DO FAMILY AND PERSONALITY

VARIABLES MODERATE THE EFFECTS

OF THIN-IDEAL MEDIA

ON BODY IMAGE?

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ABSTRACT

DO FAMILY AND PERSONALITY VARIABLES MODERATE THE EFFECTS OF
THIN-IDEAL MEDIA ON BODY IMAGE?

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The present study examined the effects of thin-ideal media on young women's body image, and it also examined family process, family climate, and personality factors that may contribute to the development of eating disorder tendencies and body image problems in college women. Hypothesis 1 stated body image will become more negative after viewing thin-ideal media, while body image will remain stable after viewing neutral media. This hypothesis was examined with a series of Analysis of Variance (ANOVA) procedures, and substantial support for the hypothesis was obtained. Hypothesis 2 stated that family process and family climate variables would be related to eating disorder tendencies and body image problems in college women. Bivariate correlational analyses provided support for this hypothesis. Hypothesis 3 stated that family climate variables would account for a significant level of unique variance in eating disorder tendencies, above and beyond the variance in eating disorder tendencies explained by family process variables. Hypothesis 3 was examined using a series of multiple regression analyses, which yielded significant support for the hypothesis. Hypothesis 4 stated that family process and family climate variables would moderate the effects of thin-ideal media on body image. This hypothesis was partially supported by a series of hierarchical multiple regression analyses. For example, family emphasis on body weight and shape was found

to be a significant moderator. Hypothesis 5 stated that certain personality factors would be related to eating disorder tendencies and body image problems in college women. This hypothesis was partially supported by results of bivariate correlational analyses. Hypothesis 6 stated that certain personality factors would moderate the effects of thin-ideal media on body image. This hypothesis was partially supported by a series of hierarchical multiple regression analyses. For example, Conscientiousness was found to be a significant moderator. Theoretical and applied implications of the findings are discussed. Limitations of the present study are noted, and recommendations for future research are presented. Overall, results of this study replicate past research showing that: (a) thin-ideal media has a negative influence on women's body image; and (b) certain family and personality factors are associated with eating disorder tendencies in college women. Moreover, the results extend the literature by providing preliminary evidence that certain family and personality factors moderate the effects of thin-ideal media on body image.

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

Eating Disorders such as anorexia nervosa (AN) and bulimia nervosa (BN) are becoming more and more common among young females. Research suggests that exposure to the thin-ideal in the media is a possible contributor to the development of eating disorders. Groesz, Levine, and Murnen (2002) conducted a meta-analysis of 25 studies that examined the effect of thin media images on body satisfaction. The results showed that body image was significantly more negative after viewing thin media images than after viewing average size models, plus size models, or inanimate objects (Groesz et al., 2002). However, there is a lack of research identifying variables that moderate the effects of media on body image and eating disorder tendencies.

Research has focused on the family factors that are associated with eating disorder tendencies (Laliberte, Boland, & Leichner, 1999). Preliminary research suggests that the family factors may moderate the effects of thin-ideal media images on eating disorders, specifically in college women (Ferrell & Reeb, 2006). Other research has focused on Big Five personality factors that are associated with eating disorder tendencies (Bollen & Wojciechowski, 2004). For instance, one factor that has been found to be associated with eating disorder tendencies is neuroticism (Bollen & Wojciechowski, 2004). Some researchers have also hypothesized that neuroticism, as well as other personality factors, moderate the effects of thin-ideal media on body image (Ghaderi & Scott, 2000; Heaven, Mulligan, Merriless, Woods, & Fairooz, 2001). The purpose of this study is to examine

the extent to which family factors and personality factors moderate the effects of thin-ideal media on body image in young adult college women.

In research, there has often been confusion regarding moderator versus mediator variables, and so a brief description and differentiation of these terms is warranted. According to Frazier, Tix, and Barron (2004, pp. 116), "a moderator is a variable that alters the direction or strength of the relation between a predictor and an outcome." When testing for moderator effects, the question that is being asked is "when" or "for whom" a variable most strongly predicts or causes an outcome variable. A good example of this is when an effect of a variable is greater for one gender than it is for the other. Basically, a moderator effect is an interaction where the effect of one variable depends on the level of another. In contrast, Frazier et al. (2004, pp. 116) describe a mediator as "a variable that explains the relation between a predictor and an outcome." In other words, a mediator is "the mechanism through which a predictor influences an outcome variable" (p. 116). For example, if the reason that counseling is effective in improving well-being is that it increases social support, then social support is a mediator of the effects of counseling on well-being. Thus, given the above definitions of the terms of moderating and mediating variables, it is clear that family factors and personality variables are hypothesized moderator variables in the current study. That is, certain family and personality factors are hypothesized to moderate the effects of thin-ideal media on body image. For example, one hypothesis to be examined is that thin-ideal media will have a more negative effect on body image for individuals high on neuroticism than for individuals low on neuroticism.

The introduction will be divided into five main sections. The first section will include a description of AN and BN, according to the criteria listed in the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM). The second section will cover the various findings from researchers regarding the effects of media on body image and eating disorder tendencies. In the third section, research showing that certain family variables are associated with eating disorder tendencies will be reviewed, and preliminary research suggesting that these family variables moderate the effects of thin-ideal on body image will also be considered. The fourth section will review research examining the relationship between the five-factor model of personality and eating disorder tendencies, and this section will also consider the hypothesized role of personality in moderating media effects on body image. The fifth section will lay the groundwork for the present study and will state the hypotheses being tested.

<u>Description of Eating Disorders</u>

According to the DSM-IV-TR, Anorexia Nervosa (AN) and Bulimia Nervosa (BN) are two specific eating disorders that are characterized by severe disturbances in eating behavior (American Psychiatric Association, 2000). In order to meet the diagnosis for AN, there must be a refusal to maintain body weight at or above a minimally normal weight for age and height. This can occur through weight loss that leads to maintenance of body weight less than 85% of what is expected or by failure to make an expected weight gain during a period of growth that leads to body weight less than 85% of that expected. In addition to low body weight, individuals who are diagnosed with AN must be intensely afraid of gaining weight or becoming fat, must exhibit a significant disturbance in the perception of the shape or size of his or her body, and postmenarcheal

females must have amenorrhea which is the absence of at least three consecutive menstrual cycles (p. 589).

Subtypes are used to "specify the presence or absence of regular binge-eating or purging during the current episode of AN" (p.585). The Restricting Type specifies that the individual has not engaged in binge-eating or purging behavior such as self-induced vomiting or the misuse of laxatives, diuretics, or enemas. The Binge-Eating/Purging Type specifies that the person has regularly engaged in binge-eating or purging behavior (American Psychiatric Association, 2000).

In order to meet the diagnosis of BN, an individual must have recurrent episodes of binge-eating and recurrent inappropriate compensatory behaviors to prevent weight gain. The binge-eating and inappropriate compensatory behaviors must both occur at least twice a week for 3 months. In addition, an individual with a diagnosis of BN must have a self-evaluation that is influenced by body shape and weight. Lastly, the disturbance does not occur exclusively during episodes of AN. An episode of binge-eating is characterized by eating, within any 2-hour period, an amount of food that is definitely larger than most people would eat during a similar period of time under similar circumstances and experiencing a sense of lack of control over eating during the episode. Inappropriate compensatory behaviors include "self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise" (p. 594).

As with AN, BN has two subtypes to "specify the presence or absence of regular purging methods used to compensate for binge-eating" (p. 591). The Purging Type indicates the person has regularly engaged in self-induced vomiting or the misuse of

laxatives, diuretics, or enemas. The Nonpurging Type indicates the person has used other inappropriate compensatory behaviors, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas (American Psychiatric Association, 2000).

In addition to clinically recognized eating disorders, there are also sub-clinical eating disturbances, where individuals fall between the two extremes of AN and BN. These sub-clinical individuals typically display some eating disordered behavior, but do not meet the full criteria for an eating disorder diagnosis. Some examples of sub-clinical eating disturbances include individuals who may engage in restrictive dieting, purging, fasting, or binge-eating behaviors, but not to the extent that warrants a clinical diagnosis (Moorhead, Staschwick, Reinherz, Giaconia, Striegel-Moore, & Paradis, 2003). Another example would be an individual who meets two or three of the four diagnostic criteria for AN, but not all criteria are met. There is evidence from research that suggests individuals with sub-clinical eating disturbances may be at an increased risk of developing a diagnosable eating disorder over the course of their lifetime (Herzog, Hopkins, & Burns, 1993). Individuals with sub-clinical eating disturbances are of particular concern in the current study because although clinical eating disorders are becoming increasingly common on college campuses, sub-clinical eating disturbances and generally elevated concerns with weight and body image seem to occur much more frequently in college students than in the general population (Killen, Taylor, Hayward, Haydel, Wilson, Hammer, Kraemer, Blair-Greiner, & Strachowski, 1996; Tylka & Subich, 2004).

Eating disorders, specifically AN and BN, are becoming more prevalent in our society. In the past three decades there has been a noticeable increase of eating disorders

in the United States (Levitt, 1997). Many factors contribute to the etiology of eating

disorders, and research suggests that a "biopsychosocial" model best explains the

etiology. The biopsychosocial model recognizes the influence of biological, social,

psychological, and cultural factors (Polivy & Herman, 2002). A comprehensive

discussion of etiological factors is beyond the scope of this Introduction. However, with

regard to cultural influences, exposure to thin-ideal media appears to contribute to the

development of body image problems and eating disorder tendencies, as already noted

(Groesz et al., 2002). The primary focus of this research project is the examination of the

extent to which certain family and personality factors moderate the effects of thin-ideal

media on body image in college women. In a related vein, the secondary purpose of the

project is to replicate past research in showing that: (a) certain family and personality

factors are associated with eating disorder tendencies and body image problems; and (b)

exposure to thin-ideal media has an adverse effect on body image.

<center>The Impact of Media on Eating Disorders</center>

Cultural factors, such as emphasis on appearance and emphasis on being thin,

have been examined as possible contributors to eating disorders. For instance, the

introduction of western television in Fiji has received much attention, specifically the

way it impacted ethnic Fijian adolescent girls' identity and body image (Becker, 2004).

Before television was introduced, Fijian girls were not overly concerned with their bodies

or shape and weight. The Fijian culture did not emphasize thinness; in fact their culture

valued robust bodies and voracious appetites. With the introduction of western television

and American ideals, Fijian girls became increasingly concerned about their bodies

(Becker, 2004).

Thus, media is one of the main threads of western culture. Everyday millions of people are constantly surrounded with some type of media, whether it is billboards advertising above the highways, magazines and ads showing up in our mail, Internet access at our fingertips, or television broadcasted into our homes. Young adults, especially women, look to the media to define themselves. Women are at a disadvantage compared to men according to Kiang and Harter (2006) because there is more emphasis on them to be attractive and thin. Over the years, the size of models represented in the media has grown increasingly thinner. Research has shown that the thin-ideal portrayed in the media today is a factor in developing a negative body image as well as eating disorder tendencies, and the studies highlighted below represent a selective review of research in this area.

Changes in Model Size

One of the most famous and frequently cited studies regarding body size representation in the media was Garner and Garfinkel's (1980) study that explored Miss America Pageant contestants and Playboy centerfolds from 1959-1978. They found that pageant contestants decreased in weight significantly each year and that the winners of the pageants weighed significantly less than the other contestants. The Playboy centerfolds were also found to weigh significantly less towards the end of the 20-year period, along with a significant reduction in the bust, waist, and hip measurements. During this same time period, the average normal weight of U.S. women under age 30 actually increased 5-6 pounds. Interestingly, women's magazines were found to have significantly more diet articles within this same time frame (Garner & Garfinkel, 1980).

In a continuation of Garner and Garfinkel's (1980) study, Wiseman, Gray, Mosimann, and Ahrens (1990) investigated the weight loss trend from 1979-1988. They found that 69% of the Playboy centerfolds and 60% of the pageant contestants weighed at least 15% less than what was expected of them according to height and weight charts. As with the previous study, this study also found increased diet articles in magazines as well as increased normal weight range of American woman. The prevalence of eating disorders in the United States during this time period increased as well (Wiseman et al., 1990). While there is no recent study examining the continuing trends of representation of body size in the media, it would appear that the trend continues, since the current issue of the DSM states that "the incidence of AN appears to have increased in the recent decades (American Psychiatric Association, 2000)." In addition, Knapp (2003) states in her book that "eating disorders are the third most common chronic illness among females in the united states and that 15% of young women have substantially disordered attitudes and behaviors toward food and eating."

Types of Media

Various types of media have been studied and used in experiments in order to determine the effect they have on body image and eating disorders. The most common forms of media used are photographs of thin or heavy models taken from popular women's magazines coupled with neutral advertisements and television shows or commercials that feature thin or heavy actresses. The results have varied somewhat, with some experiments finding significantly more negative body image after exposure to the thin-ideal media and others finding no change in body image or even a more favorable view of body image.

Television Commercials and Magazine Photos. A recent meta-analysis conducted by Groez, Levine, and Murnen (2002) examined numerous thin media experiments to determine if there was an overall significant result of more negative body image after viewing thin media when combining similar studies. Twenty-five studies were analyzed, and it was found that body image was significantly more negative after viewing thin media images than after viewing average size models, plus size models, or inanimate objects (Groez, Levine, & Murnen, 2002). The findings suggested that the effect size was stronger when participants were less than 19 years old, when a between-subjects design rather than a within-subjects design was used, and when less than 10 images were viewed (Groez, Levine, & Murnen, 2002). Their reasoning behind the stronger effect size with less than 10 images was that the experimental effect is seen most clearly when first viewing the images; in other words, the initial activation of the thin-ideal is stronger than the continued cultivation of it (Groez, Levine, & Murnen, 2002).

Brown and Dittmar (2005) conducted an experiment that examined the thin-ideal internalization at various attention levels. Seventy-five women with an average age of 21.23 were randomly assigned to one of three conditions: ultra-thin models with high attention (10 second exposure time), ultra-thin models with low attention (150 millisecond exposure time), and neutral advertisements that featured no models. Participants filled out various measures assessing thin-ideal internalization and body-focused anxiety post test only.

All of the images that were used in the study were taken from Marie Claire and Elle magazines. The 10 control images were advertisements for cars or drinks and the 5 experimental images were chosen from a pilot study. The pilot study had 10 participants,

who were not in the experimental study but from the same population, rank images of models according to how thin they were. They rated 10 images and the top 5 images were chosen. These top 5 images contained women models that were rated by the 10 participants as "attractive and the epitome of the thin-ideal."

Results indicated that exposure to the ultra-thin models increased body-focused anxiety for women who had a strong sense of thin-ideal internalization. To measure thin-ideal internalization, the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ) was used. The scale used to measure body-focused anxiety was the Physical Appearance State and Trait Scale (PASTAS). It indicated that body-focused anxiety was present after viewing thin-ideal media, but not after viewing neutral media, with the high attention group showing significantly more body-focused anxiety than the low attention group (Brown & Dittmar, 2005).

In a study conducted by Hawkins, Richards, Granley, and Stein, (2004), college women were exposed to either 40 full page photos from the summer 1996 issues of Cosmo, Vogue, and Glamour or 40 advertisements not containing people selected from the same issues. After 30 minutes of viewing either condition, questionnaires were completed to measure body dissatisfaction and eating disorder symptomalogy. In other words, participants filled out measures post test only. The Anorexia Bulimia Inventory (ABI) indicated that the college women who were exposed to thin-ideal media images manifested more body dissatisfaction and more eating disorder symptomalogy compared to the college women who viewed neutral images. However, the results from the SATAQ measure indicated that the control group and woman without eating disorders showed a greater internalization of the thin-ideal. One explanation the researchers gave for the

lower internalization in the experimental and eating disorder groups was that the participants may be reluctant to endorse images that have or are currently causing them personal emotional distress. The participants could be angry or anxious that thin media images have an affect on them, and therefore, not want to associate with them or acknowledge their affect. Another possible explanation is that woman may theoretically reject sociocultural attitudes about thinness but still be adversely affected emotionally by exposure and continue to pursue thinness. This explanation suggests that the images affect the participants at an unconscious level (Hawkins et al., 2004).

Exposure Self-Reports. In a longitudinal study conducted by Vaughan and Fouts (2003), effects of television and magazine exposure in 374 adolescent girls aged 9.8-14.3 years were examined. Girls were asked to report the number of hours they spent watching television each day of the week and were asked to rate 22 magazines on how often they read each one. They also completed a measure of eating attitudes, the Children's Eating Attitude Test (CHEAT). The CHEAT contains subscales that measures eating disorder tendencies as well as body image preoccupation. Participants were given all of the measures at Time 1 (pre) and again 16 months later at Time 2 (post).

Results showed that girls who had increased eating disorder symptomatology had significantly increased their exposure to fashion magazines while their television exposure decreased. Girls that decreased in eating disorder symptomatology had significantly decreased their exposure to both forms of media (Vaughan & Fouts, 2003). This finding lends support to the hypothesis that print media affects females more than televised media. According to Vaughan and Fouts (2003), "magazines are more likely to involve a greater emotional investment, a closer examination of thin models, and a

greater degree of social comparison than television." The reason is hypothesized to be that it takes more concentration and focus when viewing print media, and so individuals tend to scrutinize over the pictures more. When viewing television, it may be the case that there is more attention to what is going on in the plot rather than focusing on physical appearances and there is also the possibility of engaging in other distracting activities while viewing television. Although this study involved participants that were much younger than the college-aged population of the current study, the finding that print media affects females more than televised media contributed to the decision to use print media, therefore it was important to review the findings.

Pro-Anorexia Websites. With an increase in Internet use and web-based technology, eating disorders are now being portrayed over the web. A pilot study conducted by Bardone-Cone and Cass (2006), examined the impact of viewing pro-anorexia websites on body image. Pro-anorexia websites are websites that explicitly encourage extreme thinness and these websites encourage the belief that eating disorders are a lifestyle and not a disorder. Twenty-six undergraduate females with ages ranging from 18-20 were randomly assigned to view either a prototypical pro-anorexia website, a website on female fashion that featured average size models, or a website about home decor that was appearance neutral for 25 minutes. Participants completed questionnaires before and after viewing one of the websites. The brief Positive and Negative Affect Schedule scales (PANAS) assessed positive and negative affect. To measure self-esteem fluctuations, the State Self-Esteem Scale (SSES) was administered. In addition, appearance self-efficacy was assessed by using a modified version of the general subscale of the Self-Efficacy Scale. Results indicated that viewing the pro-anorexia website

decreased perceived attractiveness, installed a perception of being overweight, and decreased view in ability to obtain desired weight or shape (Bardone-Cone & Cass, 2006).

Family Factors and Eating Disorders Tendencies

In this section, past research on the family factors relating to eating disorder tendencies and negative body image are reviewed and the moderators of negative body image and eating disorder tendencies are discussed. The two types of family factors discussed are family process variables and family climate variables. *Traditional family process variables* refer to the family's general communication patterns, emotional connectedness, expressive tendencies, and behavioral proclivities (Laliberte et al., 1999). Certain maladaptive family process variable, such as high levels of conflict, extremely high or low levels of cohesion (i.e., enmeshment versus disengagement), low levels of expressiveness, have been found to contribute to a variety of mental health problems in family members, including eating disorders. In the literature of eating disorders, *family climate variables* refer to the content of what is expressed, valued, or modeled in the family environment, and certain family climate variables (i.e., family concern for weight and shape, perceptions of the family's concern for social appearances, and perceptions of the family's emphasis on achievement) are specifically associated with the development of eating disorders in family members (Laliberte et al., 1999).

The Role of Traditional Family Process Variables in Eating Disorder Pathology

Theorists have argued that the family process variables discussed below are contributing sources in the etiology of eating disorders (Humphrey & Stern, 1988). However, there is greater evidence to suggest that these family process variables have a

nonspecific relationship to individual psychopathology, rather than to disturbed eating behaviors specifically (Johnson & Flach, 1985). The three main family process variables that have been associated with significant dysfunction in families in general are lack of expressiveness, excessive cohesion (enmeshment), and conflict. This research is reviewed below.

Expressiveness. Expressiveness can be defined on a continuum, with low expressiveness representing a lack of encouragement among families to express feelings directly and high expressiveness representing increased encouragement among families to express feelings directly (Moos & Moos, 1994). Research has shown that individuals with eating disorders perceive their families as being low in expressiveness. In a study by Kog and Vandereycken (1989), eating disorder patients viewed their families as less encouraging when it came to openly expressing feelings. Another study by Stern, Dixon, Jones, Lake, Nemzer, and Sansone (1989) found that individuals with eating disorders had families that were less supportive of one another and avoided open expression. Other researchers have found that parents of anorexics and bulimics were inconsistent when expressing affection; parents were ignoring their daughters' expression of need in some occasions and then over-indulging their expression of need on other occasions (Humphrey, 1989; McNamara & Loveman, 1990; Scalf-McIven & Thompson, 1989; Strober & Humphrey, 1987).

Cohesion. According to Minuchin (1974), family cohesiveness is defined as the level of connectedness, or the degree to which boundaries are permeable among family members, and families differ in regard to their locations on the "continuum of cohesiveness." Minuchin conceptualized family cohesiveness on a continuum with

"disengagement" at one end and "enmeshment" at the other end. At the disengagement end, families have overly rigid boundaries while at the enmeshment end boundaries are almost nonexistent and diffuse (Minuchin, 1974).

Minuchin, Rosman, and Baker (1978) refer to enmeshment as "an extreme form of proximity and intensity in family interactions." While being strictly on either end of the continuum can be harmful, classic research suggests that enmeshment may contribute to eating disorders. Anorexia in particular is thought to occur in part because of the lack of individuation and differentiation in their development that is typical in enmeshed families (Minuchin et al., 1978). It is theorized that AN might occur as a result of trying to establish an identity separate from the overly enmeshed family, AN individuals are trying to separate themselves, to differentiate themselves from the family. A recent study supported Minuchin's research when they found that, compared to non-eating-disordered women, women with anorexia reported more boundary problems with their mothers and fathers (Rowa, Kerig, & Gellar, 2001).

There is other research that suggests the disengagement end of the continuum may be a possible contributor to the development of eating disorders. Scalf-McIven and Thompson (1989) found that as bulimic symptomatology increases, commitment, help, and support from the family, which are associated with cohesion, decrease. In addition, Ordman and Kirschenbaum (1986) also found that degree of bulimia is negatively related to cohesion; in other words, it appears that, as family cohesion decreases (becomes disengaged), tendencies toward bulimia increase. Kog and Vandereycken (1989) also found a relationship between decreased cohesion and bulimia. Bulimic anorexics and

normal-weight bulimics perceived less cohesion in their families than did restricting

anorexics (Kog & Vandereycken, 1989).

Conflict. Another family variable that researchers have identified as contributing

to eating disorders is conflict (Byely, Archibald, Graber, & Brooks-Gunn, 2000). Many

studies have reported that bulimic individuals perceive their families having a high

degree of conflict (Ordman & Kirschenbaum, 1986; Kog & Vandereycken, 1989). In a

study by Lattimore, Wagner, and Gowers (2000), anorexic patients engaged in more

destructive communication with their mothers and they showed more disagreement,

blame, and negative affect than normal mother-daughter pairs.

Not only do eating disordered families have a higher degree of conflict, it has also

been found that eating disorder families tend to avoid conflict, possibly due to poor

conflict resolution. Moreno, Selby, Aved, and Besse (2000) found that eating-disordered

patients utilize poor conflict resolution, communication, and problem-solving skills. Kog

and Vandereycken (1989) found that eating disorder families tended to discuss fewer

disagreements. There is also a limitation to these studies. It could be the fact conflict

came after the onset of an eating disorder, which was not examined in these studies.

The Contribution of Family Climate Variables to Eating Disorders

Recently, research has identified specific family climate variables that have a

more specific link with eating disorders. In a study conducted by Laliberte, Boland, and

Leichner (1999) three "climate variables" were studied in addition to the "traditional

family process variables." These variables were thought to be distinct from the process

variables and were thought to contribute to eating disorder tendencies if present in the

family climate. The three family climate variables identified were family concern for

weight and shape, perceptions of the family's concern for social appearances, and perceptions of the family's emphasis on achievement. Laliberte et al. (1999) measured the three family climate variables by rewriting specific scales at the family level. The scale that they used to measure emphasis on achievement was the Family Achievement Emphasis Scale (FAES). The Body Shape Questionnaire (BSQ) was used to assess family concern for weight and shape. The Family Social Appearance Orientation Scale (FSAOS) was used to assess perceptions of the family's concern for social appearance. To measure the three family process variables, Laliberte et al. (1999) used the Family Environment Scale (FES). Analysis indicated that these climate variables explained 19% of the variance in disturbed eating behaviors and that it was a more powerful predictor of disturbed eating behaviors than the traditional process variables (e.g., conflict, cohesion, expressiveness).

Jessup and Reeb (2003) replicated and extended findings of Laliberte et al. (1999). That is, Jessup and Reeb found that, while traditional family process variables accounted for 17% of the variance in eating disorder tendencies, family climate variables accounted for 45% of the variance. These researchers also employed a hierarchical multiple regression analysis with a measure of general psychopathology entered at Step 1, traditional family process variables entered at Step 2, and family climate variables entered at Step 3. At Step 1, general psychopathology accounted for 41% of the variance in eating disorder tendencies. At Step 2, traditional family process variables accounted for a significant level of unique variance (7%). Finally, at Step 3, family climate variables accounted for a significant level (16%) of unique variance in eating disorder tendencies. In brief, this study showed that, even after controlling for the effects of

general psychopathology and traditional family process variables, family climate variables accounted for significant unique variance in eating disorder tendencies. Ferrell and Reeb (2006) observed similar findings.

Do family factors moderate the effects of culture on body image and eating disorder tendencies? Haworth-Hoeppner (2000) studied the role of family and culture in regards to the etiology of eating disorders. Past research has either focused solely on family factors or strictly cultural factors, and according to Haworth-Hoeppner (2000), they have taken an overly simplified approach. According to Haworth-Hoeppner (2000), the influence that culture has in the development of eating disorders is not direct, but rather moderated through groups such as the family. Walsh (1993) stated that the family acts as a mediator of culture by influencing the development of self and the self-image in young individuals. In Haworth-Hoeppner's (2000) study, in-depth interviews took place with 32 middle-class Caucasian women whose ages ranged from 21-44. Questions were asked regarding issues such as bodily satisfactions/dissatisfactions, sources of bodily identity, family relationships, and weight and identity in the culture. Approximately half of the participants had eating disorders. The results were analyzed using qualitative comparative analysis to identify family characteristics and their specific combinations that are associated with eating disorders. Results indicated three different combinations or "pathways" that were conducive to the outcome of an eating disorder, all of which included four main conditions: critical family environment, coercive parental control, unloving parent-child relationship, and main discourse on weight (Haworth-Hoeppner, 2000).

A study conducted by Ferrell and Reeb (2006) examined the extent to which family factors moderate the effects of self-objectifying media on eating disorder tendencies in college women. The study used 83 female undergraduates who viewed self-objectifying media, which consisted of a 12 minute video clip from the *Sports Illustrated* Swimsuit video. Participants filled out body image measures before and after viewing the media. The hypothesis that there would be a change in body image as a result of viewing self-objectifying media was partially supported. In addition, the hypothesis that family process and family climate variables would predict responsiveness to self-objectifying media exposure was partially supported. Specifically, women who rated their families higher in cohesion and expressiveness had more negative feelings toward their body parts that could be physically altered through controlling food intake after viewing self-objectifying media (Ferrell & Reeb, 2006).

<div align="center">Personality Factors and Eating Disorders Tendencies</div>

Several studies examined the extent to which eating disorders and body image relate to Big-Five personality factors. While one focus of the current study is personality variables as hypothesized moderators of media effects, literature searches in Psychinfo and Medline failed to find articles on this subject (search words: eating disorders, personality factors, body image, and media). Therefore, the following section will review the current research that examined the relationship between eating disorder tendencies and body image as they relate to the Big-Five personality factors, as well as discuss possible personality variables as moderators of media effects.

Bollen and Wojciechowski (2004) conducted a study that investigated the relationship between the Big-Five personality factors and AN and its subtypes. The Big-

Five personality factors were assessed with the NEO-Five Factor Inventory (NEO-FFI). Participants were patients from an eating disorders unit as well as normal controls. Bollen and Wojciechowski (2004) found that, compared to normal controls, restrictive subtypes of AN obtained higher scores on conscientiousness and agreeableness factors and both the restrictive and the binge-purge subtypes of AN obtained significantly higher scores on neuroticism. Bollen and Wojciechowski (2004) attribute the differences between their study and other studies measuring the Big-Five personality factors to the other studies using participants consisting of not only AN but also BN. There are well-established findings that personality variables may vary considerably between eating disorder diagnostic categories (Bollen & Wojciechowski, 2004).

The results from the Bollen and Wojciechowski (2004) study showed that AN patients with the subtype binge-purge are more impulsive than patients with the restrictive subtype, while the restrictive subtype patients are more constricted, conforming, and obsessive. The results also showed that patients with AN, regardless of subtype, are more emotionally unstable and more prone to psychological distress than normal controls (Bollen & Wojciechowski, 2004).

In a study by Ghaderi and Scott (2000), Big-Five personality dimensions were assessed in individuals from the general population who were diagnosed with a lifetime history of an eating disorder, those who had a first incidence of an eating disorder, and normal controls. The Big-Five personality dimensions were assessed from the Mini Markers, which is a shortened version of Goldberg's unipolar Big-Five Markers (Goldberg, 1992) developed by Saucier (Saucier, 1994). Results from the study indicated that those with a lifetime history of eating disorders reported significantly lower levels of

agreeableness, conscientiousness, and significantly higher levels of openness to experience and neuroticism when compared to the controls. The first incidence eating disorder participants reported lower agreeableness, and higher openness and neuroticism when compared to controls. The results showed a similar pattern between the life-time eating disorder participants and the first incidence eating disorder participants. This pattern (low on agreeableness and high on neuroticism and openness) may be regarded as a vulnerability for eating disorders and it may be helpful in explaining why certain interactions of some variables (e.g. coping, self-esteem, body concern, perceived social support, and dieting) result in eating disorders in some individuals but not in others. According to Ghaderi and Scott (2000), "the high level of openness may partly explain the susceptibility to the thin ideal in society that promotes dieting and restrictive eating, both of which are known risk factors for developing eating disorders, participants with high openness are imaginative and sensitive to art and beauty and have a rich and complex emotional life." Thus, these researchers suggest that the openness to experience trait may moderate the effects of media on body image and disordered eating.

Heaven, Mulligan, Merriless, Woods, and Fairooz (2001) found neuroticism and conscientiousness to be significantly related to disturbed eating behavior. In this study, differences between students emotional, external, and restrained eating were correlated with Big-Five personality factors as measured by the NEO-Personality Inventory (NEO-PI). Restrained eating was defined as the cognitive attempt to restrict weight gain through reduced caloric intake. Emotional eating was referred to as eating in response to negative emotions. External eating was defined as eating in response to external cues such as texture or olfactory cues instead of internal cues (hunger). External eaters were low on

conscientiousness and high on neuroticism. Restrained eating was significantly associated with high neuroticism, conscientiousness, and openness. Emotional eating was significantly associated with low conscientiousness and high neuroticism (Heaven et. al, 2001).

The fact that patterns of association between eating pathology and personality traits can be found is of interest to the current study. Even though results from previous studies appear to have somewhat different findings, a tentative hypothesis is that higher scores on neuroticism, conscientiousness, and openness to experience are associated with eating disorder tendencies and body image problems. This study will extend the literature by examining the extent to which the Big Five personality factors moderate effects of media on body image.

The Present Study

The present study replicates part of the Ferrell and Reeb (2006) study, specifically the finding that family climate variables account for unique variance in eating disorder tendencies and body image problems above and beyond what is accounted for by family process variables. However, there are many aspects of body image and eating disorder tendencies that are explored in the present study that were not explored in the Ferrell and Reeb (2006) study. One difference is that the present study used a control group. Ferrell and Reeb (2006) only used an experimental group in their study. In addition, the present study examined the internalization of thin-ideal media, while Ferrell and Reeb (2006) examined the self-objectification of women in the media. The two different objectives in the studies led to the use of two very different media images, the present study used more extreme thin models, while Ferrell and Reeb (2006) used more normal and physically fit

models. Lastly, the present study used print media, while Ferrell and Reeb (2006) used television media. Past research on the effects of media on body image has shown that more of an effect is displayed with print media, while television media does not show much of an effect.

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

1. Replicating past studies, body image will become more negative after viewing thin ideal media, while body image will remain stable after viewing neutral media.

2. Replicating past research, both family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearances, and family's excessive emphasis on achievement) will be related to eating disorder tendencies and body image problems.

3. Again replicating past studies, family climate variables will account for unique variance in eating tendencies and body image problems, above and beyond variance accounted for by family process variables. Further, it is anticipated that results will also extend the literature, since family climate variables are expected to account for unique variance in eating disorder tendencies after controlling for personality effects.

4. Family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable

appearance, and family's excessive emphasis on achievement) will moderate the effects of thin ideal media on body image.

5. Based on preliminary research, certain personality factors (high scores on Neuroticism, Openness to experience, and Conscientiousness) are expected to be related to eating disorder tendencies.

6. Personality variables (high Neuroticism, Openness to experience, and Conscientiousness) will moderate the effects of thin ideal media on eating disorder tendencies and body image problems.

CHAPTER II

METHOD

Participants

The sample consisted of 96 female undergraduate students between the ages of 18 and 25 at a private Midwestern university. Participants were recruited from Psychology 101 (Introductory Psychology) and received course related credit for their participation. Prior to data collection, the study was approved by the Research Review and Ethics Committee, Department of Psychology, University of Dayton. Procedures complied with the Ethical Principles of Psychologists (American Psychological Association, 2002). The correlations between the demographic variables and other variables examined in this present study can be seen in Table 1.

Measures

Demographic Questionnaire

The Demographic Questionnaire (Appendix A) was filled out pre media viewing. The questionnaire requests background information that includes the individual's age, height, weight, ethnicity, and desired weight. In addition the form requests parents' education levels as an index of socioeconomic status. Each participant was assigned two socioeconomic statuses, one for their mother and one for their father. The scale representing socioeconomic status is as follows: 1 indicates completing grade school and/or high school; 2 indicates completing some college or graduating from college; 3 indicates completing some graduate work or a master's degree; and 4 indicates earning a professional degree, such as a Ph.D. or M.D. As a secondary indicator of socioeconomic

status, participants were also asked to disclose their fathers' and mothers' annual income. The questionnaire also requests information regarding whether the individual is currently involved in therapy with a mental health practitioner. Finally, the questionnaire requests information regarding the current marital status of the individual's biological parents.

Traditional Family Process Variables

The Family Environment Scale (FES; Appendix B; Moos & Moos, 1994) was used to assess the extent to which individuals view their families possessing characteristics related to the family process variables. This scale was administered pre-media viewing in the group setting in the present study. The FES is a 90 item "true" or "false" measure that assesses 10 dimensions of family environment, including Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Religious Emphasis, Organization, and Control. The 10 subscales assess three underlying sets of dimensions, including the Relationship Dimension, the Personal Growth Dimension, and the System Maintenance Dimension. The Achievement Orientation subscale was used by Laliberte et al. (1999) in addition to other items to measure level of family achievement, therefore this subscale will be described in a different section.

The subscales that comprise the Relationship Dimension are the Cohesion Subscale, the Expressiveness Subscale, and the Conflict Subscale. The Cohesion Subscale measures the degree of commitment, help, and support family members provide for one another with low scores representing a lesser degree of these. The Expressiveness Subscale measures the extent that family members are encouraged to express feelings directly with low scores representing a lack of encouragement. The Conflict Subscale

measures the amount of openly expressed anger and conflict among family members with low scores representing a lack in the expression of these.

The Personal Growth and System Maintenance Dimensions assess the linkages between the families and the larger social context and the internal family functioning respectively. The subscales included in the Personal Growth Dimension are the Independence Subscale, the Achievement Orientation Subscale, the Intellectual-Cultural Orientation Subscale, the Active-Recreational Orientation Subscale, and the Moral-Religious Emphasis Subscale. The Independence Subscale measures the extent to which family members are assertive, self-sufficient, and make their own decisions with low scores indicating a lack of these qualities. The Achievement Orientation Subscale measures how much activities are cast into an achievement-oriented or competitive framework with low scores representing a lack of competitive nature in activities among family members. As stated previously, the Achievement Orientation Subscale was used by Laliberte et al. (1999) to measure the family climate variable achievement emphasis, therefore more information on this will be provided under the family climate section. The Intellectual-Cultural Orientation Subscale measures the level of interest in political, intellectual, and cultural activities with low scores indicating lower interests. The Active-Recreational Orientation Subscale measures the amount of participation in social and recreational activities with low scores representing lower participation. The Moral-Religious Emphasis Subscale measures the emphasis on ethical and religious issues and values with low scores representing less emphasis.

The System Maintenance Dimension is comprised of the Organization Subscale and the Control Subscale. The Organization Subscale measures the degree of importance

of clear organization and structure in planning family activities and responsibilities with low scores indicating a lesser degree of importance. The Control Subscale measures how much set rules and procedures are used to run family life with low scores indicating a lesser degree of set rules.

The FES does not yield an overall score; instead a total score for each of the ten dimensions is calculated. This scale is a measure that is commonly used in family therapy and research. In regards to reliability, prior research suggests that internal consistency is acceptable, with alpha coefficients ranging from .61 to .78 across the subscales. Test-retest reliability at two months ranged from .68 to .86 across the subscales, and at four months it ranged from .64 to .86. The FES has also demonstrated sufficient evidence of acceptable validity with multiple populations, including young women with eating disorders. For example, scales on the FES correlate with corresponding measures of family variables such as cohesiveness, expressiveness, conflict, achievement orientation, and systems maintenance (Moos & Moos, 1994).

Family Climate Variables

Emphasis on Social Appearance. The Family Social Appearance Orientation Scale (FSAOS; Appendix C) was used to assess the extent to which individuals view their families possessing characteristics related to the family climate variables, specifically the families concern for social appearances. This scale was administered pre-media viewing in the group setting in the present study. The FSAOS consists of seven true-false items from the Public Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975) rewritten to analyze the family, in addition to nine items added by Laliberte (1999) and colleagues. The nine items were added to further capture microlevel family behaviors

that were relevant in assessing social appearance orientation. An example of a rewritten item is as follows: "Family members are concerned about what other people think of them" instead of "I'm concerned about what other people think of me." The new scale contains 16 items that participants rated as either true or false. An item rated as false received a score of 0 and an item rated as true received a score of 1. Scores range from 0 to 16, with higher scores indicating perceptions of greater family orientation to social appearance. This measure assesses the family climate variable regarding socially desirable appearances, but it does not specifically measure family's focus on body image. This scale demonstrated acceptable internal reliability, with coefficients alpha ranging from .71 to .94 (Laliberte et al., 1999). Research has used this scale to demonstrate the relationship between eating disorders and family variables (Laliberte et al., 1999). The original Public Self-Consciousness Scale has high test-retest correlations ranging from .73 to .80, and has demonstrated validity in populations with social anxiety and eating disorders. For example, the FSAOS has been shown to correlate with the relevant family measures (Laliberte et al., 1999).

Concern for Body Weight and Shape. The Body Shape Questionnaire (BSQ; Appendix D; Cooper, Taylor, Cooper, & Fairburn, 1987) was used to assess the extent to which individuals view their families possessing characteristics related to the family climate variables, specifically the families concern for weight and shape. This scale was administered pre-media viewing in the group setting in the present study. The BSQ consists of 34 items that measure concerns about body shape, which is a central feature of eating disorders. These 34 items were rewritten at the family level by Laliberte (1999) and colleagues to assess the participant's perception of their family's concern regarding

weight and shape. For example, the statement "Has feeling bored made you brood about your shape?" was changed to "A family member has felt bored and brooded about her shape." Each item was rated by participants on a Likert scale ranging from 1 (never), 2 (rarely), 3 (sometimes), 4 (often), 5 (very often), and 6 (always). All the items were then summed to yield a composite score that ranges from 34 to 204. The composite score represents the participant's perception of the family's concern regarding weight and shape with higher scores indicating a perception of greater family concern with weight and shape. This measure specifically assesses the emphasis of focusing on body image at the family level, which is one of the family climate variables. Research indicates that the BSQ has acceptable internal reliability, with alpha coefficients ranging from .71 to .94. With regard to validity, Cooper et al. states that the concurrent and discriminate validity have been well established and the scale has been shown to be useful in predicting eating-disordered behaviors (Cooper et al., 1987).

Emphasis on Achievement. The Family Achievement Emphasis Scale (FAES; Appendix E, Laliberte et al., 1999) was used to assess the extent to which individuals view their families possessing characteristics related to the family climate variables, specifically the family's emphasis on achievement. This scale was administered pre-media viewing in the group setting in the present study. The FAOS consists of 25 true-false items. The scale contains 9 items from the Family Achievement Orientation subscale of the FES, as well as 16 items rewritten at the family level from the Achievement subscale of the Jackson Personality Research Form-E (Jackson, 1987). For example, the item "I enjoy difficult work" was changed to "Family members enjoy difficult work." Research indicates that the FAES has acceptable internal reliability, with

alpha coefficients ranging from .71 to .94 (Laliberte et al., 1999). The construct validity of the scale is demonstrated in the relationships between family variables and well-established measures of eating disturbances and self-esteem found in the Laliberte et al. (1999) study.

Measure of Personality

The NEO-Five Factor Inventory (NEO-FFI; Appendix F; Hoekstra, Ormel, & de Fruyt, 1996) was administered pre-media viewing in the group setting in the present study. The NEO-FFI is a shortened version of the NEO-Personality Inventory-Revised (NEO-PI-R; Costa & McCrae, 1992b). The NEO-FFI has a total of 60 items compared to 240 items on the NEO-PI-R. Each of the five factors (Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness) on the NEO-FFI is measured by a scale consisting of 12 questions. Each question can be answered on a 5-point scale from 'strongly disagree' to 'strongly agree.' The raw scores can vary from 12 to 60. The NEO-FFI has good internal consistency with values ranging from .76-.90. Regarding validity, correlations between the NEO-FFI and the NEO-PI-R domain scales are between .88 and .94 (Hoekstra, Ormel, & de Fruyt, 1996).

Measure of Eating Disorder Tendencies

The Eating Disorders Inventory-3 (EDI-3; Appendix G; Garner, 1991) was administered pre-media viewing in the group setting in the present study. The EDI-3 measures eating-disordered thoughts, habits, and behaviors. The scale consists of 91 items covering 12 dimensions, including Drive for Thinness, Bulimia, Body Dissatisfaction, Low Self-Esteem, Personal Alienation, Perfectionism, Interpersonal Insecurity, Interpersonal Alienation, Interoceptive Deficits, Emotional Dysregulation,

Asceticism, and Maturity Fears. Three of these dimensions (Drive for Thinness, Bulimia, and Body Dissatisfaction) are labeled the Eating Disorder Risk scales. An Eating Disorder Risk Composite (EDRC) can be calculated by summing the T scores for each of these subscales. Individuals who score high on these scales place them at an increased risk developing an eating disorder. The other nine dimensions represent psychological constructs that have conceptual relevance in the development and maintenance of eating disorders. High scores on these dimensions are indicative of symptomatic responses.

The EDI-3 items ask each participant to indicate the extent that the problem applies to them, ranging from 4 (always), 3 (usually), 2 (often), 1 (sometimes), and 0 (rarely or never). The items listed on the following subscales are reverse scored: Drive for Thinness Subscale (7, 11, 16, 25, 32, and 49); Bulimia Subscale (4, 5, 28, 38, 46, 53, 61, and 64); Body Dissatisfaction Subscale (2, 9, 45, 47, and 59); Low Self-Esteem Subscale (10, 27, and 41); Personal Alienation Subscale (18, 24, 56, and 84); Interpersonal Insecurity Subscale (34 and 87); Interpersonal Alienation Subscale (54, 65, and 74); Interoceptive Deficits Subscale (8, 21, 33, 40, 44, 51, 60, and 77); Emotional Dysregulation Subscale (67, 70, 72, 79, 81, 83, 85, and 90); Perfectionism Subscale (13, 29, 36, 43, 52, and 63); Asceticism Subscale (66, 68, 75, 78, 82, 86, and 88); and Maturity Fears Subscale (3, 6, 14, 35, and 48).

Internal consistency reliability alpha coefficients range from .44 to .93. Test-retest reliability administered between one and seven days apart had coefficients ranging from .86 to .98. The original EDI scale maintained a degree of convergent validity with other eating disorder scales, with correlations generally around .80 (Garner, Olmsted, & Polivy, 1984).

Measures of Perception of Body Weight and Shape

The Body Esteem Scale (BES). The BES (Appendix H: Franzoi & Shields, 1984) was administered pre and post media viewing in the individual setting in this study. The BES measures concern with body weight and shape. The scale consists of 35 items that ask respondents to indicate the valence and strength of their feelings toward their body weight and shape. For each item, a Likert-like scale is used, ranging from 1 ("Have strong negative feelings"), 2 ("Have moderate negative feelings"), 3 ("Have no feelings one way or the other"), 4 ("Have moderate positive feelings", and 5 ("Have strong positive feelings"). The BES does not yield a total score but three scores on each of the following subscales: Sexual Attractiveness, Weight Concern, and Physical Condition.

The Sexual Attractiveness Subscale measures women's attitudes toward body parts and functions related to facial attractiveness and sexuality. Scores on this subscale range from 10 to 50. The Weight Concern Subscale measures women's attitudes toward body parts that can be physically altered through controlling food intake. Scores on this subscale range from 9 to 45. The Physical Condition Subscale deals with women's attitudes toward their stamina, strength, and agility. Scores on this subscale range from 7 to 35. High scores on a subscale indicate positive feelings toward the attributes measured by the subscale and low scores represent negative feelings. In regards to reliability, the BES has demonstrated satisfactory reliability. For females, coefficients alpha were .78 for the attractiveness factor, .87 for the weight concern factor, and .82 for the general physical condition factor. The BES has also demonstrated convergent validity with other measures of self-esteem and has demonstrated satisfactory internal consistency (Franzoi & Herzog, 1986; Franzoi & Shields, 1984). Ferrell and Reeb (2006) showed that scores

on all three subscales of the BES decreased significantly in response to viewing self-objectifying media. In other words, there was a change from pre-to-post responses to media.

Difference scores will be created for certain analyses by subtracting participant's pre score from their post score. On the BES a high score indicates that an individual has better body image, while a low score indicates that an individual has more negative body image. A low difference score on the BES will mean that the individual's body image became more negative after viewing the media. A high difference score will mean that the individual's body image became more positive after viewing the media.

Physical Appearance State and Trait Scale: State (PASTAS). The PASTAS (Appendix I; Reed, Thompson, Brannick, & Sacco, 1991) was administered post media viewing in the individual setting in the present study. The 6-item PASTAS measures weight-focused anxiety by asking participants to rate on five-point Likert-type scales how anxious, nervous, or tense they feel "right now" about various body sites (0 = not at all to 4 = exceptionally so). The full state scale was shortened to include only six-weight related body sites (such as waist, hips or thighs). The original reliabilities for the full body-focused state anxiety scale range from .82 to .92 (Reed et al., 1991), and Halliwell & Dittmar (2004a) report .94 for the shortened scale. The studies reviewed that utilized this measure conducted post media assessment only (Brown & Dittmar, 2005); therefore, there is no available data to assess pre-to-post test changes.

Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ). The SATAQ (Appendix J; Heinberg, Thompson, & Stormer, 1995) was administered post media viewing in the individual setting in this study. The 8-item internalization subscale

of the SATAQ was used to measure thin-ideal internalization. Internalization is assessed by using statements such as, "I believe that clothes look better on thin models" or "Photographs of thin women make me wish I were thin," and participants were asked to indicate how much they agreed/disagreed with each statement. A five-point Likert-type scale was used (1 = completely disagree to 5 = completely agree). In regards to reliability, SATAQ demonstrated adequate reliability; Cronbach's alpha was .88 (Heinberg et al., 1995). The studies reviewed that utilized this measure conducted post media assessment only (Brown & Dittmar, 2005; Hawkins et al., 2004); therefore, there is no available data to assess pre-to-post test changes.

Positive and Negative Affect Schedule scales (PANAS). The PANAS scale (Appendix K) was administered pre and post media viewing in the individual setting in this study. The PANAS was used to assess positive and negative affect in the study by Bardone-Cone and Cass (2006). This scale was composed by Watson, Clark and Tellegen (1998) and is widely used to assess the impact of experimental manipulations on affect. The scale consists of 20 feelings and emotions that are rated on a five-point Likert-like scale, with 1 representing participants very slightly or do not feel emotion at the present moment and 5 representing participants extremely feel the emotion at the present moment. According to Bardone-Cone and Cass (2006), the coefficient alpha ranged from .86-.87 for positive affect (pre-and-post-website) and from .88-.90 for negative affect. Regarding validity, Bardone-Cone and Cass (2006) showed it is sensitive to fluctuations in measuring positive and negative affect changes in laboratory manipulations. Given the significant effects found when the PANAS is used pre-to-post in studies, this measure will be used as pre-to-post measure.

Difference scores will be created for certain analyses by subtracting participant's pre score from their post score. A high score on the positive affect subscale of the PANAS means that individual's have more positive affect. A low score on the positive affect subscale of the PANAS means that individual's have less positive affect. A high score on the negative affect subscale of the PANAS means that individual's have more negative affect. A low score on the negative affect subscale means that individual's have less negative affect. For the positive affect subscale, a low difference score indicates that an individual's positive affect decreased, while a high difference score indicates that an individual's positive affect increased. For the negative affect subscale, a low difference score indicates that an individual's negative affect decreased, while a high difference score indicates that an individual's negative affect increased.

State Self-Esteem Scale (SSES). The SSES scale (Appendix L) was administered pre and post media viewing in the individual setting in this study. The SSES scale was used by Bardone-Cone and Cass (2006) to measure state self-esteem. The scale is comprised of 20 questions assessing the current thoughts of participants. Participants are asked to rate each thought on a five-point Likert-like scale, with 1 indicating they are not thinking this at all to 5 indicating they are extremely thinking this thought at the present moment. The scale was composed by Heatherton and Polivy (1991) and, regarding validity, it is sensitive to fluctuations in measuring self-esteem changes in laboratory manipulations. In the study by Bardone-Cone and Cass (2006), alpha was .89 pre-website and .94 post-website. Regarding validity, Bardone-Cone and Cass (2006) showed it is sensitive to fluctuations in measuring self-esteem changes in laboratory manipulations.

Given the significant effects found when the SSES is used pre-to-post in studies, this measure will be used as pre-to-post measure.

Difference scores will be created for certain analyses by subtracting participant's pre score from their post score. A high score on the SSES means that an individual has more positive self-esteem, while a low score on the SSES means that an individual has more negative self-esteem. A low difference score on the SSESS indicates that an individual's self-esteem decreased, while a high difference score indicates that an individual's self-esteem increased.

Appearance Self-Efficacy Scale (ApSES). The ApSES was administered pre and post media viewing in the individual setting in this study. Bardone-Cone and Cass (2006) used the ApSES scale (Appendix M) as a modified version of the general subscale of the Self-Efficacy Scale developed by Sherer et al. (1982). The scale consists of 17 items asking participants to rate each statement on how much it describes them in general in terms of body weight and shape. Each statement is rated on a five-point Likert-like scale, with 1 indicating disagreement to the statement and 5 indicating agreement with the statement. A sample item is: 'I feel insecure about my ability to develop my desired body weight and shape'. Prior use of the Appearance Self-Efficacy Scale yielded a coefficient alpha of .93 (Bardone-Cone & Cain, 2006). Regarding validity, Bardone-Cone and Cass (2006) showed it is sensitive to fluctuations in measuring self-efficacy changes in laboratory manipulations. In the study done by Bardone-Cone and Cass (2006), alpha was .90 pre-website and .86 post-website. Given the significant effects found when the ApSES was used pre-to-post in studies, this measure will be used as pre-to-post measure.

Difference scores will be created for certain analyses by subtracting participant's pre score from their post score. A high score the ApSES means that an individual has high appearance self-efficacy, while a low score means that an individual has low appearance self-efficacy. A low difference score indicates that an individual's appearance self-efficacy decreased, while a high difference score indicates that an individual's appearance self-efficacy increased.

<div align="center">Procedure</div>

Prior to the recruitment of participants and data collection, approval was obtained by the Research Review and Ethics Committee, Department of Psychology, University of Dayton. Participants were recruited from a pool of psychology students on a voluntary basis. The 96 participants signed up for a time slot, during which they read and signed a consent form (Appendix N). The following method allowed for an examination of the extent to which family and personality variables moderate (i.e., predict changes in) body image in response to thin-ideal media. The order in which measures were administered is illustrated in Table 1. Each participant completed the following measures prior to viewing the media in a group setting: the Demographic Questionnaire; Eating Disorder Inventory-3 (EDI-3); the Family Environment Scale (FES); the Family Social Appearance Orientation Scale (FSAOS); the Body Shape Questionnaire (BSQ); the Family Achievement Emphasis Scale (FAES); and the NEO-Five Factor Inventory (NEO-FFI).

Table 1

Order of Scale Administration for Participants

Measures Administered in a Group Setting:

> Demographic Questionnaire
> Eating Disorder Inventory-3 (EDI-3)
> Family Environment Scale (FES)
> Family Social Appearance Orientation Scale (FSAOS)
> Body Shape Questionnaire (BSQ)
> Family Achievement Emphasis Scale (FAES)
> NEO-Five Factor Inventory (NEO-FFI)

Measures Administered Individually:

Pre	Thin-Ideal Media	Post
Body Esteem Scale (BES)	⟶	Body Esteem Scale (BES)
PANAS	⟶	PANAS
SSES	⟶	SSES
ApSES	⟶	ApSES
		Also Post:
		PASTAS
		SATAQ

Footnotes:

1. PANAS is the abbreviation for the Positive and Negative Affect Schedule Scales.
2. SSES is the abbreviation for the State Self-Esteem Scale.
3. ApSES is the abbreviation for the Appearance Self-Efficacy Scale.
4. PASTAS is the abbreviation for the Physical Appearance State and Trait Scale: State.
5. SATAQ is the abbreviation for the Sociocultural Attitudes Towards Appearance Questionnaire

In addition, each participant completed the following psychometric instruments pre and post viewing the thin-ideal media during the individual setting: the Body Esteem Scale (BES); the Positive and Negative Affect Schedule Scales (PANAS); the State Self-Esteem Scale (SSES); and the Appearance Self-Efficacy Scale (ApSES). In the individual setting, the following measures were completed post media viewing only: the Physical Appearance State and Trait Scale (PASTAS); and the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ). In past research, these two measures have detected between group differences (i.e., differences in body image between individuals exposed to thin-ideal versus individuals exposed to neutral media) (e.g. Brown & Dittmar, 2005; Hawkins et al., 2004), but these measures have not been employed in within-group designs (i.e., pre-to-post changes in body image in individuals exposed to thin-ideal media versus those exposed to neutral media).

Participants were randomly assigned to the thin-ideal media group or the control group. The thin-ideal media consisted of models found on various fashion websites as well as images found to have an effect from previous studies. There were 10 thin model images. The control group participants viewed 10 magazine advertisements also taken from various websites, but the images included 10 advertisements containing no models. Both experiment and control groups viewed the media on computers. The images were presented so that each image was on the screen for a total of 10 seconds to obtain maximum exposure time. This was found to be the most potent exposure time in the study conducted by Brown and Dittmar (2006). Following participation, each participant was debriefed verbally, in addition to receiving a written debriefing form (Appendix O).

<u>Plans for Statistical Analysis</u>

In this subsection, each hypothesis will be reiterated and plans for data analysis will be delineated.

<u>Hypothesis 1</u>

<u>Hypothesis.</u> Replicating past studies, body image will become more negative after viewing thin ideal media, while body image will remain stable after viewing neutral media.

<u>Data Analysis Plan.</u> With the measures of body image as the dependent variables, a 2 X 2 Analysis of Variance (ANOVA) was employed, with one between-subjects factor (thin-ideal media vs. neutral media) and one within-subjects factor (pre vs. post). For each ANOVA that yielded a statistically significant interaction effect, post-hoc t-tests were employed to examine specific mean differences.

<u>Hypothesis 2</u>

<u>Hypothesis.</u> Replicating past research, both family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearances, and family's excessive emphasis on achievement) will be related to eating disorder tendencies and body-image problems.

<u>Data Analysis Plan.</u> Bivariate correlation coefficients were examined to determine the level of support for this hypothesis.

<u>Hypothesis 3</u>

<u>Hypothesis.</u> Again replicating past studies, family climate variables will account for unique variance in eating disorder tendencies and body image problems, above and

beyond variance accounted for by family process variables. Further, it is anticipated that results will also extend the literature, since family climate variables are expected to account for unique variance in eating disorder tendencies after controlling for personality effects.

Data Analysis Plan. With eating disorder tendencies as the dependent variable, a hierarchical multiple regression analysis was employed, with traditional family process variables and personality variables entered at Step 1 and family climate variables entered at Step 2. To test the hypothesis, the magnitude and level of statistical significance of R-squared was examined. As a follow-up, bivariate correlation coefficients were also examined.

Hypothesis 4

Hypothesis. Family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearance, and family's excessive emphasis on achievement) will moderate the effects of thin-ideal media on body image.

Data Analysis Plan. With the pre- to post-media body image difference score serving as the dependent variable, a hierarchical regression analysis was employed with condition (thin-ideal media vs. neutral media) and the family factor entered at Step 1, with the condition-by- family factor interaction effect entered at Step 2. To test the hypothesis, the magnitude and level of statistical significance of R-squared was examined. As a follow-up, correlations between family variables and body image were examined for different levels of condition (neutral vs. thin-ideal images).

The above data analysis procedure was employed for each family factor and dependent measure of body image. In other words, for each dependent measure of body image, a set of hierarchical multiple regression analyses (such as the one described above), was employed, with each specific analysis examining the interaction between condition and a different family factor.

Hypothesis 5

Hypothesis. Based on preliminary research, certain personality factors (high scores on Neuroticism, Openness to experience, and Conscientiousness) are expected to be related eating disorder tendencies.

Data Analysis Plan. Bivariate correlation coefficients were examined to determine the level of support for this hypothesis.

Hypothesis 6

Hypothesis. Personality variables (high Neuroticism, Openness to experience, and Conscientiousness) will moderate the effects of thin-ideal media on eating disorder tendencies and body image problems.

Data Analysis Plan. With the pre- to post-media body image difference score serving as the dependent variable, a hierarchical regression analysis was employed with condition (thin-ideal media vs. neutral media) and the personality factor entered at Step 1, with the condition-by-personality factor interaction effect entered at Step 2. As a follow-up, correlations between personality variables and body image were examined for different levels of the condition (neutral vs. thin-ideal media).

The above data analysis procedure was employed for each personality factor and dependent measure of body image. In other words, for each dependent measure of body

image, a set of hierarchical multiple regression analyses (such as the one described above), was employed, with each specific analysis examining the interaction between condition and a different personality factor.

CHAPTER III

RESULTS

The presentation of data analysis results is divided into six sub-sections. Each sub-section corresponds with the previously stated hypotheses, which can be found on pages 23 and 24.

Changes in Body Image in Response to Thin-Ideal Media

Hypothesis 1 indicated that body image will become more negative after viewing thin-ideal media, while body image will remain stable after viewing neutral media. This hypothesis was examined by conducting a series of 2 X 2 Analysis of Variance (ANOVA) procedures. Means and standard deviations for each group at each measurement point are provided in Table 2.

Before conducting an ANOVA on each measure, a 2 X 2 Multivariate Analysis of Variance (MANOVA) was employed, with one between-subjects factor (thin-ideal media vs. neutral media) and one within-subjects factor (pre vs. post). As expected, there was no significant effect for condition, $F(5, 90) = 1.91$; $p = .10$. As hypothesized, there was a significant effect for pre vs. post time administrations, $F = (5, 90) = 6.84$; $p < .001$. In addition, there was a significant interaction effect between condition and time, $F(5, 90) = 5.27$; $p < .001$.

As illustrated in Table 2, a 2x2 ANOVA was computed on the Weight Control subscale of the Body Esteem Scale (BES) with group (thin-ideal media vs. neutral media) as the between-subjects factor and time (pre vs. post viewing media) as the within-subjects factor. As hypothesized, the interaction between group and time was statistically

Table 2

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

Means and Standard Deviations for the Weight Control subscale of the BES

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	*SD*	*M*	*SD*
Thin-Ideal Group	32.94	8.90	30.67	9.76
Control Group	36.75	10.78	36.69	10.47

Means and Standard Deviations for the Physical Condition subscale of the BES

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	*SD*	*M*	*SD*
Thin-Ideal Group	30.15	6.33	28.54	7.09
Control Group	31.98	6.41	31.60	7.22

Means and Standard Deviations for the Sexual Attractiveness subscale of the BES

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	*SD*	*M*	*SD*
Thin-Ideal Group	49.50	6.71	47.23	7.79
Control Group	49.42	7.29	48.21	7.64

Means and Standard Deviations for the Positive Affect subscale of the PANAS

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	*SD*	*M*	*SD*
Thin-Ideal Group	26.02	7.70	22.96	7.50
Control Group	28.67	7.38	26.83	7.87

Note: BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule Scale; SSES = State Self-Esteem Scale; ApSES = Appearance Self-Efficacy Scale; PASTAS = Physical State and Trait Anxiety Scale; and SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire.

Means and Standard Deviations for the Negative Affect subscale of the PANAS

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	SD	M	SD
Thin-Ideal Group	15.71	5.94	17.04	7.36
Control Group	15.46	5.45	14.02	4.91

Means and Standard Deviations for the State Self-Esteem Scale (SSES)

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	SD	M	SD
Thin-Ideal Group	70.67	12.27	67.15	14.48
Control Group	71.88	13.42	73.27	15.26

Means and Standard Deviations for the Appearance Self-Efficacy Scale (ApSES)

Variable Pre/Post	Pre (n = 48)		Post (n = 48)	
	M	SD	M	SD
Thin-Ideal Group	54.52	13.67	53.46	15.16
Control Group	57.10	14.19	57.00	14.64

Means and Standard Deviations for PASTAS

Variable Post	Post (n = 48)	
	M	SD
Thin-Ideal Group	25.42	11.86
Control Group	17.90	12.13

Means and Standard Deviations for SATAQ

Variable Post	Post (n = 48)	
	M	SD
Thin-Ideal Group	107.04	23.43
Control Group	97.00	19.41

Note: BES = Body Esteem Scale; PANAS = Positive and Negative Affect Schedule Scale; SSES = State Self-Esteem Scale; ApSES = Appearance Self-Efficacy Scale; PASTAS = Physical State and Trait Anxiety Scale; and SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire.

significant, $F(1, 94) = 12.28$; $p = .001$. Follow-up t-tests were also computed in order to identify specific group differences. The two groups (thin-ideal media vs. neutral media) were not different at pre-media viewing, $t(94) = -1.89$; $p = .06$. As hypothesized, the following pattern was observed: (a) the thin-ideal media group changed in the clinical direction (i.e., increased concern about weight) from pre-media viewing to post-media viewing, $t(47) = 4.45$; $p = .001$; (b) in contrast, the neutral media group did not change from pre-media viewing to post-media viewing, $t(47) = .17$; $p = .87$.

Table 2 also shows the results of another 2x2 ANOVA that was computed on the Physical Condition subscale of the BES with group (thin-ideal media vs. neutral media) as the between-subjects factor and time (pre vs. post viewing media) as the within-subjects factor. As hypothesized, the interaction between group and time was statistically significant, $F(1, 94) = 5.66$; $p = .02$. Again, follow up t-tests were computed in order to identify the specific group differences. The two groups (thin-ideal media vs. neutral media) showed no differences at pre-media viewing, $t(94) = -1.41$; $p = .16$. The following pattern provided support for the hypothesis: (a) the thin-ideal media group changed in the clinical direction (i.e., increased concern about physical condition) from pre-media viewing to post-media viewing, $t(47) = 3.93$; $p = .001$; (b) in contrast, the neutral media group showed no change from pre-media viewing to post-media viewing, $t(47) = 1.18$; $p = .25$.

Another 2x2 ANOVA, which can be seen in Table 2, was computed on the Sexual Attractiveness subscale of the BES with group (thin-ideal media vs. neutral media) as the between-subjects factor and time (pre vs. post viewing media) as the within-subjects

factor. The interaction between group and time was not statistically significant, F (1, 94) = 2.66; p = .11.

For the Positive Affect subscale of the Positive and Negative Affect Scale (PANAS) another 2x2 ANOVA was computed, with group (thin-ideal media vs. neutral media) as the between-subjects factor and time (pre vs. post viewing media) as the within-subjects factor. The interaction between group and time was not statistically significant, F (1, 94) = 2.23; p = .14.

A 2x2 ANOVA was also computed for the Negative Affect subscale of the PANAS, with group (thin-ideal media vs. neutral media) as the between- subjects factor and time (pre vs. post viewing media) as the within-subjects factor. The interaction between group and time was statistically significant, F (1, 94) = 13.72; p = .001. Follow up t-tests were again computed in order to examine the differences between the two groups. The two groups (thin-ideal media vs. neutral media) were not different at pre-media viewing, t (94) = .22; p = .83. As hypothesized, the following pattern was revealed: (a) the thin-ideal media group changed in the clinical direction (i.e., increased negative affect) from pre-media viewing to post-media viewing, t (47) = - 2.64; p = .011; (b) in contrast, the neutral media group changed, but not in the clinical direction (i.e., decreased negative affect) from pre-media viewing to post-media viewing, t (47) = 2.61; p = .012.

Table 2 also shows results of another 2x2 ANOVA that was computed on the State Self-Esteem Scale (SSES) with group (thin-ideal media vs. neutral media) as the between-subjects factor and time (pre vs. post viewing media) as the within-subjects factor. The interaction between group and time was statistically significant, F (1, 94) =

19.21; p = .001. As with the above analyses, follow up t-tests were computed in order to identify specific group differences. The two groups (thin-ideal media vs. neutral media) showed no differences at pre-media viewing, t (94) = - .46; p = .65. The following pattern lends support to the hypothesis: (a) the thin-ideal media group changed in the clinical direction (i.e., decreased self-esteem) from pre-media viewing to post-media viewing, t (47) = 4.41; p = .001; (b) The neutral media group did not change from pre-media viewing to post-media viewing, t (47) = - 1.77; p = .083.

Lastly, a 2x2 ANOVA was computed on the Appearance Self-Efficacy Scale (ApSES) with group (thin-ideal media vs. neutral media) as the between- subjects factor and time (pre vs. post viewing media) as the within-subjects factor. The interaction between group and time was not statistically significant, F (1, 94) = .68; p = .41.

There were two body image measures that were used in this study that were administered at the post-only time period. The reason that these two measures were administered at the post-only time period was because past research only used these measures at post-time periods. In addition to exploring the group differences on the pre-to-post measures of body image, the post-only measures, Physical Appearance State and Trait Anxiety Scale (PASTAS) and Sociocultural Attitudes Towards Appearance Scale (SATAQ), were examined by computing independent sample t-tests to examine specific mean differences. As hypothesized, the two groups (thin-ideal media vs. neutral media) were different at post-media viewing for the PASTAS measure, t (94) = 3.07; p = .003, as well as for the SATAQ measure, t (94) = 2.19; p .03.

In summary, there were several dependent variables of body image that became more negative after viewing thin-ideal media. Two subscales of the BES (Weight

Concern and Physical Condition) showed a decrease in body image after viewing thin-ideal media. In addition, the Negative Affect subscale of PANAS showed a decrease in body image after viewing thin-ideal media. Lastly, the SSES showed a decrease in body image after viewing thin-ideal media.

Family Factors and Eating Disorder Tendencies

Hypothesis 2 stated that family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearances, and family's excessive emphasis on achievement) will be related to eating disorder tendencies and body image problems in college women. For this purpose, bivariate correlational analyses were employed, and correlational coefficients are provided in Table 3.

Family Process Variables as Predictors

Cohesion. As indicated in a previous section, a high score on the Cohesion Subscale indicates a greater degree of commitment, help, and support among family members (i.e., toward "enmeshment" with excessively permeable boundaries), whereas a low score on the Cohesion Subscale indicates a lesser degree of commitment, help, and support among family members (i.e., toward "disengagement" with overly rigid boundaries).

Cohesion was significantly and inversely correlated with 9 out of the 12 Eating Disorder Inventory-3 (EDI-3) subscales (i.e., Bulimia, Body Dissatisfaction, Low Self-Esteem, Interpersonal Alienation, Interoceptive Deficits, Emotional Dysregulation,

Table 3

Relationship Between Family Variables and Eating Disorder Tendencies

(N = 96)

	Family Environment Scale										BSQ TOT	FAES TOT	FSAOS TOT
	COH	EXP	CON	IND	ARO	ICO	ACO	MRE	ORG	COT			
EDI-3 Subscales													
Eating Disorder Risk Composite	**-.25**	**-.23**	.12	-.07	**-.30**	-.17	.09	-.03	-.07	.10	**.57**	.16	**.28**
	(.02)	**(.02)**	(.25)	(.53)	**(.003)**	(.10)	(.39)	(.74)	(.47)	(.33)	**(.001)**	(.12)	**(.005)**
Drive for Thinness	-.14	-.20	.06	.003	**-.21**	-.11	.10	.04	-.006	.05	**.52**	.15	**.30**
	(.16)	(.052)	(.57)	(.98)	**(.04)**	(.30)	(.34)	(.72)	(.95)	(.65)	**(.001)**	(.14)	**(.003)**
Bulimia	**-.27**	**-.31**	.14	-.08	**-.23**	-.13	.02	.09	-.12	.18	**.42**	.05	.17
	(.008)	**(.002)**	(.17)	(.46)	**(.02)**	(.21)	(.88)	(.38)	(.24)	(.09)	**(.001)**	(.66)	(.11)
Body Dissatisfaction	**-.26**	-.18	.13	-.10	**-.33**	-.19	.09	-.13	-.09	.09	**.54**	.17	**.25**
	(.01)	(.08)	(.22)	(.35)	**(.001)**	(.06)	(.39)	(.22)	(.37)	(.37)	**(.001)**	(.09)	**(.02)**
Low Self-Esteem	**-.31**	**-.31**	.14	-.02	-.14	**-.22**	.09	-.10	-.06	.12	**.38**	.20	.14
	(.002)	**(.002)**	(.16)	(.88)	(.16)	**(.03)**	(.38)	(.33)	(.57)	(.26)	**(.001)**	(.054)	(.16)
Personal Alienation	**-.31**	**-.37**	**.22**	-.14	**-.22**	-.19	.17	-.12	-.03	.14	**.38**	.18	**.21**
	(.002)	**(.001)**	**(.04)**	(.18)	**(.03)**	(.07)	(.09)	(.24)	(.75)	(.17)	**(.001)**	(.08)	**(.04)**
Interpersonal Insecurity	-.19	**-.31**	.18	-.09	-.14	-.08	.19	.07	-.07	.17	.12	**.21**	.17
	(.06)	**(.002)**	(.09)	(.38)	(.17)	(.43)	(.06)	(.49)	(.51)	(.09)	(.25)	**(.04)**	(.10)
Interpersonal Alienation	**-.29**	**-.36**	.19	-.11	-.13	**-.21**	.11	-.06	-.01	.17	**.28**	**.21**	**.26**
	(.004)	**(.001)**	(.07)	(.27)	(.22)	**(.04)**	(.27)	(.59)	(.92)	(.09)	**(.007)**	**(.04)**	**(.01)**
Interoceptive Deficits	**-.26**	**-.26**	**.24**	-.16	-.11	**-.22**	.12	-.14	-.01	.10	**.55**	.16	**.24**
	(.01)	**(.01)**	**(.02)**	(.11)	(.31)	**(.03)**	(.25)	(.17)	(.94)	(.31)	**(.001)**	(.12)	**(.02)**

	Family Environment Scale										BSQ TOT	FAES TOT	FSAOS TOT
	COH	EXP	CON	IND	ARO	ICO	ACO	MRE	ORG	COT			
EDI-3 Subscales													
Emotional Dysregulation	**-.36** (.001)	**-.29** (.004)	**.26** (.01)	-.06 (.60)	-.07 (.50)	**-.25** (.02)	.08 (.43)	-.02 (.83)	-.16 (.11)	.16 (.12)	.17 (.09)	.06 (.58)	.12 (.24)
Perfectionism	-.15 (.13)	-.16 (.13)	-.04 (.72)	.01 (.90)	-.12 (.24)	.03 (.74)	**.38** (.001)	.03 (.80)	.07 (.51)	.20 (.052)	.16 (.12)	**.39** (.001)	**.26** (.01)
Asceticism	**-.33** (.001)	**-.30** (.004)	**.22** (.03)	-.04 (.72)	-.06 (.57)	-.14 (.19)	.11 (.31)	.12 (.26)	.01 (.89)	**.26** (.01)	**.48** (.001)	.08 (.47)	.12 (.23)
Maturity Fears	**-.22** (.03)	-.19 (.06)	.19 (.06)	-.14 (.16)	-.06 (.55)	-.16 (.13)	.07 (.49)	-.05 (.65)	-.05 (.60)	.18 (.09)	**.37** (.001)	.10 (.33)	**.23** (.02)
Body Esteem Scale (Time 1)													
Sexual Attractiveness	**.32** (.001)	**.26** (.01)	**-.29** (.004)	**.31** (.002)	.03 (.78)	.13 (.21)	-.01 (.90)	-.002 (.98)	.13 (.22)	-.19 (.06)	**-.27** (.008)	.11 (.28)	.06 (.58)
Weight Concern	**.27** (.008)	**.25** (.01)	-.17 (.09)	**.22** (.03)	**.27** (.01)	**.22** (.03)	-.07 (.48)	.08 (.45)	.16 (.11)	-.12 (.25)	**-.51** (.001)	-.11 (.28)	-.19 (.06)
Physical Condition	**.45** (.001)	**.40** (.001)	**-.33** (.001)	**.32** (.001)	**.25** (.02)	.18 (.08)	-.14 (.19)	-.10 (.33)	**.27** (.01)	**-24** (.02)	**-.32** (.002)	-.13 (.20)	-.02 (.84)
(Time 2)													
Sexual Attractiveness	**.32** (.001)	**.26** (.01)	**-.25** (.01)	**.27** (.01)	.07 (.49)	.17 (.10)	-.10 (.32)	.02 (.85)	.19 (.07)	**-.21** (.04)	**-.38** (.001)	.05 (.60)	.06 (.54)
Weight Concern	**.26** (.01)	**.24** (.02)	-.17 (.10)	.19 (.07)	**.25** (.02)	**.23** (.03)	-.14 (.18)	.10 (.32)	.19 (.06)	-.13 (.20)	**-.57** (.001)	-.15 (.15)	-.19 (.06)
Physical Condition	**.42** (.001)	**.37** (.001)	**-.28** (.005)	**.31** (.002)	**.27** (.007)	.18 (.08)	-.14 (.17)	-.09 (.40)	**.28** (.006)	**-.27** (.007)	**-.37** (.001)	-.09 (.39)	-.01 (.89)

	COH	EXP	CON	IND	Family Environment Scale ARO	ICO	ACO	MRE	ORG	COT		BSQ TOT	FAES TOT	FSAOS TOT
Body Esteem Scale (Difference)														
Sexual Attractiveness	-.08	-.07	-.04	.04	-.11	-.13	**.22**	-.05	-.17	.08		**.34**	.11	-.03
	(.44)	(.50)	(.71)	(.73)	(.29)	(.22)	**(.03)**	(.61)	(.09)	(.44)		**(.001)**	(.28)	(.81)
Weight Concern	.003	-.002	.006	.06	.02	-.05	**.23**	-.09	-.11	.06		**.28**	.14	.04
	(.97)	(.98)	(.96)	(.56)	(.85)	(.65)	**(.03)**	(.38)	(.30)	(.56)		**(.005)**	(.17)	(.73)
Physical Condition	-.06	-.06	-.02	-.08	-.16	-.06	.06	-.004	-.13	.19		**.26**	-.08	-.01
	(.57)	(.54)	(.89)	(.46)	(.13)	(.55)	(.53)	(.97)	(.21)	(.07)		**(.01)**	(.43)	(.90)
Positive and Negative Affect Schedule Scales (Time 1)														
Positive Affect	.15	.15	-.18	.06	.17	.19	.05	.13	.09	-.06		-.08	-.10	-.06
	(.14)	(.15)	(.08)	(.57)	(.12)	(.07)	(.61)	(.23)	(.37)	(.60)		(.43)	(.34)	(.58)
Negative Affect	**-.34**	**-.31**	**.24**	-.10	-.07	**-.29**	.02	-.15	-.07	.18		**.33**	.01	.11
	(.001)	**(.002)**	**(.02)**	(.31)	(.47)	**(.004)**	(.81)	(.15)	(.49)	(.09)		**(.001)**	(.89)	(.28)
(Time 2)														
Positive Affect	.17	.18	**-.22**	.01	.16	.14	.004	.17	.20	-.09		-.04	-.05	-.02
	(.10)	(.08)	**(.03)**	(.89)	(.12)	(.17)	(.97)	(.12)	(.06)	(.38)		(.71)	(.64)	(.85)
Negative Affect	**-.30**	**-.30**	**.22**	-.15	-.12	**-.30**	.12	-.13	-.06	.13		**.44**	.14	.19
	(.003)	**(.003)**	**(.03)**	(.16)	(.25)	**(.003)**	(.30)	(.20)	(.54)	(.19)		**(.001)**	(.18)	(.07)
(Difference)														
Positive Affect	-.04	-.07	.09	.08	.002	.08	.09	-.09	**-.21**	.07		-.08	-.09	-.07
	(.68)	(.49)	(.38)	(.42)	(.99)	(.46)	(.38)	(.40)	**(.04)**	(.48)		(.46)	(.39)	(.51)
Negative Affect	.000	-.04	.01	-.09	-.09	-.06	.14	.000	-.001	-.04		**.24**	**.21**	.14
	(.99)	(.73)	(.95)	(.40)	(.39)	(.55)	(.17)	(.99)	(.99)	(.73)		**(.02)**	**(.04)**	(.16)

| | Family Environment Scale | | | | | | | | | | BSQ TOT | FAES TOT | FSAOS TOT |
	COH	EXP	CON	IND	ARO	ICO	ACO	MRE	ORG	COT			
State Self-Esteem Scale (Time 1)	.36 (.001)	.32 (.001)	-.32 (.002)	.18 (.09)	.19 (.07)	.21 (.04)	-.12 (.26)	.04 (.68)	.13 (.20)	-.20 (.052)	-.48 (.001)	-.07 (.48)	-.23 (.02)
(Time 2)	.36 (.001)	.35 (.001)	-.31 (.002)	.17 (.10)	.19 (.06)	.23 (.03)	-.17 (.09)	.11 (.29)	.21 (.04)	-.20 (.051)	-.54 (.001)	-.11 (.29)	-.22 (.04)
(Difference)	-.14 (.19)	-.18 (.07)	.09 (.37)	-.05 (.64)	-.09 (.39)	-.13 (.21)	.19 (.07)	-.18 (.08)	-.24 (.02)	.08 (.44)	.34 (.001)	.12 (.26)	.05 (.63)
Appearance Self-Efficacy Scale (Time 1)	.25 (.02)	.17 (.12)	-.31 (.002)	.09 (.37)	.21 (.04)	.09 (.41)	.00 (1.0)	.001 (.99)	.25 (.01)	-.07 (.52)	-.26 (.01)	.11 (.28)	.04 (.73)
(Time 2)	.23 (.02)	.19 (.06)	-.24 (.02)	.08 (.43)	.26 (.01)	.11 (.28)	-.03 (.81)	.01 (.92)	.29 (.004)	-.02 (.83)	-.31 (.002)	.06 (.55)	-.01 (.95)
(Difference)	-.01 (.92)	-.10 (.32)	-.13 (.23)	.01 (.89)	-.18 (.07)	-.08 (.43)	.07 (.52)	-.03 (.80)	-.14 (.17)	-.10 (.31)	.17 (.10)	.11 (.28)	.10 (.31)
Physical Appearance State and Trait Scale: State	-.22 (.03)	-.15 (.15)	.19 (.07)	-.10 (.34)	-.19 (.06)	-.12 (.25)	.09 (.37)	-.19 (.06)	-.24 (.02)	.06 (.58)	.55 (.001)	.17 (.09)	.21 (.04)
Sociocultural Attitudes Towards Appearance Questionnaire	-.22 (.03)	-.21 (.04)	.21 (.04)	.01 (.93)	-.10 (.32)	-.13 (.21)	.23 (.02)	.10 (.32)	-.10 (.33)	.15 (.14)	.37 (.001)	.24 (.02)	.23 (.03)

Note. COH = Cohesion; EXP = Expressiveness; CON = Conflict; IND = Independence; ACO = Achievement Orientation; ICO = Intellectual Cultural Orientation; ARO = Active Recreational Orientation; MRE = Moral Religious Emphasis; ORG = Organization; COT = Control; BSQ = Body Shape Questionnaire; FAES = Family Appearance Emphasis Scale; FSAOS = Family Social Appearance Orientation Scale

Asceticism, and Maturity Fears), and the correlations between the Cohesion Subscale and the other three EDI-3 subscales indicated nonsignificant inverse trends. This indicates that, as individuals report higher scores on the Cohesion Subscale (tending toward enmeshment), they tend to report fewer eating disorder tendencies; conversely, as individuals report lower scores on the Cohesion Subscale (tending toward disengagement), they tend to report more eating disorder tendencies.

The Cohesion subscale and the Weight Concern, Physical Condition, and Sexual Attractiveness subscales of the BES; the SSES; and the ApSES were significantly and positively correlated, which is consistent with the eating disorder correlations. Individuals who reported higher scores on the Cohesion Subscale (tending toward enmeshment) tended to report less body image disturbance, while individuals who reported lower scores on the Cohesion Subscale (tending toward disengagement) tended to report more body image disturbance. In addition, the Cohesion Subscale was significantly inversely correlated with the Negative Affect Subscale of the Positive and Negative Affect Scale (PANAS), which examines changes in feelings after viewing thin-ideal media, and this is consistent with the relationships observed between Cohesion and eating disorder tendencies.

Two measures were outlined in the Methods section as being administered at the post time interval only, the Physical Appearance State and Trait Anxiety Scale (PASTAS) and the Sociocultural Attitudes Towards Appearance Scale (SATAQ). Past research that utilized these measures conducted post media assessment only (Brown & Dittmar, 2005; Hawkins et al., 2004); therefore, there was no available data to assess pre-to-post test changes. These two measures were also significantly inversely correlated with

Cohesion Subscale, which is also consistent with the observed correlations between Cohesion and eating disorder tendencies.

Expressiveness. As indicated in a previous section, a high score on the Expressiveness Subscale represents greater encouragement to express feelings directly, whereas a low score indicates less encouragement to the open expression of feelings. The Expressiveness Subscale was significantly and inversely correlated with 8 out of the 12 EDI-3 subscales (i.e., Bulimia, Low Self-Esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Interoceptive Deficits, Emotional Dysregulation, and Asceticism), and Correlations between the Expressiveness Subscale and 4 out of the 12 EDI-3 subscales (i.e., Drive for Thinness, Body Dissatisfaction, Perfectionism, and Maturity Fears) indicated nonsignificant inverse trends. Overall, this suggests that as individual's families tended to encourage the open expression of feelings, individuals also reported fewer eating disorder tendencies. In contrast, individuals who reported that their families discouraged the open expression of feelings reported more eating disorder tendencies.

The correlations between the Expressiveness subscale and the Weight Concern, Physical Condition, and Sexual Attractiveness subscales of the BES and the SSES were significant and positive, which is consistent with the eating disorder correlations. Individuals who reported higher scores on the Expressiveness Subscale tended to report less body image disturbance, while individuals who reported lower scores on the Expressiveness Subscale tended to report more body image disturbance. In addition, the Expressiveness Subscale was significantly inversely correlated with the Negative Affect

Subscale of the PANAS and the SATAQ, and this is consistent with the correlation observed between Expressiveness and eating disorder tendencies.

Conflict. As indicated in a previous section, a high score on the Conflict Subscale represents an excessive amount of openly expressed anger and conflict among family members, whereas a low score represents a lesser amount of openly expressed anger and conflict among family members. The Conflict Subscale was positively and significantly correlated with 4 out of the 12 EDI-3 subscales (i.e., Personal Alienation, Interoceptive Deficits, Emotional Dysregulation, and Asceticism), and correlations between the Conflict Subscale and the other eight subscales indicated nonsignificant positive trends. This indicates that individuals who reported an excessive amount of openly expressed anger and conflict among family members also reported more eating disorder tendencies. Conversely, individuals who reported less openly expressed anger and conflict among family members reported fewer eating disorder tendencies.

The significant inverse correlations between the Conflict Subscale and Physical Condition and Sexual Attractiveness Subscales of the BES; the Positive Affect Subscale of the PANAS; the SSES; and the ApSES are consistent with the eating disorder correlations. Individuals who reported higher scores on the Conflict Subscale tended to report more body image disturbance, while individuals who reported lower scores on the Conflict Subscale tended to report less body image disturbance. In addition, consistent with the observed correlation between Conflict and eating disorder tendencies, the Conflict Subscale was significantly positively correlated with the Negative Affect Subscale of the PANAS, which examines changes in feelings after viewing thin-ideal media, and the SATAQ. This indicates that individuals who reported an excessive

amount of openly expressed anger and conflict among family members reported more body image disturbance. Conversely, individuals who reported less openly expressed anger and conflict among family members reported less body image disturbance.

Family Climate Variables as Predictors

Body Weight and Shape. As noted in the previous section, the Body Shape Questionnaire (BSQ) was the measure of the family climate variable (family's excessive concern regarding weight and shape). A high score on the BSQ indicates perceptions of greater family emphasis on body weight and shape, whereas a low score on the BSQ indicates perceptions of less family emphasis on body weight and shape. As illustrated in Table 3, the BSQ was significantly and positively correlated with 9 out of the 12 EDI-3 subscales (i.e., Drive for Thinness, Bulimia, Body Dissatisfaction, Low Self-Esteem, Personal Alienation, Interpersonal Alienation, Interoceptive Deficits, Asceticism, and Maturity Fears), as well as the Eating Disorder Risk Composite. This means that individuals who perceived their family as having a high emphasis on body weight and shape tended to report more eating disorder tendencies.

The significant inverse correlations between the BSQ and the Weight Concern, Physical Condition, and Sexual Attractiveness Subscales of the BES; the SSES; and the ApSES are consistent with the eating disorder correlations. Individuals who reported higher scores on the BSQ tended to report more body image disturbance, while individuals who reported lower scores on the BSQ tended to report less body image disturbance. Likewise, the BSQ was significantly positively correlated with measures of body image before and after viewing thin-ideal media (i.e., the Negative Affect Subscale of the PANAS; the PASTAS; and the SATAQ). This means that individuals who

perceived their family as having a high emphasis on body weight and shape tended to report more body image disturbance. In contrast, individuals who perceived their family as having low emphasis on body weight and shape tended to report less body image disturbance.

Socially-Desirable Appearances. As noted in the previous section, the Family Social Appearance Orientation Scale (FSAOS) was the measure of the family climate variable (family's excessive concern about socially-desirable appearances). A high score on the FSAOS indicates perceptions of greater family orientation to social appearance, whereas a low score on the FSAOS indicates perceptions of less family orientation to social appearance. As illustrated in Table 3, the FSAOS was significantly and positively correlated with 7 out of the 12 EDI-3 subscales (i.e., Drive for Thinness, Body Dissatisfaction, Personal Alienation, Interpersonal Alienation, Interoceptive Deficits, Perfectionism, and Maturity Fears), as well as the Eating Disorder Risk Composite. This means that individuals who perceived their family as having a high social appearance orientation tended to report more eating disorder tendencies.

The FSAOS was significantly inversely correlated with the SSES before and after viewing thin-ideal media, which is consistent with the correlations found with the FSAOS and eating disorder scores. This means that individuals who perceived their family as having a high social appearance orientation tended to report more body image disturbance. In contrast, individuals who perceived their family as having a low social appearance orientation tended to report less body image disturbance. In addition, consistent with expectations, the FSAOS was significantly positively correlated with the two post only measures (i.e., PASTAS and SATAQ). As described previously, these

measures were given at the post-only time interval due to past research using them as only post-only measures. This measure indicates that individuals who perceived their family as having a high social appearance orientation tended to report more body image disturbance, and individuals who perceive their family as having a low social appearance orientation tended to report less body disturbance.

Emphasis on Achievement. As noted in the previous section, the Family Achievement Emphasis Scale (FAES) was the measure of the family climate variable (family's excessive emphasis on achievement). A high score on the FAES indicates perceptions of greater family emphasis on achievement, whereas a low score on the FAES indicates perceptions of less family emphasis on achievement. As illustrated in Table 3, the FAES was significantly and positively correlated with 3 out of the 12 EDI-3 subscales (i.e., Interpersonal Insecurity, Interpersonal Alienation, and Perfectionism). This means that individuals who perceived their family as having a greater emphasis on achievement tended to report more eating disorder tendencies.

Likewise, the FAES showed significantly positive correlations on the Negative Affect Subscale of the PANAS after viewing thin-ideal media and the post-only SATAQ. This means that individuals who perceived their family as having a greater emphasis on achievement tended to report more body image disturbance.

The Unique Contribution of Family Climate Variables in Predicting Eating Disorder Tendencies and Body Image Problems

Hypothesis 3 stated that family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearances, and family's excessive emphasis on achievement) account for a significant

level of unique variance in eating disorder tendencies and body image problems, above and beyond the variance in eating disorder tendencies and body image problems that is explained by family process variables (expressiveness, excessive cohesion, and conflict). This hypothesis was examined by conducting a series of hierarchical multiple regression analyses, with a body image measure as the dependent variable for each analysis, and the family process measures entered at Step 1 and the family climate measures entered at Step 2. Results can be seen in Table 4.

As predicted, family climate variables entered at step two accounted for a significant level of variance in eating disorder tendencies, above and beyond the level of variance in eating disorder tendencies accounted for by the family process variables entered in step one for 9 out of the 12 subscales (Drive for Thinness, Body Dissatisfaction, Bulimia, Low Self-Esteem, Interpersonal Alienation, Interoceptive Deficits, Personal Alienation, Maturity Fears, and Asceticism) of the EDI-3, as well as the Eating Disorder Risk Composite. For 1 out of the 12 subscales (Perfectionism) of the EDI-3, the R Squared Change at step 2 approached statistical significance ($p < .10$), suggesting a tendency in the hypothesized direction.

Family Variables as Moderators of Thin-Ideal Media Effects on Body Image

Hypothesis 4 indicated that family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearance, and family's excessive emphasis on achievement) will moderate the effects of thin-ideal media on body image. This hypothesis and corresponding results were exploratory in nature due to the lack of studies on moderator variables in this research

Table 4

Hierarchical Multiple Regression Analysis Explaining Family Climate Variables as
Unique Predictors of Eating Disorder Tendencies and Body Image Problems

Eating Disorder Risk Composite	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.139	1.37	.21
Step 2: Family Climate Variables	.306	15.05	**.001**

EDI Drive for Thinness Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.084	0.76	.65
Step 2: Family Climate Variables	.275	11.75	**.001**

EDI Bulimia Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.171	1.75	.08
Step 2: Family Climate Variables	.149	5.97	**.001**

EDI Body Dissatisfaction Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.158	1.59	.12
Step 2: Family Climate Variables	.262	12.36	**.001**

EDI Low Self-Esteem Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.192	2.02	**.04**
Step 2: Family Climate Variables	.120	4.76	**.004**

EDI Personal Alienation Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.226	2.45	**.01**
Step 2: Family Climate Variables	.091	3.66	**.02**

EDI Interpersonal Insecurity Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.135	1.33	.23
Step 2: Family Climate Variables	.036	1.17	.33

EDI Interpersonal Alienation Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.181	1.88	.06
Step 2: Family Climate Variables	.087	3.25	**.03**

EDI Interoceptive Deficits Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.172	1.77	.08
Step 2: Family Climate Variables	.223	10.07	**.001**

EDI Emotional Dysregulation Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.205	2.19	**.03**
Step 2: Family Climate Variables	.020	0.70	.56

EDI Perfectionism Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.221	2.41	**.01**
Step 2: Family Climate Variables	.061	2.33	.08

EDI Asceticism Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.197	2.08	**.03**
Step 2: Family Climate Variables	.183	8.08	**.001**

EDI Maturity Fears Subscale	R^2 Change	F Change (df = 10, 85)	Significance of F Change
Step 1: Family Process Variables	.091	0.85	.59
Step 2: Family Climate Variables	.109	3.73	**.01**

Note: The Family Process Variables included the following: Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Religious Emphasis, Organization, and Control. The Family Climate Variables were represented by the Body Shape Questionnaire (BSQ) subscales, the Family Social Appearance Orientation Scale (FSAOS) Total score, and the Family Achievement Emphasis Scale (FAES) Total score.

area. The hypothesis was examined by conducting a series of hierarchical multiple regression analyses. With a pre-to-post-media body image difference score serving as the dependent variable for each hierarchical regression analysis, condition (thin-ideal media vs. neutral media) and a family factor were entered at Step 1, with the condition-by-family factor interaction effect entered at Step 2. To test the hypothesis, the magnitude and level of statistical significance of R^2-change at Step 2 was examined. The results of these analyses are summarized in Table 5.

As can be seen in Table 5, there was evidence that 5 out of thirteen family variables moderated the effect of thin-ideal media on at least one body image measure, which included the Organization, Intellectual Cultural Orientation, Active Recreational Orientation, and Conflict subscales of the Family Environment Scale (FES); and the Body Shape Questionnaire (BSQ). In addition, another 7 out of the thirteen family variables approached statistical significance, which included the Expressiveness, Cohesion, Achievement Orientation, Control, and Moral Religious Experience subscales

Several measures were observed to have than one moderator variable. One observation was that the BSQ (family emphasis on body weight and shape) was a moderator for 3 out of thirteen dependent variables, the Weight Control Subscale and Physical Condition Subscale of the BES and the Negative Affect Subscale of PANAS. This suggests that family emphasis on body weight and shape may play a role in moderating the effect of thin-ideal media on body image. Another observation was that the Family Organization Subscale of the FES was a moderator for 2 out of thirteen dependent variables, the Weight Control Subscale of the BES and the Negative Affect

Table 5a

Hierarchical Multiple Regression Analysis Examining the Weight Control Subscale of the Body Esteem Scale (BES) as a Moderator of Thin-Ideal Media Effects on Eating Disorder Tendencies and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.118	6.25	**.003**
Step 2: FES Cohesion x Group	.001	0.14	.710
Step 1: FES Expressiveness & Group	.116	6.08	**.003**
Step 2: FES Expressiveness x Group	.001	0.02	.901
Step 1: FES Conflict & Group	.116	6.13	**.003**
Step 2: FES Conflict x Group	.024	2.59	.111
Step 1: FES Achievement Orientation & Group	.145	7.88	**.001**
Step 2: FES Achievement Orientation x Group	.022	2.46	.120
Step 1: FES Active Recreational Orientation & Group	.123	6.50	**.002**
Step 2: FES Active Recreational Orientation x Group	.001	0.13	.722

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; and FAES = Family Achievement Emphasis Scale.

Step 1: FES Control & Group	.117	6.16	**.003**
Step 2: FES Control x Group	.018	1.89	.173
Step 1: FES Intellectual Cultural Orientation & Group	.119	6.25	**.003**
Step 2: FES Intellectual Cultural Orientation x Group	.001	0.06	.803
Step 1: FES Independence & Group	.119	6.27	**.003**
Step 2: FES Independence x Group	.002	0.18	.673
Step 1: FES Moral Religious Experience & Group	.116	6.11	**.003**
Step 2: FES Moral Religious Experience x Group	.001	0.08	.780
Step 1: FES Organization & Group	.122	6.44	**.002**
Step 2: FES Organization x Group	.041	4.53	**.036**

Family Climate Variables

Step 1: FSAO & Group	.117	6.16	**.003**
Step 2: FSAO x Group	.008	0.88	.351
Step 1: BSQ & Group	.169	9.47	**.001**
Step 2: BSQ x Group	.073	8.91	**.004**

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FAES & Group	.124	6.55	**.002**
Step 2: FAES x Group	.001	0.13	.721

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale

Table 5b

Hierarchical Multiple Regression Analysis Examining the Physical Condition Subscale of the Body Esteem Scale (BES) as a Moderator of Thin-Ideal Media Effects on Eating Disorder Tendencies and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.057	2.83	.06
Step 2: FES Cohesion x Group	.002	0.16	.69
Step 1: FES Expressiveness & Group	.060	2.95	.06
Step 2: FES Expressiveness x Group	.001	0.01	.91
Step 1: FES Conflict & Group	.058	2.88	.06
Step 2: FES Conflict x Group	.001	0.001	.99
Step 1: FES Achievement Orientation & Group	.060	2.83	.06
Step 2: FES Achievement Orientation x Group	.030	2.63	.11
Step 1: FES Active Recreational Orientation & Group	.070	3.49	**.035**
Step 2: FES Active Recreational Orientation x Group	.001	0.01	.938

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; and FAES = Family Achievement Emphasis Scale.

Step 1: FES Control & Group	.086	4.36	**.016**
Step 2: FES Control x Group	.001	0.09	.765
Step 1: FES Intellectual Cultural Orientation (ICO) & Group	.057	2.80	.07
Step 2: FES ICO x Group	.001	0.09	.76
Step 1: FES Independence & Group	.063	3.11	**.049**
Step 2: FES Independence x Group	.010	1.01	.317
Step 1: FES Moral Religious Experience & Group	.063	3.13	**.048**
Step 2: FES Moral Religious Experience x Group	.001	0.01	.946
Step 1: FES Organization & Group	.068	3.42	**.037**
Step 2: FES Organization x Group	.001	0.003	.955

Family Climate Variables

Step 1: FSAO & Group	.060	2.81	.07
Step 2: FSAO x Group	.030	2.82	.10
Step 1: BSQ & Group	.108	5.64	**.005**
Step 2: BSQ x Group	.045	4.93	**.029**

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; and FAES = Family Achievement Emphasis Scale.

Step 1: FAES & Group	.071	3.54	**.033**	
Step 2: FAES x Group	.003	0.26	.609	

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; and FAES = Family Achievement Emphasis Scale.

Table 5c

Hierarchical Multiple Regression Analysis Examining the Sexual Attractiveness Subscale of the Body Esteem Scale (BES) as a Moderator of Thin-Ideal Media Effects on Eating Disorder Tendencies and Body Image

	R^2 Change	F Change $(df = 1, 92)$	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.031	1.47	.24
Step 2: FES Cohesion x Group	.006	0.54	.46
Step 1: FES Expressiveness & Group	.032	1.52	.23
Step 2: FES Expressiveness x Group	.030	2.93	.09
Step 1: FES Conflict & Group	.031	1.47	.24
Step 2: FES Conflict x Group	.001	0.06	.81
Step 1: FES Achievement Orientation & Group	.064	3.19	**.046**
Step 2: FES Achievement Orientation x Group	.005	0.47	.50
Step 1: FES Active Recreational Orientation (ARO) & Group	.034	1.63	.20
Step 2: FES ARO x Group	.009	0.91	.34

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FES Control & Group	.032	1.55	.22
Step 2: FES Control x Group	.003	0.26	.61
Step 1: FES Intellectual Cultural Orientation & Group	.034	2.23	.14
Step 2: FES Intellectual Cultural Orientation x Group	.023	2.23	.14
Step 1: FES Independence & Group	.029	1.37	.26
Step 2: FES Independence x Group	.006	0.54	.47
Step 1: FES Moral Religious Experience & Group	.027	1.31	.27
Step 2: FES Moral Religious Experience x Group	.029	2.81	.10
Step 1: FES Organization & Group	.053	2.59	.081
Step 2: FES Organization x Group	.039	3.92	**.051**

Family Climate Variables

Step 1: FSAO & Group	.028	1.34	.27
Step 2: FSAO x Group	.015	1.48	.23
Step 1: BSQ & Group	.119	6.27	**.003**
Step 2: BSQ x Group	.017	1.81	.181

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FAES & Group	.035	1.69	.19
Step 2: FAES x Group	.002	0.22	.64

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Table 5d

Hierarchical Multiple Regression Analysis Examining the State Self Esteem Scale (SSES) as a Moderator of Thin-Ideal Media Effects on Eating Disorder Tendencies and Body Image

	R^2 Change	F Change $(df = 1, 92)$	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.175	9.90	**.001**
Step 2: FES Cohesion x Group	.003	0.34	.564
Step 1: FES Expressiveness & Group	.198	11.48	**.001**
Step 2: FES Expressiveness x Group	.005	0.58	.448
Step 1: FES Conflict & Group	.172	9.66	**.001**
Step 2: FES Conflict x Group	.002	0.19	.665
Step 1: FES Achievement Orientation & Group	.185	10.54	**.001**
Step 2: FES Achievement Orientation x Group	.002	0.24	.628
Step 1: FES Active Recreational Orientation & Group	.170	9.51	**.001**
Step 2: FES Active Recreational Orientation x Group	.001	0.03	.860

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FES Control & Group	.173	9.70	**.001**
Step 2: FES Control x Group	.010	1.09	.300
Step 1: FES Intellectual Cultural Orientation & Group	.170	9.51	**.001**
Step 2: FES Intellectual Cultural Orientation x Group	.001	1.09	.897
Step 1: FES Independence & Group	.172	9.68	**.001**
Step 2: FES Independence x Group	.001	0.02	.754
Step 1: FES Moral Religious Experience & Group	.172	9.64	**.001**
Step 2: FES Moral Religious Experience x Group	.002	0.21	.648
Step 1: FES Organization & Group	.211	12.44	**.001**
Step 2: FES Organization x Group	.013	1.53	.219

Family Climate Variables

Step 1: FSAO & Group	.172	9.68	**.001**
Step 2: FSAO x Group	.005	0.58	.447
Step 1: BSQ & Group	.246	15.20	**.001**
Step 2: BSQ x Group	.013	1.58	.212

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FAES & Group	.173	9.70	**.001**
Step 2: FAES x Group	.001	0.11	.736

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Table 5e

Hierarchical Multiple Regression Analysis Examining the Appearance Self-Efficacy
Scale (ApSES) as a Moderator of Thin-Ideal Media Effects on Eating Disorder
Tendencies and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.007	0.33	.72
Step 2: FES Cohesion x Group	.020	1.92	.17
Step 1: FES Expressiveness & Group	.017	0.81	.49
Step 2: FES Expressiveness x Group	.001	0.13	.72
Step 1: FES Conflict & Group	.025	1.21	.30
Step 2: FES Conflict x Group	.001	0.13	.72
Step 1: FES Achievement Orientation & Group	.010	0.47	.63
Step 2: FES Achievement Orientation x Group	.001	0.08	.78
Step 1: FES Active Recreational Orientation & Group	.036	1.74	.18
Step 2: FES Active Recreational Orientation x Group	.001	0.04	.84

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ =
Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FES Control & Group	.019	0.91	.41
Step 2: FES Control x Group	.004	0.36	.55
Step 1: FES Intellectual Cultural Orientation & Group	.011	0.50	.607
Step 2: FES Intellectual Cultural Orientation x Group	.082	8.29	**.005**
Step 1: FES Independence & Group	.007	0.34	.71
Step 2: FES Independence x Group	.001	0.07	.79
Step 1: FES Moral Religious Experience & Group	.007	0.33	.72
Step 2: FES Moral Religious Experience x Group	.026	2.47	.12
Step 1: FES Organization & Group	.025	1.20	.31
Step 2: FES Organization x Group	.001	0.001	.99
Family Climate Variables			
Step 1: FSAO & Group	.018	0.85	.43
Step 2: FSAO x Group	.005	0.50	.48
Step 1: BSQ & Group	.032	1.56	.22
Step 2: BSQ x Group	.003	0.28	.60

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FAES & Group	.017	0.81	.45
Step 2: FAES x Group	.001	0.05	.82

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Table 5f

Hierarchical Multiple Regression Analysis Examining the Positive Affect Subscale of the Positive and Negative Affect Schedule Scale (PANAS) as a Moderator of Thin-Ideal Media Effects on Eating Disorder Tendencies and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.024	1.13	.33
Step 2: FES Cohesion x Group	.012	1.12	.30
Step 1: FES Expressiveness & Group	.028	1.32	.27
Step 2: FES Expressiveness x Group	.016	1.52	.22
Step 1: FES Conflict & Group	.029	1.38	.26
Step 2: FES Conflict x Group	.001	0.07	.79
Step 1: FES Achievement Orientation & Group	.028	1.32	.27
Step 2: FES Achievement Orientation x Group	.023	2.21	.14
Step 1: FES Active Recreational Orientation & Group	.024	1.15	.321
Step 2: FES Active Recreational Orientation x Group	.112	11.88	**.001**

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FES Control & Group	.027	1.30	.28
Step 2: FES Control x Group	.002	0.17	.69
Step 1: FES Intellectual Cultural Orientation & Group	.039	1.89	.16
Step 2: FES Intellectual Cultural Orientation x Group	.032	3.12	.08
Step 1: FES Independence & Group	.030	1.43	.24
Step 2: FES Independence x Group	.008	0.77	.38
Step 1: FES Moral Religious Experience & Group	.025	1.18	.31
Step 2: FES Moral Religious Experience x Group	.001	0.11	.74
Step 1: FES Organization & Group	.061	3.00	**.054**
Step 2: FES Organization x Group	.001	0.05	.831
Family Climate Variables			
Step 1: FSAO & Group	.028	1.33	.27
Step 2: FSAO x Group	.015	1.40	.24
Step 1: BSQ & Group	.033	1.61	.21
Step 2: BSQ x Group	.026	2.56	.11

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FAES & Group	.036	1.75	.18
Step 2: FAES x Group	.026	2.56	.11

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Table 5g

Hierarchical Multiple Regression Analysis Examining the Negative Affect Subscale of the Positive and Negative Affect Schedule Scale (PANAS) as a Moderator of Thin-Ideal Media Effects on Eating Disorder Tendencies and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Family Process Variables			
Step 1: FES Cohesion & Group	.130	6.96	**.002**
Step 2: FES Cohesion x Group	.032	3.52	.064
Step 1: FES Expressiveness & Group	.128	6.82	**.002**
Step 2: FES Expressiveness x Group	.002	0.22	.64
Step 1: FES Conflict & Group	.128	6.85	**.002**
Step 2: FES Conflict x Group	.040	4.41	**.038**
Step 1: FES Achievement Orientation & Group	.134	7.22	**.001**
Step 2: FES Achievement Orientation x Group	.001	0.12	.73
Step 1: FES Active Recreational Orientation & Group	.128	6.82	**.002**
Step 2: FES Active Recreational Orientation x Group	.008	0.82	.366

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Step 1: FES Intellectual Cultural Orientation & Group	.129	6.90	**.002**
Step 2: FES Intellectual Cultural Orientation x Group	.013	1.41	.239
Step 1: FES Independence & Group	.135	7.28	**.001**
Step 2: FES Independence x Group	.001	0.02	.902
Step 1: FES Moral Religious Experience & Group	.143	7.77	**.001**
Step 2: FES Moral Religious Experience x Group	.007	0.72	.397
Step 1: FES Organization & Group	.128	6.84	**.002**
Step 2: FES Organization x Group	.078	9.08	**.003**

Family Climate Variables

Step 1: FSAO & Group	.148	8.09	**.001**
Step 2: FSAO x Group	.001	0.08	.779
Step 1: BSQ & Group	.162	9.00	**.001**
Step 2: BSQ x Group	.062	7.33	**.008**
Step 1: FAES & Group	.152	8.32	**.001**
Step 2: FAES x Group	.006	0.61	.436

Note: FES = Family Environment Scale; FSAO = Family Social Appearance Orientation Scale; BSQ = Body Shape Questionnaire; FAES = Family Achievement Emphasis Scale.

Subscale of PANAS. This suggests that family organization may play a role in moderating the effect of thin-ideal media on body image.

The dependent variables that had at least one significant moderating family variable were the Weight Control Subscale (2 moderating variables out of thirteen), Physical Condition Subscale (1 moderating variable out of thirteen), and Sexual Attractiveness Subscale of the BES (1 moderating variable out of thirteen); the Positive Affect Subscale of PANAS (2 moderating variable out of thirteen); and the ApSES (1 moderating variable out of thirteen). One dependent variable had 4 out of thirteen significant moderating family variables, the Negative Affect Subscale of PANAS.

For each of the significant moderator variables, a difference score was computed for each pre-to-post body image measure and correlational analyses were conducted to see which significant moderator variables predicted change in the expected direction. For each body image measure, the scores obtained pre-media viewing were subtracted from the scores obtained post-media viewing.

<u>Organization as a Moderator</u>

A hierarchical multiple regression analysis suggests that Organization significantly moderates the effects of thin-ideal media on the Weight Control and Sexual Attractiveness Subscale of the BES and the Negative Affect Subscale of the PANAS. As a follow-up, the correlation between Organization and the Weight Control, Sexual Attractiveness, and Negative Affect difference scores were examined separately within both the control and experimental groups. As expected, the correlation between Organization and the Weight Control difference score was not significant for participants in the control group, $r = -.16$, $p = .25$. Contrary to expectation, the correlation between

Organization and the Weight Control difference score was also non-significant for participants in the experimental group, $r = .25, p = .07$.

As expected, the correlation between Organization and the Sexual Attractiveness difference score was not significant for participants in the control group, $r = -.05, p = .71$. However, the correlation between Organization and the Sexual Attractiveness difference score was significant and positive for participants in the experimental group, $r = .32, p = .03$. This means that individuals whose families who have higher family organization tend to have more positive body image after viewing thin-ideal media.

Contrary to expectation, the correlation between Organization and the Negative Affect difference score was significant and positive for participants in the control group, $r = .324, p = .02$. Surprisingly, the correlation between Organization and the Negative Affect difference score was non-significant for participants in the experimental group, $r = -.27, p = .06$.

Active Recreational Orientation as a Moderator

A hierarchical multiple regression analysis suggests that the Active Recreational Orientation subscale of the FES significantly moderates of the effects of thin-ideal media on the Positive Affect Subscale of the PANAS. As a follow-up, the correlation between Active Recreational Orientation and Positive Affect was examined separately within both control and experimental groups. Surprisingly, the correlation between Active Recreational Orientation and the Positive Affect difference score was significant and inverse for participants in the control group, $r = -.38, p = .008$. In addition, the correlation between Active Recreational Orientation and the Positive Affect difference score was significant but positive for participants in the experimental group, $r = .282, p = .05$. This

means that individuals whose families who have a high orientation towards active recreation tend to have less negative body image after viewing thin-ideal media.

<u>BSQ as a Moderator</u>

The BSQ was a significant moderator of the effect of thin-ideal media on the Weight Control and Physical Condition subscales of the BES and the Negative Affect subscale of the PANAS. As a follow-up, the correlation between the BSQ and the Weight Control, Physical Condition, and Negative Affect difference scores were examined separately within both control and experimental groups. As expected, the correlation between the BSQ and the Weight Control difference score was not significant for participants in the control group, $r = .04$, $p = .74$. As hypothesized, the correlation between the BSQ and the Weight Control difference was significant and inverse for participants in the experimental group, $r = -.46$, $p = .001$. This means that individuals whose families emphasize body weight and shape tend to have more negative body image after viewing thin-ideal media.

As expected, the correlation between the BSQ and the Physical Condition difference score was not significant for participants in the control group, $r = -.09$, $p = .52$. As hypothesized, the correlation between the BSQ and the Physical Condition was significant and inverse for participants in the experimental group, $r = -.40$, $p = .005$. This means that individuals whose families emphasize body weight and shape tend to have more negative body image after viewing thin-ideal media.

As expected, the correlation between the BSQ and the Negative Affect difference score was not significant for participants in the control group, $r = .005$, $p = .97$. As hypothesized, the correlation between the BSQ and the Negative Affect difference score

was significant and positive for participants in the experimental group, $r = .49$, $p = .001$. This means that individuals whose families emphasize body weight and shape tend to have more negative body image after viewing thin-ideal media.

Personality Factors: Predictors of Eating Disorder Tendencies and Body Image Problems

Hypothesis 5 states that, based on preliminary research, certain personality factors (high scores on Neuroticism, Openness to experience, and Conscientiousness) are related eating disorder tendencies and body image problems. This hypothesis was somewhat exploratory in nature due to the fact that very few studies examined the relationship between the Five-Factor Model of Personality and eating disorder tendencies. The hypothesis was examined by conducting bivariate correlational analyses, and correlation coefficients can be found in Table 6.

Neuroticism as a Predictor

This study expected to find that Neuroticism would be a significant predictor of eating disorder tendencies and body image problems. This expectation was based on high correlations between Neuroticism and other psychological problems such as anxiety and obsessive-compulsive disorder, which often play a role in eating disorders. It was also based on preliminary research showing neuroticism to be related to eating disorder tendencies (American Psychiatric Association, 2000). As indicated in the previous section, individuals who score high on Neuroticism tend to experience negative emotions more often and to a higher degree than individuals who do not score high on Neuroticism.

Table 6

Relationship Between Personality Factors and Eating Disorder Tendencies

(N = 96)

NEO Five Factor Inventory					
	Neuroticism	Extroversion	Openness	Agreeableness	Conscientiousness
EDI-3 Subscales					
Eating Disorder Risk Composite	**.51** **(.001)**	-.17 (.10)	-.10 (.36)	**-.32** **(.001)**	**-.35** **(.001)**
Drive for Thinness	**.44** **(.001)**	-.11 (.28)	-.10 (.35)	**-.28** **(.006)**	**-.24** **(.02)**
Bulimia	**.40** **(.001)**	**-.26** **(.01)**	.03 (.80)	**-.27** **(.01)**	**-.28** **(.007)**
Body Dissatisfaction	**.50** **(.001)**	-.14 (.17)	-.12 (.26)	**-.30** **(.003)**	**-.38** **(.001)**
Low Self-Esteem	**.66** **(.001)**	**-.36** **(.001)**	.08 (.43)	**-.32** **(.002)**	**-.42** **(.001)**
Personal Alienation	**.71** **(.001)**	**-.28** **(.006)**	.12 (.30)	**-.44** **(.001)**	**-.40** **(.001)**
Interpersonal Insecurity	**.34** **(.001)**	**-.55** **(.001)**	-.07 (.52)	**-.28** **(.006)**	**-.23** **(.02)**
Interpersonal Alienation	**.53** **(.001)**	**-.29** **(.005)**	.14 (.16)	**-.48** **(.001)**	**-.29** **(.006)**
Interoceptive Deficits	**.66** **(.001)**	-.02 (.87)	.04 (.71)	**-.29** **(.005)**	**-.29** **(.004)**
Emotional Dysregulation	**.47** **(.001)**	**-.24** **(.02)**	.04 (.67)	**-.48** **(.001)**	-.17 (.09)

NEO Five Factor Inventory	Neuroticism	Extroversion	Openness	Agreeableness	Conscientiousness
Perfectionism	.10	.10	-.01	-.15	**.41**
	(.34)	(.35)	(.92)	(.15)	**(.001)**
Asceticism	**.53**	-.05	.006	**-.26**	**-.23**
	(.001)	(.64)	(.96)	**(.01)**	**(.02)**
Maturity Fears	**.47**	**-.20**	.003	**-.28**	**-.26**
	(.001)	**(.05)**	(.98)	**(.005)**	**(.01)**
Body Esteem Scale					
(Time 1)					
Sexual Attractiveness	**-.51**	.17	-.07	**.25**	**.35**
	(.001)	(.12)	(.49)	**(.01)**	**(.001)**
Weight Concern	**-.53**	.14	.12	**.24**	**.38**
	(.001)	(.17)	(.25)	**(.02)**	**(.001)**
Physical Condition	**-.48**	**.35**	-.14	.19	**.42**
	(.001)	**(.001)**	(.18)	(.06)	**(.001)**
(Time 2)					
Sexual Attractiveness	**-.52**	.19	-.06	.19	**.36**
	(.001)	(.06)	(.58)	(.06)	**(.001)**
Weight Concern	**-.48**	.16	.10	**.25**	**.37**
	(.001)	(.13)	(.36)	**(.02)**	**(.001)**
Physical Condition	**-.50**	**.35**	-.12	**.21**	**.47**
	(.001)	**(.001)**	(.25)	**(.04)**	**(.001)**
(Difference)					
Sexual Attractiveness	.13	-.11	-.02	.08	-.09
	(.20)	(.31)	(.86)	(.44)	(.40)
Weight Concern	-.06	-.07	.06	-.05	-.05
	(.54)	(.50)	(.58)	(.62)	(.67)

NEO Five Factor Inventory	Neuroticism	Extroversion	Openness	Agreeableness	Conscientiousness
Physical Condition	.22 (.03)	-.10 (.34)	-.003 (.97)	-.13 (.22)	**-.28 (.005)**
Positive and Negative Affect Schedule Scales (Time 1)					
Positive Affect	**-.20 (.05)**	**.30 (.004)**	.05 (.63)	**-.21 (.04)**	.19 (.06)
Negative Affect	**.58 (.001)**	-.05 (.60)	-.001 (.99)	**-.27 (.008)**	**-.36 (.001)**
(Time 2)					
Positive Affect	**-.21 (.04)**	**.31 (.002)**	.15 (.15)	**.26 (.01)**	**.24 (.02)**
Negative Affect	**.54 (.001)**	-.09 (.37)	.04 (.68)	**-.30 (.003)**	**-.37 (.001)**
(Difference)					
Positive Affect	.03 (.75)	-.04 (.70)	-.20 (.06)	-.11 (.29)	-.11 (.30)
Negative Affect	.04 (.67)	-.07 (.48)	.07 (.49)	-.20 (.34)	-.08 (.46)
State Self-Esteem Scale (Time 1)	-.74 (.001)	.17 (.11)	.07 (.51)	**.29 (.004)**	**.50 (.001)**
(Time 2)	**-.67 (.001)**	.19 (.06)	.09 (.41)	**.25 (.01)**	**.48 (.001)**
(Difference)	.10 (.35)	-.13 (.21)	-.07 (.50)	-.02 (.88)	-.15 (.15)

NEO Five Factor Inventory	Neuroticism
Appearance Self-Efficacy	
Scale	**-.39**
(Time 1)	**(.001)**
(Time 2)	**-.34**
	(.001)
(Difference)	-.07
	(.51)
Physical Appearance State	**.40**
and Trait Scale: State	**(.001)**
Sociocultural Attitudes	**.30**
Towards Appearance	**(.003)**
Questionnaire	

Extroversion	Openness	Agreeableness	Conscientiousness
.20	-.01	.15	**.63**
(.052)	(.93)	(.16)	**(.001)**
.29	-.03	.18	**.66**
(.004)	(.79)	(.08)	**(.001)**
-.27	.05	-.11	-.18
(.008)	(.62)	(.29)	(.07)
-.25	-.08	**-.29**	**-.21**
(.02)	(.46)	**(.004)**	**(.04)**
-.17	-.02	-.11	-.12
(.10)	(.84)	(.28)	(.24)

Eating Disorder Tendencies. Consistent with the hypothesis, Neuroticism was significantly and positively correlated with 11 out of the 12 EDI-3 subscales (i.e., Drive for Thinness, Bulimia, Body Dissatisfaction, Low Self-Esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Interoceptive Deficits, Emotional Dysregulation, Asceticism, and Maturity Fears), as well as the Eating Disorder Risk Composite. These results indicate that individuals who score high on the Neuroticism Subscale of the NEO Five-Factor Inventory (NEO-FFI) report more eating disorder tendencies. As individuals score lower on the Neuroticism Subscale, they report less eating disorder tendencies.

Body Image Problems. The Neuroticism Subscale was significantly inversely correlated with measures of body image (i.e., the Weight Concern, Sexual Attractiveness, and Physical Condition Subscales of the BES; SSES; Positive Affect Subscale of the PANAS; and ApSES). The Neuroticism Subscale was significantly positively correlated with the Negative Affect Subscale of the PANAS, PASTAS, and SATAQ. These correlations indicate that individuals who score low on the Neuroticism Subscale of the NEO-FFI report less body image disturbance, whereas individuals who score high report more body image disturbance. These body image correlations support what was found with the eating disorder correlations.

Extroversion as a Predictor

This analysis was purely exploratory, since a) few studies have examined the relationship between extroversion and eating problems and b) the few available studies have not found any significant relationships between Extroversion and eating disorder tendencies. As indicated in the previous section, individuals who score high on the

Extroversion Subscale of the NEO-FFI tend to obtain their energy from being around other people, whereas individuals who score low on the Extroversion Subscale tend to obtain their energy from being alone or with a few close friends.

Eating Disorder Tendencies. Extroversion was significantly and inversely correlated with 7 out of the 12 EDI-3 subscales (i.e., Bulimia, Low Self-Esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Emotional Dysregulation, and Maturity Fears). This indicates that individuals who score high on Extroversion tend to report less eating disorder tendencies, whereas individuals who score low on Extroversion tend to report more eating disorder tendencies.

Body Image Problems. The Extroversion Subscale was significantly and positively correlated with ApSES, the Positive Affect Subscale of the PANAS, and the Physical Condition Subscale of the BES. The Extroversion Subscale was significantly and inversely correlated with the PASTAS. These correlations indicate that individuals who score high on Extroversion tend to report less body image problems, whereas individuals who score low on Extroversion tend to report more body image problems. These findings are consistent with the correlations found between Extroversion and eating disorder tendencies.

Openness as a Predictor

This study expected to find that Openness would be a significant predictor of eating disorder tendencies and body image problems. This expectation was based on past research that reported significant relationships between Openness and eating disorders (Ghaderi & Scott, 2000; Heaven et al., 2000). In addition, the hypothesis is based on the notion that individuals who are high on Openness would be more susceptible to the

negative messages of thin-ideal media. As indicated in a previous section, an individual who scores high on the Openness Subscale of the NEO-FFI is open to new experiences and has broad interests, whereas an individual who scores low on the Openness Subscale is more practical and set in their ways. Openness was not significantly correlated with any of the subscales of the EDI-3. In addition, the Openness Subscale was not significantly correlated with any of the body image measures. As indicated above, these findings are counter to expectation.

<u>Agreeableness as Predictor</u>

This analysis was purely exploratory in nature because past research yielded contradictory results between Agreeableness and eating disorders. As indicated in a previous section, an individual who scores high on the Agreeableness Subscale of the NEO-FFI is eager to cooperate and avoids conflict, whereas an individual who scores low on the Agreeableness Subscale is skeptical.

<u>Eating Disorder Tendencies.</u> Agreeableness was significantly inversely correlated with 11 out of the 12 EDI-3 subscales (i.e., Drive for Thinness, Bulimia, Body Dissatisfaction, Low Self-Esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Interoceptive Deficits, Emotional Dysregulation, Asceticism, and Maturity Fears), as well as the Eating Disorder Risk Composite. This indicates that individuals who are more eager to cooperate and avoid conflict tend to report less eating disorder tendencies, whereas individuals who are more skeptical tend to report more eating disorder tendencies.

<u>Body Image Problems.</u> Agreeableness was significantly inversely correlated with the Negative Affect Subscale of the PANAS and PASTAS. In addition, the Weight

Concern and Physical Condition Subscale of the BES, the Positive Affect Subscale of the

PANAS, and the SSES were significantly positively correlated with the Agreeableness

Subscale. This indicates that individuals who are more eager to cooperate and avoid

conflict tend to report less body image disturbance, whereas individuals who are more

skeptical tend to report more body image disturbance. These findings support what was

found between Agreeableness and eating disorder tendencies.

Conscientiousness as Predictor

This study expected to find Conscientiousness as a predictor of eating disorder

tendencies and body image problems. Conscientiousness was expected to be a predictor

because past research found significant relationships between Conscientiousness and

eating disorders. Further, the hypothesis was based on the fact that excessively high

conscientiousness is associated with obsessive-compulsive tendencies, which appears to

play a role in some eating disorder cases (American Psychiatric Association, 2000). As

indicated in a previous section, an individual who scores high on the Conscientiousness

Subscale of the NEO-FFI always strives to achieve their goals and have high standards,

whereas individuals who score low the Conscientiousness Subscale tend to be careless.

Eating Disorder Tendencies. Conscientiousness was significantly inversely

correlated with 10 out of the 12 EDI-3 subscales (i.e., Drive for Thinness, Bulimia, Body

Dissatisfaction, Low Self-Esteem, Personal Alienation, Interpersonal Insecurity,

Interpersonal Alienation, Interoceptive Deficits, Asceticism, and Maturity Fears), as well

as the Eating Disorder Risk Composite Scale. This indicates that individuals who are

always trying to achieve their goals and who have high standards tend to report less

eating disorder tendencies, whereas individuals who are more careless tend to report

more eating disorder tendencies. These findings were surprisingly in the opposite direction of the hypothesis.

The Perfectionism subscale of the EDI-3 was significantly and positively correlated with Conscientiousness. This subscale indicates that individuals who are always trying to achieve their goals and who have high standards tend to report more eating disorder tendencies, whereas individuals who are more careless tend to report less eating disorder tendencies. This correlation supports the hypothesis.

Body Image Problems. The Negative Affect Subscale of the PANAS and PASTAS was significantly inversely correlated with Conscientiousness. In addition, the Weight Concern, Sexual Attractiveness, and Physical Condition Subscales of the BES were significantly positively correlated with Conscientiousness. This indicates that individuals who are always trying to achieve their goals and who have high standards tend to report less body image disturbance, whereas individuals who are more careless tend to report more body image disturbance. The Conscientiousness Subscale was significantly and positively correlated with other measures of body image (i.e., SSES; ApSES; and Positive Subscales of the PANAS). These measures indicate that individuals who are always trying to achieve their goals and who have high standards tend to report less body image disturbance, whereas individuals who are more careless tend to report more body image disturbance. These findings support what was found with the correlations between Conscientiousness and eating disorder tendencies, but again it was surprisingly in the opposite direction of the hypothesis.

Personality Factors as Moderators of Thin-Ideal Media Effects on Body Image

Hypothesis 6 stated that certain personality variables (high Neuroticism, Openness to experience, and Conscientiousness) moderate the effects of thin-ideal media on eating disorder tendencies and body image problems. This hypothesis was examined by conducting a series of hierarchical multiple regression analyses. With a pre-to-post-media body image difference score serving as the dependent variable for each hierarchical multiple regression analysis, condition (thin-ideal media vs. neutral media) and the personality factor were entered at Step 1, with the condition-by-personality factor interaction effect entered at Step 2. To test the hypothesis, the magnitude and level of statistical significance of R^2-change at Step 2 was examined. Results of the hierarchical multiple regression analyses are reported in Table 7.

As can be seen in Table 7, there were 2 out of 5 personality factors (i.e, Conscientiousness and Neuroticism) that showed significant moderating effects on body image. In addition, 2 other personality factors (Openness to experience and Agreeableness) approached statistical significance as a moderator variable. One observation is that Conscientiousness was a moderator for 2 out of 9 dependent variables, the Weight Control Subscale of the BES and the Negative Affect Subscale of PANAS. This suggests that having high goals and standards may play a role in moderating the effect of thin-ideal media on body image.

For each of the significant moderator variables, a difference score was computed for each pre-to-post body image measure and correlational analyses were conducted to see which significant moderator variables predicted change in the expected direction.

Table 7a

Hierarchical Multiple Regression Analysis Examining the Weight Control Subscale of the Body Esteem Scale (BES) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Step 1: Conscientiousness & Group	.116	6.07	**.003**
Step 2: Conscientiousness x Group	.044	4.87	**.001**
Step 1: Neuroticism & Group	.122	6.43	**.002**
Step 2: Neuroticism x Group	.016	1.74	.191
Step 1: Extroversion & Group	.118	6.19	**.003**
Step 2: Extroversion x Group	.004	0.38	.537
Step 1: Openness & Group	.126	6.68	**.002**
Step 2: Openness x Group	.003	0.32	.574
Step 1: Agreeableness & Group	.116	6.12	**.003**
Step 2: Agreeableness x Group	.009	0.95	.333

Table 7b

Hierarchical Multiple Regression Analysis Examining the Physical Condition Subscale of the Body Esteem Scale (BES) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body Image

	R^2 Change	F Change $(df = 1, 92)$	Significance of F Change
Step 1: Conscientiousness & Group	.123	6.49	**.002**
Step 2: Conscientiousness x Group	.001	0.12	.729
Step 1: Neuroticism & Group	.102	5.27	**.007**
Step 2: Neuroticism x Group	.003	0.26	.610
Step 1: Extroversion & Group	.063	3.15	**.048**
Step 2: Extroversion x Group	.001	.003	.957
Step 1: Openness & Group	.057	2.84	.06
Step 2: Openness x Group	.022	2.22	.14
Step 1: Agreeableness & Group	.062	3.08	**.050**
Step 2: Agreeableness x Group	.002	0.16	.692

Table 7c

Hierarchical Multiple Regression Analysis Examining the Sexual Attractiveness Subscale of the Body Esteem Scale (BES) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Step 1: Conscientiousness & Group	.032	1.54	.22
Step 2: Conscientiousness x Group	.011	1.01	.32
Step 1: Neuroticism & Group	.043	2.09	.13
Step 2: Neuroticism x Group	.001	0.10	.75
Step 1: Extroversion & Group	.036	1.75	.18
Step 2: Extroversion x Group	.001	0.04	.85
Step 1: Openness & Group	.027	1.31	.27
Step 2: Openness x Group	.001	0.10	.76
Step 1: Agreeableness & Group	.042	2.04	.14
Step 2: Agreeableness x Group	.001	0.09	.76

Table 7d

Hierarchical Multiple Regression Analysis Examining the State Self-Esteem Scale
(SSES) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Step 1: Conscientiousness & Group	.180	10.18	**.001**
Step 2: Conscientiousness x Group	.011	1.30	.257
Step 1: Neuroticism & Group	.176	9.93	**.001**
Step 2: Neuroticism x Group	.001	0.003	.956
Step 1: Extroversion & Group	.180	10.20	**.001**
Step 2: Extroversion x Group	.001	0.02	.885
Step 1: Openness & Group	.170	9.52	**.001**
Step 2: Openness x Group	.020	2.23	.139
Step 1: Agreeableness & Group	.176	9.94	**.001**
Step 2: Agreeableness x Group	.029	3.36	.070

Table 7e

Hierarchical Multiple Regression Analysis Examining the Appearance Self-Efficacy
Scale (ApSES) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body
Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Step 1: Conscientiousness & Group	.038	1.81	.17
Step 2: Conscientiousness x Group	.001	0.02	.90
Step 1: Neuroticism & Group	.012	0.58	.56
Step 2: Neuroticism x Group	.018	1.76	.19
Step 1: Extroversion & Group	.077	3.86	**.025**
Step 2: Extroversion x Group	.001	0.01	.945
Step 1: Openness & Group	.011	0.52	.60
Step 2: Openness x Group	.002	0.19	.67
Step 1: Agreeableness & Group	.016	0.75	.48
Step 2: Agreeableness x Group	.001	0.001	.99

Table 7f

Hierarchical Multiple Regression Analysis Examining the Positive Affect Subscale of the Positive and Negative Affect Schedule Scale (PANAS) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Step 1: Conscientiousness & Group	.031	1.49	.23
Step 2: Conscientiousness x Group	.003	0.32	.58
Step 1: Neuroticism & Group	.024	1.14	.33
Step 2: Neuroticism x Group	.020	1.89	.17
Step 1: Extroversion & Group	.024	1.15	.32
Step 2: Extroversion x Group	.030	2.91	.09
Step 1: Openness & Group	.055	2.72	.07
Step 2: Openness x Group	.001	0.08	.77
Step 1: Agreeableness & Group	.029	1.39	.25
Step 2: Agreeableness x Group	.003	0.29	.59

Table 7g

Hierarchical Multiple Regression Analysis Examining the Negative Affect Subscale of the Positive and Negative Affect Schedule Scale (PANAS) as a Moderator of Thin-Ideal Media Effects on Eating Behavior and Body Image

	R^2 Change	F Change (df = 1, 92)	Significance of F Change
Step 1: Conscientiousness & Group	.129	6.86	**.002**
Step 2: Conscientiousness x Group	.045	4.98	**.028**
Step 1: Neuroticism & Group	.128	6.84	**.002**
Step 2: Neuroticism x Group	.050	5.55	**.021**
Step 1: Extroversion & Group	.130	6.92	**.002**
Step 2: Extroversion x Group	.011	1.19	.277
Step 1: Openness & Group	.141	7.64	**.001**
Step 2: Openness x Group	.001	0.03	.858
Step 1: Agreeableness & Group	.128	6.80	**.002**
Step 2: Agreeableness x Group	.031	3.34	.071

Each body image score that was obtained pre-media viewing was subtracted from the post-media viewing score.

A hierarchical multiple regression analysis suggests that Conscientiousness significantly moderates of the effects of thin-ideal media on the Weight Control Subscale of the BES and the Negative Affect Subscale of the PANAS. As a follow-up, the correlation between Conscientiousness and the Weight Control and Negative Affect difference scores were examined separately within both control and experimental groups.

As expected, the correlation between Conscientiousness and the Weight Control difference score was not significant for participants in the control group, $r = -.26$, $p = .07$. Surprisingly, the correlation between Conscientiousness and the Weight Control difference score was also not significant for participants in the experimental group, $r = .20$, $p = .16$.

As expected, the correlation between Conscientiousness and the Negative Affect difference score was not significant for participants in the control group, $r = .17$, $p = .22$. The correlation between Conscientiousness and the Negative Affect difference score was significant and inverse for participants in the experimental group, $r = -.279$, $p = .05$. This means that individuals who score high on Conscientiousness tend to have less negative body image after viewing thin-ideal media. This finding was not in the hypothesized direction.

A hierarchical multiple regression analysis suggests that Neuroticism significantly moderates of the effects of thin-ideal media on the Negative Affect Subscale of the PANAS. As a follow-up, the correlation between Neuroticism and the Negative Affect difference score was examined separately within both control and experimental groups.

As expected, the correlation between Neuroticism and the Negative Affect difference score was not significant for participants in the control group, $r = -.17$, $p = .22$. As hypothesized, the correlation between Neuroticism and the Negative Affect difference score was significant and positive for participants in the experimental group, $r = .297$, $p = .04$. This means that individuals who score high on Neuroticism tend to have more negative body image after viewing thin-ideal media.

The dependent variables that had one significant moderating personality factor were the Weight Control Subscale of the BES and the SSES. One dependent variable had 3 out of 5 significant moderating personality factors, the Negative Affect Subscale of PANAS.

CHAPTER IV

DISCUSSION

The discussion is divided into four major sections. The first section discusses results corresponding to the hypothesis that body image will become more negative after viewing thin-ideal media, while body image will remain stable after viewing neutral media. The second section discusses results associated with the hypotheses that focus on family variables as they are related to eating disorder tendencies and body image problems. In the third section, results are discussed that are associated with the hypothesis that focuses on personality variables as they are related to eating disorder tendencies and body image problems. The fourth section presents results of the hypotheses that family and personality variables moderate thin-ideal media effects on eating disorder tendencies and body image problems.

Effects of Media on Body Image

Hypothesis 1 stated that body image would become more negative after viewing thin-ideal media, while body image will remain stable after viewing neutral media. Substantial support for this hypothesis was revealed. As predicted, scores on all three subscales of the Body Esteem Scale (BES) decreased significantly in response to viewing the thin-ideal media. The three subscales include: the Sexual Attractiveness Subscale, which measures women's attitudes toward body parts and functions related to facial attractiveness and sexuality; the Weight Concern Subscale, which measures women's attitudes toward body parts that can be physically altered through controlling food intake; and the Physical Condition Subscale, which deals with women's attitudes toward their

stamina, strength, and agility. In addition, scores on the Positive Subscale of the Positive and Negative Affect Schedule Scales (PANAS) decreased significantly while the Negative Subscale increased significantly in response to viewing thin-ideal media. Lastly, scores on the State Self-Esteem Scale (SSES) decreased significantly in response to viewing thin-ideal media. These findings set the stage for analyses attempting to identify variables that moderate effects of thin-ideal media, which are discussed later.

These findings are consistent with previous research in which Bardone-Cone and Cass (2006) found pre-to-post-media changes of body image in women who viewed thin-ideal media on a pro-anorexia website. In addition, Groez et al. (2002) conducted a meta-analysis where results indicated that body image was significantly more negative after viewing thin-ideal media images than after viewing average size models, plus size models, or inanimate objects. Lastly, Brown and Dittmar (2005) found that viewing ultra-thin models at a high attention level (10 second exposure time) resulted in increased body-focused anxiety.

While most results supported hypothesis 1, there was one exception. The instrument that did not show a pre-to-post-media decrease in body image was the Appearance Self-Efficacy Scale (ApSES). Contrary to Bardone-Cone and Cass' (2006) significant results, the ApSES scores did not change as a result of viewing thin-ideal media. This scale was developed by Bardone-Cone and Cass (2006) and measures participant's self-efficacy to change their appearance. Perhaps it is the case that, after viewing the thin-ideal media, participants became more convinced that they could never achieve the unrealistic appearance, thereby leading them to think that they would not bother attempting to change their appearance. One difference in methodology between

the Bardone-Cone and Cass (2006) study and the present study is that Bardone-Cone and Cass (2006) had participants view extremely thin "pro-anorexia" images while this current study used less extreme thin-ideal media. This methodological difference may play a role in the inconsistent findings.

These results are important in identifying the messages that young women are receiving as a result of viewing thin-ideal media. It is evident that viewing images of thin models for even a short amount of time can impact how women think about themselves and their body. In addition, these results were obtained on women who do not have eating disorders. Given that these women without eating disorders showed negative effects on body image, it would seem likely that women with eating disorders (or those with significant vulnerabilities to develop them) would be more deeply and negatively influenced. It is crucial for advertiser's and media outlets such as television and magazines to be aware of the negative impact they may have on young women. Prevention efforts need to be put into place to deter the negative effects of media in our society. Such prevention efforts should involve targeting young women before puberty and the onset of eating disorder tendencies. Perhaps magazines and television programs should realistically depict women in our society, instead of glamorizing models/actors who represent an unrealistic and unhealthy body image for many of the youth today. Other targets for prevention efforts involve pediatrician offices and schools. Parents could be given information about the effects of thin-ideal media and be taught the signs and symptoms of eating disorder tendencies. At school, programs could be designed to promote healthy eating behavior and explain the negative consequences that result from an eating disorder.

Family Variables as they Relate to Eating Disorder Tendencies and Body Image

Hypothesis 2 stated that both family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearances, and family's excessive emphasis on achievement) would be related to eating disorder tendencies and body image problems. This hypothesis was supported. The majority of correlation coefficients between the family process variables and eating disorder tendencies were statistically significant (see Table 3). In addition, the majority of the correlation coefficients also show that the measures of family climate variables [Body Shape Questionnaire (BSQ), Family Social Appearance Orientation Scale (FSAOS), and Family Achievement Emphasis Scale (FAES)] were significantly related to eating disorder tendencies.

Family Process Variables

According to the data analysis, for the majority of the correlation coefficients between family process variables and eating disorder tendencies, conflict was positively related to eating disorder tendencies, while cohesiveness and expressiveness were inversely related to eating disorder tendencies. These results are consistent with previous research that has shown that, compared to "normal" individuals, those individuals with eating disorders perceive their families as less expressive, less cohesive (i.e., disengaged), and more conflictual (Lattimore et al., 2000; Jessup & Reeb, 2003; Ferrell & Reeb, 2006). Although some previous research has linked a less cohesive family atmosphere to eating disorders (e.g., Minuchin et al., 1978), other research has consistently related excessive cohesion, or enmeshment, to eating disorders. According to Minuchin (1974),

there is a continuum of family cohesiveness that exists, and either extreme of that continuum, whether it be excessive cohesion (enmeshment) or a lack of cohesion (disengagement), can be maladaptive to a family environment. It may be the case that either extreme of this maladaptive cohesion can contribute to the development of eating disorders (Rowa et al., 2001). This study supports the findings of a less cohesive environment being related to eating disorder tendencies, the Cohesion Subscale of the Family Environment Scale (FES) was significantly inversely related to 9 out of 12 EDI-3 subscales.

In addition to being related to eating disorder tendencies, the family process variables were significantly related to a majority of the body image measures. The correlations between the body image measures and the family process variables support what was found with the eating disorder correlations.

The Cohesion variable showed significant positive correlations with the Weight Concern, Sexual Attractiveness, and Physical Condition Subscales of the BES; SSES; and the ApSES. Cohesion also showed significant inverse correlations with the Negative Affect Subscale of Positive and Negative Affect Schedule Scales (PANAS), Physical Appearance State and Trait Anxiety Scales (PASTAS), and Sociocultural Attitudes Towards Appearance Scale (SATAQ-3). These measures indicate that less cohesion or "disengagement" is related to body image disturbance, which is consistent with Minuchin (1974) and the finding that either end of the continuum can be maladaptive to the family environment.

The Expressiveness variable showed significant inverse correlations with the Negative Affect Subscale of PANAS and SATAQ. In addition, the Weight Concern,

Sexual Attractiveness, and Physical Condition Subscales of the BES and the SSES

showed significant positive correlations with Expressiveness. These measures indicate

that the less expressive a family is the more body image disturbance is reported, which

follows the trend of less expressive families showing more eating disorder tendencies

(Lattimore et al., 2000; Jessup & Reeb, 2003; Ferrell & Reeb, 2006).

The Conflict variable showed significant positive correlations with the Negative

Affect Subscale of PANAS and SATAQ. In addition, the Sexual Attractiveness and

Physical Condition Subscales of the BES, SSES, ApSES and the Positive Affect Subscale

of the PANAS showed significant inverse correlations with Conflict. This indicates that

the more conflictual a family is the more body image disturbance is reported, which

follows the trend of more conflictual families showing more eating disorder tendencies

(Lattimore et al., 2000; Jessup & Reeb, 2003; Ferrell & Reeb, 2006).

These findings are important in a practical aspect to clinicians. The clinician who

is treating an individual for an eating disorder should not only focus on the individual and

their eating behavior, but also on the family environment. If the family environment

continues to show disengagement, high conflict, or low expressiveness, then it will be

difficult for the patient to maintain efforts at healthy eating behaviors in the future. The

clinician may need to work with the family to create a more adaptive environment for

everyone.

Family Climate Variables

According to the data analysis, the measures of family climate variables (BSQ,

FSAOS, and FAES) were significantly related to eating disorder tendencies on the Eating

Disorder Inventory (EDI-3). This indicates that according to the correlations with the

EDI-3, the greater the families emphasis on weight and body shape, socially desirable appearances, and achievement, the greater the likelihood that a daughter will display eating disorder tendencies. The BSQ total score was significantly related to the Eating Disorder Risk Composite score, as well as 9 out of 12 subscales on the EDI-3. The FSAOS total score was significantly related to the Eating Disorder Risk Composite score, as well as 7 out of the 12 subscales on the EDI-3. The FAES total score was significantly related to 3 out of the 12 subscales on the EDI-3; however it was not significantly related to the Eating Disorder Risk Composite score. The results of the present study are consistent with previous research showing that the family climate (i.e., what is expressed, valued, and modeled within the family) is strongly related with the content of the symptom that emerges from the patient (Laliberte et al., 1999; Jessup & Reeb, 2003; and Ferrell & Reeb, 2006). According to Haworth-Hoeppner (2000), eating disorders develop under conditions of critical family environments, coercive parental control, and an emphasis on weight. Women who are raised in a critical family environment in which the discussion tends to emphasize body shape and socially desirable appearances may be internalizing these themes of being thin as the only way to be accepted by their family.

In addition to being related to eating disorder tendencies, the family process variables were significantly related to a majority of the body image measures. The correlations between the body image measures and the family climate variables support what was found with the eating disorder correlations.

The Body Weight and Shape variable showed significant positive correlations with the Negative Affect Subscale of PANAS; PASTAS; and SATAQ. In addition the Weight Concern, Sexual Attractiveness, and Physical Condition Subscales of the BES;

the SSES; and ApSES showed significant inverse correlations. This indicates that the more the family emphasizes body weight and shape, the more disturbed an individual's body image will be. This finding follows the trend of Haworth-Hoeppner (2000) and their finding that emphasis on weight contributes to eating disorder tendencies.

The Socially Desirable Appearances variable showed significant positive correlations with PASTAS and SATAQ and a significant inverse correlation with the SSES. This indicates that the more emphasis the family places on socially desirable appearances, the more disturbed an individual's body image will be. This finding is consistent with Laliberte et al. (1999) and their finding that what is valued and modeled in the family is strongly related with the content of the symptoms that emerges from the patient; since our society desires thin-ideal images, that is what the individual desires, which creates a negative body image.

The Emphasis on Achievement variable showed significant positive correlations with the Negative Affect Subscale of PANAS and SATAQ. This indicates that the more the family emphasizes achievement, the more disturbed an individual's body image will be. This finding follows the trend of Haworth-Hoeppner (2000) and their finding that critical family environments contribute to eating disorder tendencies.

These findings represent practical knowledge for clinicians treating patients with eating disorders. If the family environment is encouraging acceptance based solely on external appearance or achievements, then the clinician can attempt to turn the maladaptive family environment into a healthier environment where positive interactions are encouraged to create personal growth. The clinician can encourage and teach the

family to focus less on appearance and achievements, as well as lessen the expression of feelings based only on the physical attributes of others.

The Unique Contribution of Family Climate Variables

Hypothesis 3 was supported, which predicted a unique contribution of family climate variable variance above and beyond what is accounted for by the traditional family process variables. A significant level of unique variance in eating disorder tendencies was seen in the Eating Attitudes Risk Composite score, as well as 9 out of the 12 subscales of the EDI-3. For 1 out of the 12 subscales of the EDI-3, the R Squared Change at step 2 was approaching statistical significance ($p < .1$), suggesting a tendency in the hypothesized direction.

Laliberte and colleagues (1999) found that one factor they titled the Family Appearance/Achievement Factor encompassed the Family Body Satisfaction, Family Appearance Orientation, and Family Achievement Emphasis. They found that this factor was comprised of variables believed to be central to eating disorders, but empirically distinct from family process variables. The results of this present study were consistent with Laliberte and colleagues, as well as research by Jessup and Reeb (2003) and Ferrell and Reeb (2006) who also found that family climate variables accounted for a unique variance in eating disorder tendencies, above and beyond that expressed by family process variables.

Again, these findings suggest that, although clinicians need to be assessing the family's level of cohesion, expression, conflict, emphasis on body weight and shape, emphasis on socially desirable appearances, and emphasis on achievement, this alone may not be enough. Their efforts may lend to more results if they placed greater

importance on assessing and altering the family's excessive emphasis on body weight and shape, social appearances, and emphasis on achievement. This would allow clinicians to obtain a more complete understanding of the therapeutic changes that may be necessary in the family environment.

<div align="center">Personality Variables as they Relate to Body Image</div>

Hypothesis 5 stated that certain personality factors (high scores on Neuroticism, Openness to experience, and Conscientiousness) are expected to be related to eating disorder tendencies. This hypothesis was partially supported. A large number of correlation coefficients between the personality variables and eating disorder tendencies were statistically significant (see Table 6). In addition to the correlations to eating disorder tendencies, the majority of personality variables showed statistically significant correlations with the body image measures. At the time this study was conducted, previous studies examining the relationship between personality variables and body image problems were not found. A discussion of findings associated with each personality factor is provided below.

Neuroticism

The majority of the correlations between Neuroticism and eating disorder tendencies were positive correlations, which was in the expected direction. It was expected that Neuroticism would be related to eating disorder tendencies and body image because of the high correlation of Neuroticism and other psychological disorders such as anxiety and depression, which often contribute to eating disorder tendencies. In addition, there were a number of other researchers who found positive correlations between Neuroticism and eating problems (Bollen & Wojciechowski, 2004; Ghaderi & Scott,

2000; and Heaven et. al, 2001). In regards to the relationship between Neuroticism and body image, the correlations were also in the expected direction. Neuroticism showed significant inverse correlations with the Weight Concern, Sexual Attractiveness, and Physical Condition Subscales of the BES; SSES; the Positive Affect Subscale of PANAS, and the ApSES. Neuroticism also showed significant positive correlations with the Negative Affect Subscale of PANAS, PASTAS, and SATAQ. These correlations indicate that individuals who score high on Neuroticism tend to report more eating disorder tendencies and body image problems.

Extroversion

The majority of correlations between Extroversion and eating disorder tendencies were inverse correlations. This was surprising due to past studies not finding significant relationships. However, it makes sense that individuals who are more introverted and less outgoing would show eating disorder tendencies given that individuals with eating disorders are often socially isolated and uninvolved with maintaining relationships. These analyses were exploratory since there is a lack of research in this area and the relative few existing studies on the subject did not reveal significant correlations. Reasons for the conflictual findings across studies could be due to the use of the shortened version of the NEO Five-Factor personality measure. This is elaborated on below.

The correlations between Extroversion and body image were positive correlations. Extroversion showed significant positive correlations with ApSES, Physical Condition Subscale of the BES, and the Positive Affect Subscale of PANAS. This indicates that individuals low on Extroversion reported more body image disturbance. A possible reason why low Extroversion was related to body image disturbance could be because

individuals who are more isolated and less outgoing tend to keep to themselves, which could mean that they are constantly focusing on themselves and how they relate to others. In addition, individuals low on Extroversion could have more negative emotions, which could contribute to feeling bad about their appearance. The PASTAS showed a significant inverse correlation with Extroversion, which is also consistent with the other correlations. As stated previously, this conflict with past research could again be because the full version of the NEO Five-Factor Personality measure was not used, which breaks Extroversion into 6 different facets (i.e., warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions). More research in this area is needed.

Openness

Openness was predicted to be related eating disorder tendencies and body image disturbance because it was thought that individuals who scored high on Openness would be more susceptible to messages from the media. This personality factor showed no significant correlations with eating disorder tendencies or body image, which was counter to expectation. The findings support the findings of Bollen and Wojciechowski (2004), who also found no significant correlations between Openness and eating disorder tendencies. However, Ghaderi and Scott (2000) found significant positive correlations between Openness and first incidence eating disorder patients and those with a lifetime history of eating disorders. In addition, Heaven et al. (2000) found significant positive correlations between Openness and restrained eating. Again, this variability could be due to the use of the shortened NEO Five-Factor Personality measure, certain facets (i.e., fantasy, aesthetics, feelings, actions, ideas, and values) of Openness could be related to eating disorder tendencies and body image while other facets could be unrelated. Due to

the variability of the findings across the studies, more research is needed to determine how Openness and eating disorders are related.

Agreeableness

Due to the variability and contradictory nature of the findings in previous research, these analyses were exploratory. The majority of the correlations between Agreeableness and eating disorder tendencies were significant and inverse. These findings support the findings of Ghaderi and Scott (2000) who found significant inverse correlations between Agreeableness and eating disorder tendencies. However, Bollen and Wojciechowski (2004) found significant positive correlations. Due to the variability of the findings across the studies, more research is needed to determine how Agreeableness and eating disorders are related. Reasons for the conflictual findings across studies could be due to the use of the shortened version of the NEO Five-Factor personality measure. This is elaborated on below.

In regards to the relationship between Agreeableness and body image, there were some positive, as well as inverse correlations. Agreeableness showed significant inverse correlations with the Negative Affect Subscale of PANAS and PASTAS. Agreeableness also showed significant positive correlations with the Weight Concern and Physical Condition Subscales of the BES, SSES, and the Positive Affect Subscale of PANAS. A possible reason for the relationship between low Agreeableness and body image problems could be that individuals who are more skeptical tend to show this skepticism with their body. Perhaps individuals low on Agreeableness view themselves with a critical eye and are more likely to find flaws with themselves. As stated previously, this conflict with past research could again be because the full version of the NEO Five-

Factor Personality measure was not used, which breaks Agreeableness into 6 different facets (i.e., trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness). More research is needed to examine this relationship.

Conscientiousness

Conscientiousness was predicted to be positively related to eating disorder tendencies and body image disturbance due to the fact that the majority of past research found this and because individuals high on Conscientiousness tend to be more aware of themselves and how they relate to others. The majority of the correlations between Conscientiousness and eating disorder tendencies showed significant inverse correlations, which was in the opposite direction of what was expected. This indicates that the more an individual strives to achieve their goals and the higher standards they have, the less likely their tendency to develop an eating disorder. This finding supports the finding of Ghaderi and Scott (2000) who found significant inverse correlations between Conscientiousness and eating disorder tendencies. However, Bollen and Wojciechowski (2004) and Heaven et al., (2000) both found that Conscientiousness was significantly and positively correlated to eating disorder tendencies. As stated previously, this conflict with past research could again be because the full version of the NEO Five-Factor Personality measure was not used, which breaks Conscientiousness into 6 different facets (i.e., competence, order, dutifulness, achievement striving, self-discipline, and deliberation).

In regards to the relationship between Conscientiousness and body image, there were many positive, as well as inverse correlations. Conscientiousness showed significant positive correlations with the Physical Condition, Sexual Attractiveness, and Weight Concern Subscales of the BES; SSES; ApSES; and the Positive Affect Subscale of the

PANAS). There were significant inverse correlations with the PASTAS and the Negative Affect Subscale of the PANAS. These correlations indicate that the more an individual strives to achieve their goals and the higher standards they have, the less likely their tendency to experience a disturbance in their body image. This finding supports the past research that found correlations (Ghaderi & Scott, 2000). A possible reason for the relationship between low Conscientiousness and body image problems could be that individuals who are low on Conscientiousness may be less self-disciplined. Individuals with BN lack self-discipline when they binge and purge, which possibly could explain the relationship found. In addition, individuals low on Conscientiousness could view themselves as less competent, which could lower their self-esteem and in turn lower their body image. Again, more research is needed to examine the relationships.

Implications

This study added to the limited knowledge regarding the relationships between personality variables and eating disorder tendencies. In addition, this study started a path towards examining how body image and personality variables are related, which will hopefully be explored further in the future. These findings underline the need for clinicians to assess personality in their eating disorder patients. In particular, it appears that Neuroticism would be a fruitful place to begin, given that the majority of research found a significant positive correlation between this and eating disorder tendencies. Further research is needed to better understand the relationship between the Five-Factors of personality and eating disorder tendencies. Future research should examine these personality factors using long version of the NEO Five-Factor Personality measure, due

to the possibility that certain facets of the personality factors could be related to eating disorder tendencies and body image while other facets could be unrelated.

<div align="center">Attempts to Identify Personality and Family Moderator Variables</div>

Hypothesis 4 stated that family process variables (lack of expressiveness, excessive cohesion, and conflict) and family climate variables (family's excessive concern regarding weight and body size, family's excessive concern about socially desirable appearance, and family's excessive emphasis on achievement) would moderate the effects of thin ideal media on body image. Hypothesis 6 stated that personality variables (high Neuroticism, Openness to experience, and Conscientiousness) would moderate the effects of thin ideal media on eating disorder tendencies and body image problems.

As mentioned in the Results section, difference scores were obtained on the pre-to-post media body image measures. A hierarchical multiple regression analysis was then computed for each difference score, with condition (thin-ideal media vs. neutral media) and family or personality factor entered at Step 1, and the condition-by-family or personality factor interaction entered at Step 2. Given the dearth of research attempting to identify variables that moderate thin-ideal media effects on body image, these hypotheses and corresponding analyses were exploratory in nature. Nevertheless, these two hypotheses were partially supported.

Family Moderator Variables

The hierarchical multiple regression analyses revealed that 5 out of the 13 family variables were significant moderators: the Organization, Intellectual Cultural Orientation, Active Recreational Orientation, and Conflict Subscales of the Family Environment Scale

(FES); and the Body Shape Questionnaire (BSQ). Speculative interpretations for findings centered around each potential family moderator variable are presented below.

The Organization Subscale of the FES was a significant moderator for the Weight Control and Sexual Attractiveness Subscales of the Body Esteem Scale (BES) and the Negative Affect Subscale of the Positive and Negative Affect Schedule Scales (PANAS). A possible reason for the moderating effect of family organization could be that being overly organized and adhering to a strict schedule may result in being overly controlling when it comes to various body parts. Given that this family variable has not received much attention in past research as being related to eating disorders or body image problems, it is recommended that future research examine this further.

The Intellectual Cultural Orientation Subscale of the FES was a significant moderator for the Appearance Self-Efficacy Scale (ApSES) and the Positive Affect Subscale of PANAS. A possible reason for the moderating effect of the Intellectual Cultural Orientation Subscale could be that the more knowledge and cultural experience an individual has the more confidence the individual has that they can change their body. This confidence in their ability to change their body would result in positive feelings after viewing thin-ideal media; individuals could be envisioning how their body will look when they reach their goal. Given that this family variable has not received much attention in past research as being related to eating disorders or body image problems, it is recommended that future research examine this further.

The Active Recreational Orientation Subscale of the FES was a significant moderator for the Positive Affect Subscale of the PANAS. A possible reason for the moderating effect of the Active Recreational Orientation Subscale could be that the more

active an individual is the less likely they will have negative emotions after viewing thin-ideal media. Given that this family variable has not received much attention in past research as being related to eating disorders or body image problems, it is recommended that future research examine this further.

The Conflict Subscale of the FES was a significant moderator for the Negative Affect Subscale of the PANAS. A possible reason for the moderating effect of the Conflict Subscale could be that an overly conflictual family creates greater negative feelings after viewing thin-ideal media. If a family is overly conflictual, perhaps the individual is used to the conflict and reacts to outside agents (thin-ideal media) so as to cause conflict within them (i.e., viewing themselves as worse than the thin-ideal media and needing to change their body). Future research should focus on what aspects of the family cause the conflictual environment, which would help clinicians by establishing what needs to be changed to have a more peaceful environment.

The BSQ was a significant moderator for the Weight Control and Physical Condition Subscales of the BES, and for the Negative Affect Subscale of the PANAS; the more emphasis on body weight and shape in an individual's family, the more negative their body image tended to be after viewing thin-ideal media. Perhaps families who comment more on weight and shape instill the same type of self-criticism in the individual who constantly endures these comments. If an individual hears comments repeatedly and grows up around them, there is some likelihood that these comments will be internalized. Future research should focus on what interventions change the family emphasis on body weight and shape, or at least what intervention helps the individual to not internalize these comments.

Personality Moderator Variables

This set of analyses was exploratory in nature, due to the fact that past research has not explored personality variables as moderators. Nevertheless, the hierarchical multiple regression analyses revealed that 2 out of the 5 personality variables were significant moderators: Conscientiousness and Neuroticism. Possible reasons for the findings of each potential moderator variable are presented below.

Conscientiousness was a significant moderator for the Weight Control Subscale of the BES and the Negative Affect Subscale of the PANAS. A possible reason for the moderating effect of Conscientiousness could be that if an individual views themselves as less competent and they are not self-disciplined, then they could perhaps view themselves negatively after viewing thin-ideal media and not be as controlling enough (in the case of BN) to maintain a strict diet, resulting in binging and purging. Future research should focus on looking at the specific facets of the long version of Big-Five Personality measure to see which specific facets moderate body image.

Neuroticism was a significant moderator for the Negative Affect Subscale of the PANAS. A possible reason for the moderating effect of Neuroticism could be that individuals who are more likely to experience negative emotions respond to viewing thin-ideal media in a negative way, they experience negative feelings about themselves. Future research should focus on looking at the specific facets of the long version of Big-Five Personality measure to see which specific facets moderate body image.

Limitations of the Present Study and Recommendations for Future Research

One limitation of this present study is the lack of racial and ethnic diversity. Although the sample represents the typical age in which eating disorders may arise, the

sample size was taken from a private, mid-western college. A sample taken from the community setting would probably have a more accurate representation of racial and ethnic diversity. However, the college sample used that was primarily Caucasian is representative of the type of individuals that are at risk for developing eating disorders (American Psychiatric Association, 2000).

Another limitation of the present study was that the sample was taken from a non-clinical population where individuals were not at risk for developing eating disorders. Future research should explore the relationships between family and personality moderators of thin-ideal media on body image on a clinical population where eating disorders are present. This would allow family and personality factors related to eating disorder behaviors to be more specifically examined, the factors that have been found to moderate eating disorder tendencies could be examined to see if they moderate actual eating disorders. In addition, the effects of viewing thin-ideal media may be internalized more with individuals who already have distorted body images. This research could be used to determine if the findings of this present study would cross over to a clinical setting.

Another limitation of the present study was the use of a shortened NEO Five-Factor Personality measure. As mentioned previously, past research yielded conflicted findings on many of the personality variables. The present study also had some contradictory findings. One possible reason for the observed variability in the relationships between eating disorders and personality could be because the full NEO Five-Factor Personality Inventory has never been used to examine the relationships between personality and eating disorders. The full inventory breaks each personality scale

into multiple facets. It could be the fact that certain facets of each personality scale are related to eating disorder tendencies and body image problems, while other facets are not. This would explain the various findings from past research. Future research could examine the relationship between personality factors, eating disorder tendencies, and body image problems using the full NEO Five-Factor Personality Inventory, with a specific focus on the various facets of each personality scale and how they relate.

Future research could be conducted to examine the effects of preventative interventions aimed at adolescents who may be at-risk for developing eating disorders. Perhaps these "at-risk" adolescents could receive interventions focused on specific family and personality variables as well as thin-ideal media exposure. These preventative efforts could be utilized to counter negative messages that these individuals may be receiving from their family and/or the media. Examples of these negative messages could include a family's excessive emphasis on achievement or appearance. These interventions could also incorporate more realistic depictions of the female body in an attempt to increase positive body image and acceptance among these individuals. If individuals are shown images of healthy females, rather than the unrealistically thin images that are typically shown on television or in magazines, they may develop a more positive body image.

Future research could also incorporate interventions regarding family and personality variables and thin-ideal media exposure for individuals who have already been diagnosed with eating disorders. These interventions could involve family therapy centered on the negative communication patterns indicated to be related to eating disorder tendencies, as well as focus on changing an individual's maladaptive ingrained ways of looking at and perceiving the world around them. Intervention efforts could also

encourage families to limit the amount of exposure that the diagnosed individuals have to thin-ideal media.

Summary and Conclusions

The present study examined the effects of thin-ideal media on young women's body image, and it also examined family process, family climate, and personality factors that may contribute to the development of eating disorder tendencies and body image problems in college women.

Hypothesis 1 stated body image will become more negative after viewing thin-ideal media, while body image will remain stable after viewing neutral media. This hypothesis was examined with a series of Analysis of Variance (ANOVA) procedures, and substantial support for the hypothesis was obtained.

Hypothesis 2 stated that family process and family climate variables would be related to eating disorder tendencies and body image problems in college women. Bivariate correlational analyses provided support for this hypothesis.

Hypothesis 3 stated that family climate variables would account for a significant level of unique variance in eating disorder tendencies, above and beyond the variance in eating disorder tendencies explained by family process variables. Hypothesis 3 was examined using a series of multiple regression analyses, which yielded significant support for the hypothesis.

Hypothesis 4 stated that family process and family climate variables would moderate the effects of thin-ideal media on body image. This hypothesis was partially supported by a series of hierarchical multiple regression analyses. For example, family emphasis on body weight and shape was found to be a significant moderator.

Hypothesis 5 stated that certain personality factors would be related to eating disorder tendencies and body image problems in college women. This hypothesis was partially supported by results of bivariate correlational analyses. For example, Neuroticism was found to be related to eating disorder tendencies and body image problems in college women.

Hypothesis 6 stated that certain personality factors would moderate the effects of thin-ideal media on body image. This hypothesis was partially supported by a series of hierarchical multiple regression analyses. For example, Neuroticism was found to be a significant moderator.

In general, results of this study replicate past research showing that (a) thin-ideal media have a negative influence on women's body image, and (b) certain family and personality factors are associated with eating disorder tendencies in college women. Further, the results extend the literature by providing preliminary evidence that certain family and personality factors moderate the effects of thin-ideal media on body image.

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 <u>household in which you grew up</u>. 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

Family Environment Scale

Family Environment Scale

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Rudolf H. Moos

Published by MIND GARDEN

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Family Environment Scale

Form R

Item Booklet

Rudolf H. Moos

Published by Mind Garden, Inc.
info@mindgarden.com
www.mindgarden.com

Instructions

There are 90 statements in this booklet. They are statements about families. You are to decide which of these statements are true of your family and which are false. Make all your marks on the separate answer sheet. If you think the statement is *True* or mostly *True* of your family, make an X in the box labeled T (true). If you think the statement is *False* or mostly *False* of your family, make an X in the box labeled F (false).

You may feel that some of the statements are true for some family members and false for others. Mark T if the statement is *true* for most members. Mark F if the statement is *false* for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

Remember, we would like to know what your family seems like to *you*. So do not try to figure out how other members see your family, but *do* give us your general impression of your family for each statement.

Work Across →

1. Family members really help and support one another.

2. Family members often keep their feelings to themselves.

3. We fight a lot in our family.

4. We don't do things on our own very often in our family.

5. We feel it is important to be the best at whatever you do.

6. We often talk about political and social problems.

7. We spend most weekends and evenings at home.

8. Family members attend church, synagogue, or Sunday School fairly often.

9. Activities in our family are pretty carefully planned.

10. Family members are rarely ordered around.

11. We often seem to be killing time at home.

12. We say anything we want to around home.

13. Family members rarely become openly angry.

14. In our family, we are strongly encouraged to be independent.

15. Getting ahead in life is very important in our family.

16. We rarely go to lectures, plays or concerts.

17. Friends often come over for dinner or to visit.

18. We don't say prayers in our family.

19. We are generally very neat and orderly.

20. There are very few rules to follow in our family.

21. We put a lot of energy into what we do at home.

22. It's hard to "blow off steam" at home without upsetting somebody.

23. Family members sometimes get so angry they throw things.

24. We think things out for ourselves in our family.

25. How much money a person makes is not very important to us.

26. Learning about new and different things is very important in our family.

27. Nobody in our family is active in sports, Little League, bowling, etc.

28. We often talk about the religious meaning of Christmas, Passover, or other holidays.

29. It's often hard to find things when you need them in our household.

30. There is one family member who makes most of the decisions.

61. There is very little group spirit in our family.

62. Money and paying bills is openly talked about in our family.

63. In there's a disagreement in our family, we try hard to smooth things over and keep the peace.

64. Family members strongly encourage each other to stand up for their rights.

65. In our family, we don't try that hard to succeed.

66. Family members often go to the library.

67. Family members sometimes attend courses or take lessons for some hobby or interest (outside of school).

68. In our family each person has different ideas about what is right and wrong.

69. Each person's duties are clearly defined in our family.

70. We can do whatever we want to in our family.

71. We really get along well with each other.

72. We are usually careful about what we say to each other.

73. Family members often try to one-up or out-do each other.

74. It's hard to be by yourself without hurting someone's feelings in our household.

75. "Work before play" is the rule in our family.

76. Watching TV is more important than reading in our family.

77. Family members go out a lot.

78. The Bible is a very important book in our home.

79. Money is not handled very carefully in our family.

80. Rules are pretty inflexible in our household.

81. There is plenty of time and attention for everyone in our family.

82. There are a lot of spontaneous discussions in our family.

83. In our family, we believe you don't ever get anywhere by raising your voice.

84. We are not really encouraged to speak up for ourselves in our family.

85. Family members are often compared with others as to how well they are doing at work or school.

86. Family members really like music, art and literature.

87. Our main form of entertainment is watching TV or listening to the radio.

88. Family members believe that if you sin you will be punished.

89. Dishes are usually done immediately after eating.

90. You can't get away with much in our family.

Appendix C

Family Social Appearance Orientation Scale

INSTRUCTIONS:

Below are statements about families. If you think the statement is TRUE or MOSTLY TRUE of your family, please circle T (true). If you think the statement is FALSE or MOSTLY FALSE of your family, please circle F (false).

You may feel that some of the statements are true for some family members and false for others. Circle T if the statement is TRUE for most members. Circle F if the statement is FALSE for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

1. Wearing clothes that are the current fashion is very important   T   F

   in our family.

2. We're concerned about our style of doing things.   T   F

3. We tend to buy only good quality brand names of clothing,

   cars, sports equipment, etc.   T   F

4. We are concerned about the way we present ourselves.   T   F

5. Family members do not wear clothes that are out of style, even

   if the clothes are in good condition.   T   F

6. We are self-conscious about the way we look.   T   F

7. Our home is always kept clean in case of unexpected visitors.   T   F

8. We usually worry about making a good impression.   T   F

9. Family members take great care getting groomed and dressed

   in the morning before going out.   T   F

10. One of the things that family members do before leaving our

   house is look in the mirror.   T   F

11. Family members make critical remarks about their own appearance.   T   F

12. We are concerned about what other people think of us.   T   F

13. In my family, we often discuss what other people think of us.   T   F

14. Family members are usually aware of their own appearance.   T   F

15. In my family, we are quick to compliment each other on our

     appearance.   T   F

16. In my family, when we discuss other people, we often remark

     on how they look.   T   F

Appendix D

Body Shape Questionnaire

Directions: Please read each question and circle the appropriate number to the right.

	Never	Rarely	Sometimes	Often	Very Often	Always
1. Feeling bored has made a family member brood about her shape.	1	2	3	4	5	6
2. A family member has been so worried about her shape that she has been feeling that she ought to diet.	1	2	3	4	5	6
3. A family member has thought that her thighs, hips, or bottom are too large for the rest of her.	1	2	3	4	5	6
4. A family member has been afraid that she might become fat (or fatter).	1	2	3	4	5	6
5. A family member has worried about her flesh not being firm enough.	1	2	3	4	5	6
6. After eating a large meal, a family member has felt fat.	1	2	3	4	5	6
7. A family member has felt so badly about her shape that she has cried.	1	2	3	4	5	6
8. A family member has avoided running because her flesh might wobble.	1	2	3	4	5	6
9. Being with a thin woman has made a family member feel self-conscious about her shape.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Very Often	Always
10. A family member has worried about her thighs spreading out when sitting down.	1	2	3	4	5	6
11. Eating even a small amount of food has made a family member feel fat.	1	2	3	4	5	6
12. A family member has noticed the shape of other women and felt that her own shape compared unfavorably.	1	2	3	4	5	6
13. Thinking about her shape has interfered with a family member's ability to concentrate (e.g., while watching television, reading, listening to conversations).	1	2	3	4	5	6
14. Being naked, such as when taking a bath, has made a family member feel fat.	1	2	3	4	5	6
15. A family member has avoided wearing clothes which make her particularly aware of the shape of her body.	1	2	3	4	5	6
16. A family member has imagined cutting off fleshy areas of her body.	1	2	3	4	5	6
17. Eating sweets, cakes, or other high calorie food has made a family member feel fat.	1	2	3	4	5	6
18. A family member has not gone out to social occasions (e.g., parties) because she has felt badly about her shape.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Very Often	Always
19. A family member has felt excessively large and rounded.	1	2	3	4	5	6
20. A family member has felt ashamed of her body.	1	2	3	4	5	6
21. Worry about her shape has made a family member diet.	1	2	3	4	5	6
22. A family member has felt the happiest about her shape when her stomach has been empty (e.g., in the morning).	1	2	3	4	5	6
23. A family member has thought that she is the shape that she is because she lacks self-control.	1	2	3	4	5	6
24. A family member has worried about others seeing rolls of flesh around her waist or stomach.	1	2	3	4	5	6
25. A family member has felt that it is not fair that other women are thinner than she is.	1	2	3	4	5	6
26. A family member has vomited in order to feel thinner.	1	2	3	4	5	6
27. When in company, a family member has worried about taking up too much room (e.g., sitting on a sofa or bus seat).	1	2	3	4	5	6
28. A family member has worried about her flesh being dimply.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Very Often	Always
29. Seeing her reflection (e.g., in a mirror or shop window) has made a family member feel badly about her shape.	1	2	3	4	5	6
30. A family member has pinched areas of her body to see how much fat there is.	1	2	3	4	5	6
31. A family member has avoided situations where people could see her body (e.g., communal changing rooms or swimming pools).	1	2	3	4	5	6
32. A family member has taken laxatives in order to feel thinner.	1	2	3	4	5	6
33. A family member has been particularly self-conscious about her shape when in the company of other people.	1	2	3	4	5	6
34. Worry about her shape has made a family member feel that she ought to exercise.	1	2	3	4	5	6

Appendix E

The Family Achievement Emphasis Scale

INSTRUCTIONS:

Below are statements about families. If you think the statement is TRUE or MOSTLY TRUE of your family, please circle T (true). If you think the statement is FALSE or MOSTLY FALSE of your family, please circle F (false).

You may feel that some of the statements are true for some family members and false for others. Circle T if the statement is TRUE for most members. Circle F if the statement is FALSE for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

T   F   1. My family believes that people should be more involved with their work.

T   F   2. Family members seldom set standards which are difficult for them to reach.

T   F   3. Family members enjoy difficult work.

T   F   4. Family members rarely do extra studying in connection with their work.

T   F   5. People in my family will not be satisfied until they are the best in their field of work.

T   F   6. Family members work just hard enough to get by.

T   F   7. Family members would work just as hard whether or not they had to earn a living.

T   F   8. Family members do not let their work get in the way of what they really want to do.

T   F   9. The goal of family members is to do at least a little bit more than anyone else has done before.

T   F   10. In our work we seldom do more than is necessary.

T   F   11. People seldom think of my family as hard workers.

T   F   12. As children, all members of my family worked a long time for some of the things they earned.

T   F   13. It doesn't really matter to family members whether or not we become some of the best in our fields.

T   F   14. Family members don't mind working while other people are having fun.

T   F   15. Family members are not really certain of what they want to do or how to go about doing it.

T   F   16. We feel it is important to be the best at whatever you do.

T   F   17. Getting ahead in life is very important in our family.

T   F   18. How much money a person makes is not very important to us.

T F   19. We believe in competition and "may the best man win".

T F   20. We always strive to do things just a little better the next time.

T F   21. Family members rarely worry about job promotions, school grades, etc.

T F   22. In our family, we don't try that hard to succeed.

T F   23. "Work before play" is the rule in our family.

T F   24. Family members are often compared with others as to how well they are doing at work or school.

Appendix F

NEO Five-Factor Inventory

NEO-FFI™

NEO Five-Factor Inventory™

Test Booklet–Form S (Adult)

Paul T. Costa, Jr., PhD, and Robert R. McCrae, PhD

Instructions

Write only where indicated in this booklet. Carefully read all of the instructions before beginning. This questionnaire contains 60 statements. Read each statement carefully. For each statement fill in the circle with the response that best represents your opinion. Make sure that your answer is in the correct box.

Fill in (SD) if you *strongly disagree* or the statement is definitely false.

Fill in (D) if you *disagree* or the statement is mostly false.

Fill in (N) if you are *neutral* on the statement, if you cannot decide, or if the statement is about equally true and false.

Fill in (A) if you *agree* or the statement is mostly true.

Fill in (SA) if you *strongly agree* or the statement is definitely true.

For example, if you strongly disagree or believe that a statement is definitely false, you would fill in the (SD) for that statement.

Example
● (D) (N) (A) (SA)

Fill in only one response for each statement. Respond to all of the statements, making sure that you fill in the correct response. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect response and then fill in the correct response.

Note that the responses are numbered in *rows*. Before responding to the statements, turn to the inside of the booklet and enter your name, age, gender, and today's date.

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41. Too often, when things go wrong, I get discouraged and feel like giving up.
42. I am not a cheerful optimist.
43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.
44. I'm hard-headed and tough-minded in my attitudes.
45. Sometimes I'm not as dependable or reliable as I should be.

46. I am seldom sad or depressed.
47. My life is fast-paced.
48. I have little interest in speculating on the nature of the universe or the human condition.
49. I generally try to be thoughtful and considerate.
50. I am a productive person who always gets the job done.

51. I often feel helpless and want someone else to solve my problems.
52. I am a very active person.
53. I have a lot of intellectual curiosity.
54. If I don't like people, I let them know it.
55. I never seem to be able to get organized.

56. At times I have been so ashamed I just wanted to hide.
57. I would rather go my own way than be a leader of others.
58. I often enjoy playing with theories or abstract ideas.
59. If necessary, I am willing to manipulate people to get what I want.
60. I strive for excellence in everything I do.

Enter your responses here—remember to enter responses _ACROSS_ the rows.
SD = *Strongly Disagree*; D = *Disagree*; N = *Neutral*; A = *Agree*; SA = *Strongly Agree*

1 SD D N A SA	2 SD D N A SA	3 SD D N A SA	4 SD D N A SA	5 SD D N A SA
6 SD D N A SA	7 SD D N A SA	8 SD D N A SA	9 SD D N A SA	10 SD D N A SA
11 SD D N A SA	12 SD D N A SA	13 SD D N A SA	14 SD D N A SA	15 SD D N A SA
16 SD D N A SA	17 SD D N A SA	18 SD D N A SA	19 SD D N A SA	20 SD D N A SA
21 SD D N A SA	22 SD D N A SA	23 SD D N A SA	24 SD D N A SA	25 SD D N A SA
26 SD D N A SA	27 SD D N A SA	28 SD D N A SA	29 SD D N A SA	30 SD D N A SA
31 SD D N A SA	32 SD D N A SA	33 SD D N A SA	34 SD D N A SA	35 SD D N A SA
36 SD D N A SA	37 SD D N A SA	38 SD D N A SA	39 SD D N A SA	40 SD D N A SA
41 SD D N A SA	42 SD D N A SA	43 SD D N A SA	44 SD D N A SA	45 SD D N A SA
46 SD D N A SA	47 SD D N A SA	48 SD D N A SA	49 SD D N A SA	50 SD D N A SA
51 SD D N A SA	52 SD D N A SA	53 SD D N A SA	54 SD D N A SA	55 SD D N A SA
56 SD D N A SA	57 SD D N A SA	58 SD D N A SA	59 SD D N A SA	60 SD D N A SA

Have you responded to all of the statements? _____ Yes _____ No

Have you entered your responses in the correct boxes? _____ Yes _____ No

Have you responded accurately and honestly? _____ Yes _____ No

Appendix G

Eating Disorder Inventory-3

EDI-3

Item Booklet

David M. Garner, PhD

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: _____

---

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)

Appendix H

Body Esteem Scale

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 I

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 J

SOCIOCULTURAL ATTITUDES TOWARDS APPEARANCE SCALE - 3 (SATAQ-3)

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

Definitely Disagree = 1
Mostly Disagree = 2
Neither Agree Nor Disagree = 3
Mostly Agree = 4
Definitely Agree = 5

1. TV programs are an important source of information about fashion and "being attractive." _____

2. I've felt pressure from TV or magazines to lose weight. _____

3. I do not care if my body looks like the body of people who are on TV. _____

4. I compare my body to the bodies of people who are on TV. _____

5. TV commercials are an important source of information about fashion and "being attractive." _____

6. I do not feel pressure from TV or magazines to look pretty. _____

7. I would like my body to look like the models who appear in magazines. _____

8. I compare my appearance to the appearance of TV and movie stars. _____

9. Music videos on TV are not an important source of information about fashion and "being attractive." _____

10. I've felt pressure from TV and magazines to be thin. _____

11. I would like my body to look like the people who are in movies. _____

12. I do not compare my body to the bodies of people who appear in magazines. _____

13. Magazine articles are not an important source of information about fashion and "being attractive." _____

14. I've felt pressure from TV or magazines to have a perfect body. _____

15. I wish I looked like the models in music videos. _____

16. I compare my appearance to the appearance of people in magazines. _____

17. Magazine advertisements are an important source of information about fashion and "being attractive." _____

18. I've felt pressure from TV or magazines to diet. _____

19. I <u>do not</u> wish to look as athletic as the people in magazines. _____

20. I compare my body to that of people in "good shape." _____

21. Pictures in magazines are an important source of information about fashion and "being attractive." _____

22. I've felt pressure from TV or magazines to exercise. _____

23. I wish I looked as athletic as sports stars. _____

24. I compare my body to that of people who are athletic. _____

25. Movies are an important source of information about fashion and "being attractive." _____

26. I've felt pressure from TV or magazines to change my appearance. _____

27. I <u>do not</u> try to look like the people on TV. _____

28. Movie starts are <u>not</u> an important source of information about fashion and "being attractive." _____

29. Famous people are an important source of information about fashion and "being attractive." _____

30. I try to look like sports athletes. _____

Appendix K

Positive and Negative Affect Schedule Scales

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

____ interested	____ guilty	____ irritable	____ determined
____ distressed	____ scared	____ alert	____ attentive
____ excited	____ hostile	____ ashamed	____ jittery
____ upset	____ enthusiastic	____ inspired	____ active
____ strong	____ proud	____ nervous	____ afraid

Appendix L
State Self-Esteem Scale
Current Thoughts

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Please provide an answer even if you are not certain of the best answer. Again, answer these questions as they are true for you **right now.**

1) I feel confident about my abilities.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

2) I am worried about whether I am regarded as a success or failure.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

3) I feel satisfied with the way my body looks right now.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

4) I feel frustrated or rattled about my performance.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

5) I feel that I am having trouble understanding things that I read.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

6) I feel that others respect and admire me.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

7) I am dissatisfied with my weight.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

8) I feel self-conscious.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

9) I feel as smart as others.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

10) I feel displeased with myself.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

11) I feel good about myself.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

12) I am pleased with my appearance right now.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

13) I am worried about what other people think of me.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

14) I feel confident that I understand things.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

15) I feel inferior to others at this moment.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

16) I feel unattractive.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

17) I feel concerned about the impression I am making.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

18) I feel that I have less scholastic ability right now than others.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

19) I feel like I'm not doing well.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

20) I am worried about looking foolish.

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely

Appendix M

Appearance Self-Efficacy Scale

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
Disagree				Agree

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
Disagree				Agree

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
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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
Disagree				Agree

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
Disagree				Agree

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
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				Agree

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

1	2	3	4	5
Disagree				*Agree*

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

1	2	3	4	5
Disagree				*Agree*

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
Disagree				*Agree*

Appendix N
Informed Consent To Participate In A Research Project

Project Title:	Family, Personality, and Eating Behavior
Investigator(s):	Nicole Bosse and Roger N. Reeb, Ph.D. (faculty sponsor)
Description of Study:	In a group setting, participants will complete questionnaires that obtain information about family factors, personality, and eating behaviors. Then, each individual will return later in the day to (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. In the event that you feel that you need counseling for any reason, please contact the UD Counseling Center at (937) 229-3341. The UD Counseling Center provides free services to all undergraduate students at the University of Dayton.
Duration of Study:	In total, this study will take approximately 2 hours to complete.
Assurance of Privacy:	Your consent form will be separated from your data, and a number system will be used. Therefore, 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 (Nicole R. Bosse) by telephone (513-478-6021) or e-mail (bossenir@notes.udayton.edu), and they may also contact the faculty sponsor (Roger N. Reeb, Ph.D.) by telephone (937-229-2395) 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 the rights of 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 O
DEBRIEFING FORM

Information about the Study

The primary purpose of this study is to examine the ways in which family factors and personality characteristics influence an individual's response to thin-ideal media. Thin-ideal media refers to media that features models that are significantly thinner than the average American woman. Preliminary research suggests that individuals with certain personality characteristics and family background factors may be at an increased risk of developing a negative body image after viewing thin-ideal media. Some participants viewed neutral media (e.g., cars), whereas other participants viewed media that emphasizes the thin-ideal. Thus, another purpose of this study was to determine the extent to which viewing thin-ideal media influences a participant's self-perceptions.

Some questionnaires that you completed measure the extent to which the family is characterized by certain factors (e.g., level of conflict). Another questionnaire that you completed measures a number of personality variables. In addition, one questionnaire asked about eating behaviors that are associated with clinical problems. Finally, a third set of questionnaires asked questions regarding body image.

References

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

Bollen, E. & Wojciechowski, F.L. (2004). Anorexia nervosa subtypes and the big five personality factors. *European Eating Disorders Review, 12,* 117-121.

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* (8), 1088-1113.

Laliberte, M., Boland, F.J., & Leichner, P. (1999). Family climates: Family factors specific to disturbed eating and bulimia nervosa. *Journal of Clinical Psychology, 55* (9), 1021-1040.

Assurance of Privacy

We are seeking general principles of relations between family, personality, and body image and are not evaluating you personally in any way. Your consent form will be separated from your data, and a number system will be used. Therefore, 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.

UD Counseling Center

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 gone on eating binges where I felt that I could not stop"* or *"I have thought of trying to vomit in order to lose weight"*) have often found counseling services to be beneficial. In addition, people who endorse items that indicate an excessive concern for weight or body image (e.g., *"I am preoccupied with the desire to be thinner"*; *"If I gain a pound I worry that I will keep gaining"*; *"I am extremely dissatisfied with my weight"*; or *"Failure to achieve my desired body weight and shape just makes me try harder"*) have also found counseling services to be beneficial. If you endorsed these items (or items similar to these), we encourage you to consider contacting the UD Counseling Center at (937) 229-3341. The services provided by the Counseling Center are free to all undergraduate students at the University of Dayton.

Contact Information

Participants may contact the primary investigator (Nicole R. Bosse) by telephone (513-478-6021) or e-mail (bossenir@notes.udayton.edu), and they may also contact the faculty sponsor (Roger N. Reeb, Ph.D.) by telephone (937-229-2395) 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 the rights of 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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