classification for that score.
Use Table B.1 in Appendix B.
5. A percentile rank for each Scale Total Score may be entered below the classification.
Use Tables C.1-C.3 in Appendix C according to the reference group chosen.

APPENDIX E

Eating Disorder Inventory – 3 (EDI-3)



Item Booklet

David M. Garner, PhD

Please do not write on
this form!

DIRECTIONS

Enter your name, the date, your age, gender, marital status, and occupation. Complete the questions on the rest of this page. Then, turn to the inside of this booklet and carefully follow the instructions.

Name _____ Date _____/_____/_____

*Age _____ Gender _____ Marital Status _____ Occupation _____

A. *Current weight: _____ pounds

B. *Height: _____ feet _____ inches

C. Highest past weight (excluding pregnancy): _____ pounds

How long ago did you first reach this weight? _____ months

How long did you weigh this weight? _____ months

D. *Lowest weight as an adult (or lowest weight as an adolescent if not yet age 18): _____ pounds

How long ago did you first reach this weight? _____ months

How long did you weigh this weight? _____ months

E. What weight have you been at for the longest period of time? _____ pounds

At what age did you first reach this weight? _____ years old

F. If your weight has changed a lot over the years, is there a weight that you keep coming back to when you are not dieting? _____ Yes _____ No

If yes, what is this weight? _____ pounds

At what age did you first reach this weight? _____ years old

G. What is the most weight you have ever lost? _____ pounds

Did you lose this weight on purpose? _____ Yes _____ No

What weight did you lose to? _____ pounds

At what age did you reach this weight? _____ years old

H. What do you think your weight would be if you did not consciously try to control your weight?
_____ pounds

I. How much would you like to weigh? _____ pounds

J. Age at which weight problems began (if any): _____ years old

K. Father's occupation: _____

L. Mother's occupation: _____

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INSTRUCTIONS

First, write your name and the date on the EDI-3 Answer Sheet. Your ratings on the items below should be circled on the Answer Sheet. The items ask about your attitudes, feelings, and behaviors. Some of the items relate to food or eating; other items ask about your feelings about yourself.

For each item, decide if the item is true about you **ALWAYS (A)**, **USUALLY (U)**, **OFTEN (O)**, **SOMETIMES (S)**, **RARELY (R)**, or **NEVER (N)**. Circle the letter that corresponds to your rating on the Answer Sheet. For example, if your rating for an item is **OFTEN**, you would circle the "**O**" for that item on the Answer Sheet.

Respond to *all* of the items, making sure that you circle the letter for the rating that is true about you. **DO NOT ERASE!** If you need to change an answer, mark an "X" through the incorrect letter, and then circle the correct one.

1. I eat sweets and carbohydrates without feeling nervous.
2. I think that my stomach is too big.
3. I wish that I could return to the security of childhood.
4. I eat when I am upset.
5. I stuff myself with food.
6. I wish that I could be younger.
7. I think about dieting.
8. I get frightened when my feelings are too strong.
9. I think that my thighs are too large.
10. I feel ineffective as a person.
11. I feel extremely guilty after overeating.
12. I think that my stomach is just the right size.
13. Only outstanding performance is good enough in my family.
14. The happiest time in life is when you are a child.
15. I am open about my feelings.
16. I am terrified of gaining weight.
17. I trust others.
18. I feel alone in the world.
19. I feel satisfied with the shape of my body.
20. I feel generally in control of things in my life.
21. I get confused about what emotion I am feeling.
22. I would rather be an adult than a child.
23. I can communicate with others easily.
24. I wish I were someone else.
25. I exaggerate or magnify the importance of weight.
26. I can clearly identify what emotion I am feeling.


(continued)

27. I feel inadequate.
28. I have gone on eating binges where I felt that I could not stop.
29. As a child, I tried very hard to avoid disappointing my parents and teachers.
30. I have close relationships.
31. I like the shape of my buttocks.
32. I am preoccupied with the desire to be thinner.
33. I don't know what's going on inside me.
34. I have trouble expressing my emotions to others.
35. The demands of adulthood are too great.
36. I hate being less than best at things.
37. I feel secure about myself.
38. I think about bingeing (overeating).
39. I feel happy that I am not a child anymore.
40. I get confused as to whether or not I am hungry.
41. I have a low opinion of myself.
42. I feel that I can achieve my standards.
43. My parents have expected excellence of me.
44. I worry that my feelings will get out of control.
45. I think my hips are too big.
46. I eat moderately in front of others and stuff myself when they're gone.
47. I feel bloated after eating a normal meal.
48. I feel that people are happiest when they are children.
49. If I gain a pound, I worry that I will keep gaining.
50. I feel that I am a worthwhile person.
51. When I am upset, I don't know if I am sad, frightened, or angry.
52. I feel that I must do things perfectly or not do them at all.
53. I have the thought of trying to vomit in order to lose weight.
54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).
55. I think that my thighs are just the right size.
56. I feel empty inside (emotionally).
57. I can talk about personal thoughts or feelings.
58. The best years of your life are when you become an adult.
59. I think my buttocks are too large.
60. I have feelings I can't quite identify.

(continued)

61. I eat or drink in secrecy.
62. I think that my hips are just the right size.
63. I have extremely high goals.
64. When I am upset, I worry that I will start eating.
65. People I really like end up disappointing me.
66. I am ashamed of my human weaknesses.
67. Other people would say that I am emotionally unstable.
68. I would like to be in total control of my bodily urges.
69. I feel relaxed in most group situations.
70. I say things impulsively that I regret having said.
71. I go out of my way to experience pleasure.
72. I have to be careful of my tendency to abuse drugs.
73. I am outgoing with most people.
74. I feel trapped in relationships.
75. Self-denial makes me feel stronger spiritually.
76. People understand my real problems.
77. I can't get strange thoughts out of my head.
78. Eating for pleasure is a sign of moral weakness.
79. I am prone to outbursts of anger or rage.
80. I feel that people give me the credit I deserve.
81. I have to be careful of my tendency to abuse alcohol.
82. I believe that relaxing is simply a waste of time.
83. Others would say that I get irritated easily.
84. I feel like I am losing out everywhere.
85. I experience marked mood shifts.
86. I am embarrassed by my bodily urges.
87. I would rather spend time by myself than with others.
88. Suffering makes you a better person.
89. I know that people love me.
90. I feel like I must hurt myself or others.
91. I feel that I really know who I am.

Additional copies available from:

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APPENDIX F

Body Esteem Scale (BES)

Instructions: On this page are listed a number of body parts and functions. Please read each item and indicate how you feel about this part or function of your own body using the following scale:

- 1 = Have strong negative feelings
- 2 = Have moderate negative feelings
- 3 = Have no feeling one way or the other
- 4 = Have moderate positive feelings
- 5 = Have strong positive feelings

-
- | | | |
|-----|-----------------------|-------|
| 1. | body scent | _____ |
| 2. | appetite | _____ |
| 3. | nose | _____ |
| 4. | physical stamina | _____ |
| 5. | reflexes | _____ |
| 6. | lips | _____ |
| 7. | muscular strength | _____ |
| 8. | waist | _____ |
| 9. | energy level | _____ |
| 10. | thighs | _____ |
| 11. | ears | _____ |
| 12. | biceps | _____ |
| 13. | chin | _____ |
| 14. | body build | _____ |
| 15. | physical coordination | _____ |
| 16. | buttocks | _____ |
| 17. | agility | _____ |
| 18. | width of shoulders | _____ |
| 19. | arms | _____ |
| 20. | chest or breasts | _____ |
| 21. | appearance of eyes | _____ |
| 22. | cheeks/cheekbones | _____ |
| 23. | hips | _____ |
| 24. | legs | _____ |
| 25. | figure or physique | _____ |

- 26. sex drive _____
- 27. feet _____
- 28. sex organs _____
- 29. appearance of stomach _____
- 30. health _____
- 31. sex activities _____
- 32. body hair _____
- 33. physical condition _____
- 34. face _____
- 35. weight _____

APPENDIX G

Positive and Negative Affect Schedule (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Please read each item and then mark the appropriate answer in the space next to that word. Indicate the extent to which you feel this way ***right now***, that is, ***at the present moment***.

Use the following scale to record your answers:

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
<input type="checkbox"/> interested	<input type="checkbox"/> guilty	<input type="checkbox"/> irritable	<input type="checkbox"/> determined	
<input type="checkbox"/> distressed	<input type="checkbox"/> scared	<input type="checkbox"/> alert	<input type="checkbox"/> attentive	
<input type="checkbox"/> excited	<input type="checkbox"/> hostile	<input type="checkbox"/> ashamed	<input type="checkbox"/> jittery	
<input type="checkbox"/> upset	<input type="checkbox"/> enthusiastic	<input type="checkbox"/> inspired	<input type="checkbox"/> active	
<input type="checkbox"/> strong	<input type="checkbox"/> proud	<input type="checkbox"/> nervous	<input type="checkbox"/> afraid	

APPENDIX H

Appearance Self-Efficacy Scale (ApSES)

Please read each statement carefully and decide how well that statement describes you **in general** in terms of body weight and shape. If you *strongly agree*, circle 5; if you *strongly disagree*, circle 1; if you feel somewhere in between, circle a number between 1 and 5.

1) When I make plans to change my body weight and shape, I am certain I can carry the plan through.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>		<i>Strongly Agree</i>

2) One of my problems is that I cannot get down to the work of changing my body weight and shape when I should.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>		<i>Strongly Agree</i>

3) If I can't get to the body weight and shape I want the first time, I keep trying until I can.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>		<i>Strongly Agree</i>

4) When I set important body weight and shape goals for myself, I rarely achieve them.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>		<i>Strongly Agree</i>

5) I give up on my body weight and shape goals before achieving them.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>		<i>Strongly Agree</i>

6) I avoid facing the difficulty of changing my body weight and shape.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

7) If changing my body weight and shape seems too complicated, I will not even bother to try it.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

8) Even if making changes in my body weight and shape is unpleasant, I stick to it until I accomplish it.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

9) When I decided to work towards a different body weight or shape, I go right to work on it.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

10) When trying to develop a new body weight and shape, I soon give up if I am not initially successful.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

11) When unexpected weight gain occurs, I don't handle it well.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

12) I avoid trying to develop a new body weight and shape when it looks too difficult for me.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

13) Failure to achieve my desired body weight and shape just makes me try harder.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

14) I feel insecure about my ability to develop my desired body weight and shape.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

15) I can count on my abilities to change my body weight and shape.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

16) I give up easily when it comes to achieving my desired body weight and shape.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

17) I do not seem capable of dealing with most problems that come up in trying to achieve or maintain my desired body weight and shape.

1	2	3	4	5
<i>Strongly Disagree</i>		<i>Neutral</i>	<i>Strongly Agree</i>	

APPENDIX I

Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ)

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

1. Women who appear in TV shows and movies project the type of appearance that I see as my goal.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

2. I believe that clothes look better on thin models.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

3. Music videos that show thin women make me wish that I were thin.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

4. I do not wish to look like the models in the magazines.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

5. I tend to compare my body to people in magazines and on TV.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

6. Photographs of thin women make me wish that I were thin.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

7. I wish I looked like a swimsuit model.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

8. I often read magazines like *Cosmopolitan*, *Vogue*, and *Glamour* and compare my appearance to the models.

1	2	3	4	5
Completely Disagree		Neither Agree nor Disagree		Completely Agree

APPENDIX J

Physical Appearance State and Trait Anxiety Scale (PASTAS) [State Version]

The statements listed below are used to describe how anxious, tense, or nervous you feel *Right Now* about your body. Use the following scale:

Not at All	Slightly	Moderately	Very Much So	Exceptionally So
0	1	2	3	4

Right now, I feel anxious, tense, or nervous about:

1.	The extent to which I look overweight.	0	1	2	3	4
2.	My thighs.	0	1	2	3	4
3.	My buttocks.	0	1	2	3	4
4.	My hips.	0	1	2	3	4
5.	My stomach (abdomen).	0	1	2	3	4
6.	My legs.	0	1	2	3	4
7.	My waist.	0	1	2	3	4
8.	My muscle tone.	0	1	2	3	4
9.	My ears.	0	1	2	3	4
10.	My lips.	0	1	2	3	4
11.	My wrists.	0	1	2	3	4
12.	My hands.	0	1	2	3	4
13.	My forehead.	0	1	2	3	4
14.	My neck.	0	1	2	3	4
15.	My chin.	0	1	2	3	4
16.	My feet.	0	1	2	3	4

APPENDIX K

Personal Reactions

1. What do you think was the purpose of this study?
2. You may have noticed that you completed some measures in this study twice. If you think your answers changed on these measures, why?

APPENDIX L

Informed Consent

- Project Title:** Personal Characteristics, Past Experiences, and Body Image
- Investigator(s):** Susan Folger and Roger N. Reeb, Ph.D. (faculty sponsor)
- Description of Study:** In a group setting, participants will complete questionnaires regarding self-esteem, personality characteristics, possible past abuse (sexual, physical, and emotional) or neglect (physical and emotional), and eating behaviors. Then, at a later time period, each individual will (a) view media (magazine images) on a computer screen and (b) complete questionnaires that measure aspects of self-perception.
- Adverse Effects and Risks:** Adverse effects associated with participation are not anticipated. If, due to the potential sensitive nature of questions regarding physical, sexual, or emotional abuse/neglect or body image, you feel that you need counseling for any reason, please contact the University of Dayton Counseling Center at (937) 229-3141. The University of Dayton Counseling Center provides free services to all undergraduate students at the University of Dayton, and if services are needed after business hours, students can call the counseling center and will be directed to emergency services.
- Study Duration:** In total, this study will take approximately 2 hours to complete.
- Assurance of Privacy:** Because your consent form will be separated from your data and a number system will be used, your responses will remain anonymous. The consent forms and the data will be kept in a locked filing cabinet. Only the investigators in this study will have access to the locked filing cabinet. Your name will not be revealed in any document resulting from this study.
- Contact Person:** Participants may contact the primary investigator (Susan F. Folger) by telephone (937-229-2175) or by email (folgersf@notes.udayton.edu), or the faculty sponsor (Roger N. Reeb, Ph.D.) by telephone (937-229-2713) or email (roger.reeb@notes.udayton.edu) if they have questions or problems regarding the study. Dr. Reeb's office is in St. Joseph's Hall (Room 306). Participants may also contact the Chair of the Research Review and Ethics Committee (Greg C. Elvers, Ph.D.) by telephone (937-229-2171) or e-mail (greg.elvers@notes.udayton.edu) if they have questions regarding their rights as participants in psychological research. Dr. Elvers' office is also located in St. Joseph's Hall (Room 312).

**Consent to
Participate:**

I have voluntarily decided to participate in this study. An investigator has adequately answered any and all questions I have about this study, the procedures involved, and my participation. I understand that an investigator will be available to answer any questions about research procedures throughout this study. I also understand that I may voluntarily terminate my participation in this study at any time and still receive full credit. I also understand that an investigator may terminate my participation in this study if s/he feels this to be in my best interest. In addition, I certify that I am 18 (eighteen) years of age or older.

Signature of Student

Student's Name (printed)

Date

Signature of Witness

Date

APPENDIX M

Debriefing Form

Information about the Study

The primary purpose of this study is to examine the ways in which self-esteem, past emotional, physical, and sexual abuse and physical and emotional neglect, and certain personality traits influence an individual's response to thin-ideal media. Thin-ideal media refers to media that features and promotes individuals that are significantly thinner than average American women, and this type of media has been related to eating disorder tendencies and body image problems. Research suggests that certain personality characteristics, low self-esteem, and a history of past abuse/neglect are related to eating disorder tendencies and negative body image, so individuals with these characteristics or experiences may be at an increased risk of developing negative body image after viewing thin-ideal media. Some participants viewed neutral media (e.g., shoes), whereas other participants viewed media that emphasized the thin ideal. Thus, the purpose of this study was to determine the extent to which viewing thin-ideal media influences participants' body image.

One questionnaire that you completed measures self-esteem. Another questionnaire that you completed measures the extent to which a person demonstrates borderline personality disorder tendencies. You also completed a questionnaire regarding your past and if different types of abuse and neglect were experienced. In addition, one questionnaire asked about eating behaviors that are associated with clinical problems, and finally, a set of surveys asked questions regarding body image.

References

For further information about this area of psychological research, the following articles are recommended:

- Brown, A. & Dittmar, H. (2005). Think "thin" and feel bad: The role of appearance schema activation, attention level, and thin-ideal internalization for young women's responses to ultra-thin media ideals. *Journal of Social and Clinical Psychology, 24*, 1088-1113.
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- Peck, L. D., & Lightsey, O. R. (2008). The eating disorders continuum, self-esteem, and perfectionism. *Journal of Counseling and Development, 86*, 184-192.

Assurance of Privacy

We are seeking to develop a better understanding of general principles regarding relations between self-esteem, personality, past abuse/neglect, and body image and the media, and are not evaluating you personally in any way. Your responses to questionnaires will remain anonymous, as your consent form will be separated from your data and then a number system will be used to identify the data. The data, including all measures and consent forms, will be locked in a filing cabinet, and only the investigators in this study will have access to that filing cabinet. Furthermore, your name will not be revealed in any document resulting from this study.

Additional Support and Information

Due to the fact that responses are anonymous, researchers cannot contact individuals who might show signs of psychological problems. Individuals who endorse certain items that indicate a possible lack of control over eating (e.g., *"I have thought of trying to vomit in order to lose weight"*) have often found counseling services to be beneficial. People who endorse items that indicate an excessive concern for weight or body image (e.g., *"I am terrified of gaining weight"*) have also found counseling services to be beneficial. Individuals who endorse certain items that indicate experiencing sexual abuse (e.g., *"Someone molested me"*), physical abuse (e.g., *"I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor"*), emotional abuse (e.g., *"I thought that my parents wished I had never been born"*), physical neglect (e.g., *"I didn't have enough to eat"*), or emotional neglect (e.g., marking never or rarely true on *"People in my family felt close to each other"*) also have found counseling services to be beneficial. If you endorsed these items (or items similar to these), we encourage you to consider contacting the University of Dayton Counseling Center at (937) 229-3141. If the questions regarding past experiences of physical, sexual, and emotional abuse or physical and emotional neglect upset you in any way, it may be helpful to contact the Counseling Center as well. The services provided by the Counseling Center are free to all undergraduate students at the University of Dayton.

If additional information about eating disorders or childhood abuse is desired, it may be helpful to visit the websites <http://www.nationaleatingdisorders.org/> or <http://www.helpguide.org/>. If for any reason, participants feel that they need immediate help, the Montgomery County suicide prevention center is available 24 hours a day at 1-800-320-4357 or (937) 229-7777. Similarly, the Artemis Center Domestic Abuse hotline is available 24 hours a day at (937) 222-7233. The researcher, who is a graduate student in the clinical psychology program, will also be available for 20 minutes following the last individual research session for the day if any participant would like to talk about possible feelings that arose. This available time will be announced during part one of the experiment in the group setting.

Contact Information

Participants may contact the primary investigator (Susan F. Folger) by telephone (937-229-2175) or e-mail (folgersf@notes.udayton.edu), and they may also contact the faculty sponsor (Roger N. Reeb, Ph.D.) by telephone (937-229-2713) or email (roger.reeb@notes.udayton.edu) if they have questions or problems regarding the study. Dr. Reeb's office is in St. Joseph's Hall (Room 306). Participants may also contact the Chair of the Research Review and Ethics Committee (Greg C Elvers, Ph.D.) by telephone (937-229-2171) or e-mail (greg.elvers@notes.udayton.edu) if they have questions regarding their rights as participants in psychological research. Dr. Elvers' office is also located in St. Joseph's Hall (Room 312).

Thank you for your participation!

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R002S94885

Footnotes

¹Although it has been shown that men, like women, have body image problems and eating disorder tendencies, this thesis utilizes female specific pronouns because these conditions are more common in women, the studies reviewed almost exclusively used samples of women, and the present study's sample consisted of all women.