

DOES ETHNICITY MODERATE MEDIA EFFECTS OF THE IDEAL PHYSIQUE ON  
NEGATIVE MOOD?

By

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A THESIS PRESENTED TO THE GRADUATE SCHOOL  
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE IN EXERCISE AND SPORT SCIENCES

UNIVERSITY OF FLORIDA

2004

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This thesis is dedicated to my parents who have provided me unconditional love, support and encouragement in pursuing my academic endeavors.

## ACKNOWLEDGMENTS

I thank my committee, Dr. Heather Hausenblas, Dr. Chris Janelle, and Dr. Pete Giacobbi for their patience, flexibility, knowledge and advice during this process. Dr. Hausenblas, my committee chair, was especially important to the past three years at the University of Florida; she has given me the guidance and structure within which to grow as a researcher and a writer, while also allowing me the freedom to grow as a scholar. I also deeply appreciate the support and encouragement she has given me for my future academic career.

I would not have made it through without the help of many friends. I thank Beth Fallon and Sarah Reed, for answering my endless “stupid” questions, bestowing their wisdom, keeping me out of trouble, and keeping me focused on the real goal. I thank Amy Hagan, Jessica Doughty, Jesse Germain, Gretchen Ames, and Lesley Fox for their friendship, support, and words of encouragement during my master’s program. I would also like to acknowledge Anna Campbell whose help with data collection was essential in finishing this thesis.

Last but not least, I thank my parents and family for instilling in me the value of hard work and a good education. I thank them for always believing in me and for their strong commitment to my education.

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Abstract of Thesis Presented to the Graduate School  
of the University of Florida in Partial Fulfillment of the  
Requirements for the Degree of Master of Science in Exercise and Sport Sciences

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August 2004

Chair: Heather Hausenblas

Major Department: Exercise and Sport Sciences

The media's portrayal of the thin body as an ideal has been associated with weight and shape dissatisfaction, increased mood disturbance, and disordered eating. Although body image concerns are influenced by cultural and ethnic factors, most research on the media and body image has focused on Caucasians. The purposes of this study were to a) examine the mood effects for Caucasian women and African-American women to exposure to physique slides (i.e., model slides and control slides of Caucasian women) and, b) examine if BMI, internalization of the aesthetic ideal and body satisfaction predict post-mood scores.

Thirty-one Caucasian women and thirty African-American women viewed both sets of slides and completed a pre- and posttest mood measure. They also reported their BMI, internalization, and body satisfaction scores. The results supported findings that for Caucasian women, body-image dissatisfaction increased with acute exposure to ideal physique images. Furthermore, Caucasian women compared themselves to the slides they

viewed, thus negatively affecting their posttest moods. Finally, while BMI and internalization did not predict posttest mood scores, body satisfaction did predict posttest anxiety scores. Different factors that may have explained the study findings were discussed with regard to social comparison theory and areas for future research were considered.

## CHAPTER 1 INTRODUCTION

*Body image* is the internal representation of a person's outer appearance—one's unique perception of his or her body (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). During the last three decades, body-image dissatisfaction has increased dramatically for women (Feingold & Mazzella, 1998). For example, large-scale survey studies reveal that appearance dissatisfaction has increased from 23% to 56% for women from 1972 to 1996 (Berscheid, Walster, & Bohrnstedt, 1973; Garner, 1997). Although the average woman has become larger, the average ideal body size has become thinner (Garner, Garfinkle, Schwartz, & Thompson, 1980; Wiseman, Gray, Mosimann, & Ahrens, 1992). This creates a discrepancy between the ideal and actual weight of women. Although it may not be achievable for most women, the thin ideal has remained the epitome of beauty for the past 30-40 years (Cash & Henry, 1995; Striegel-Moore, Silberstien, & Rodin, 1986). Women's inability to achieve this aesthetic ideal has led to increased body-image disturbance.

In addition to its high prevalence, body-image disturbance is a main precursor and a diagnostic criterion of an eating disorder (American Psychiatric Association [APA], 1994). A conservative estimate shows that 5-10 million adolescent girls and women have an eating disorder (Shisslak, Crago, & Estes, 1995). Because body-image disturbance is prevalent (Cash & Henry, 1995; Garner, 1997), and it is associated with negative physical and psychological consequences (APA), researchers have attempted to determine its antecedents and consequences to establish effective prevention and treatment programs.

In particular, researchers have examined antecedents and moderators that may place people at increased risk for body-image disturbance such as the demographic characteristics of gender, age, body mass index (BMI), and ethnicity. They have found that women are more at-risk for body-image disturbances than men (Demarest & Langer, 1996; Feingold & Mazzella, 1998; Garner, 1997). Younger women are more susceptible to body-image disturbance than older women (APA, 1994; Garner). Women from higher socioeconomic status are more likely to suffer from body-image disturbance than are women from lower socioeconomic status (Allaz, Bernstein, Rouget, Archinard, & Morabia, 1998). Finally, women who have a higher BMI also tend to have higher rates of body-image disturbance than women with normal BMI (Hausenblas & Fallon, 2002; Sands & Wardle, 2003).

With regard to ethnicity, Caucasian women are more at-risk than women from other ethnic populations (Altabe, 1998; Cash & Henry, 1995; Miller, Gleaves, Hirsch, Green, Snow, & Corbett, 2000). For example, when compared to Caucasian women, African-American women generally have lower incidences of body-image disturbances (Demarest & Allen, 2000), lower incidences of eating disorders (APA, 1994), more accurate perceptions of what men find attractive (Demarest & Allen) and a more positive body image (Altabe; Cash & Henry; Miller et al.). Hispanic-American women have shown more weight-related body-image disturbance (Altabe) and higher levels of body dissatisfaction (Cash & Henry) than African Americans. Researchers have suggested that a strong African-American cultural identity played a protective role against some of the attitudinal and behavioral risk factors of body-image disturbance and eating disorders (Pumariega, Gustavson, Gustavson, & Motes, 1994.) More specifically, black women

hold more moderate ideals than thinner ideals of white women (Rucker & Cash, 1992). Asian-American women, on the other hand, have shown the least amount of weight-related body-image disturbance compared to African-American, Hispanic-American, and Caucasian women (Altabe). This may be due to Asian-American women placing the least importance on physical appearance and having the lowest BMI (Altabe).

Many different theories and models have been advanced to explain the development and maintenance of body-image disturbance. The sociocultural model is the most empirically supported explanation for body-image disturbance (Thompson et al., 1999). This model emphasises that the current aesthetic standard of a thin and toned physique for women (i.e., low percent body fat and physically fit) is omnipresent and virtually impossible for people to achieve without excessive dieting, exercise, or both (Cusumano & Thompson, 1997; Thompson et al.). Researchers examining the sociocultural model have focused on the role that the mass media (e.g., print media, television, television) play in body-image disturbance (Irving, 1990; Thompson et al.). Correlational and laboratory-based experimental studies reveal that the media portrayal of the thin body as an ideal is associated with weight and shape dissatisfaction and disordered eating (Harrison, 2001; Irving, 2001; Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Thompson & Heinberg, 1999). For example, after viewing images of the ideal female physique, women report decreased body satisfaction (Heinberg & Thompson, 1995; Irving, 1990; Posavac, Posavac, & Posavac, 1998; Posavac, Posavac, & Weigel, 2001), decreased self-esteem (Irving, 1990), increased body-size distortion (Hamilton & Waller, 1993), and increased mood disturbance (Cattarin, Thompson, Thomas, & Williams, 2000; Pinhas, Toner, Ali, Garfinkel, & Stuckless, 1999; Wegner, Hartman, &

Geist, 2000). The finding that exposure to physique images results in increased negative mood is important because this is risk factors for eating pathologies (APA, 1994). In addition to the previously mentioned demographic moderators of body-image disturbance, exposure, awareness and internalization of the media pressures can increase body-image disturbance. Although awareness and exposure to a thin-physique ideal are not sufficient to explain body-image disturbance, they play a role in relationship between the media and body-image disturbance (Cusumano & Thompson, 1997). Media exposure can lead to awareness of an ideal, which can lead to internalization of the ideal, which in turn may lead to body-image disturbance, especially if the ideal is not attained (Stice et al., 1994; Thompson et al., 1999). In addition, high body dissatisfied women report more negative effects of media exposure than low body dissatisfied women (Heinberg & Thompson, 1995; Irving, 2001; Posavac et al., 1998; Stice, Spangler, & Agras, 2001). Internalization is a variable of interest because individual variance in the level of acceptance of ideals for thinness and attractiveness that is put forth by the media may further explain differences in body-image disturbance (Thompson et al.).

Social norms of the “ideal body” are portrayed in the mass media by the models, actors, and athletes. These mass media ideals have come to shape the standards for which young women believe they must achieve in their struggle for "true" beauty. Most of the models and celebrities used in advertising in the United States are Caucasians. Thus, the ideal dictated by the American mass media is a homogenous, Caucasian, thin, physique that is imposed on a heterogeneous audience. Few studies, however, have examined the role that ethnicity plays as a moderator in body- image disturbance. Furthermore, examining if the ethnicity of the models in the slides affects body-image dissatisfaction

may provide insight into the variation between body-image disturbances in different ethnic populations and in media literacy by identifying at-risk groups and examining of moderators. There are two main reasons why this study is of significance to the body image and media literature. First, there are no studies on ethnicity and the media. Researchers have found the media's portrayal of the aesthetic ideal results in increased mood disturbance for women (Cattarin et al., 2000); however, differences in the ethnicity of the participants have not been examined. Researchers have also shown that Caucasian women report the most body-image disturbance compared to other ethnic minorities (Altabe, 1998, Garner, 1997); however, the role of the media has not been examined. Second, no studies have identified the ethnicity of the models used as the ideal physique and therefore have not examined whether the ethnicity of the models in the slides affects body-image dissatisfaction. This thesis will study whether ethnicity (i.e., Caucasian vs. African American) moderates the psychological effects for mood and body satisfaction of women who have viewed slides of Caucasian models who portray an aesthetic ideal set forth by the mass media. I have chosen to study African Americans as the ethnic minority in my thesis because differences in body-image disturbance are largest between Caucasians and African Americans.

The primary purpose of my thesis was to examine the pre- and posttest mood effects for Caucasian women versus African-American women to exposure to physique slides of the female ideal (i.e., mass media ideal slides of Caucasian women) and physique slides of the "average American woman" (i.e., control slides of Caucasian women). Based on findings from previous studies examining the relationship between body image and ethnicity (Altabe, 1998; Cash & Henry, 1995; Miller et al., 2000), I

hypothesized that Caucasian women would report increased mood disturbance after viewing slides of the mass media ideals than African-American women.

The secondary purpose of this thesis was to examine if BMI, internalization of the aesthetic ideal, and body satisfaction, predict posttest mood scores. Previous findings have shown that BMI is the most significant moderator of body-image disturbance (Hausenblas & Fallon, 2002). Also, women with high body-dissatisfaction scores are more susceptible to the negative effects of thin media images that activate their internalized slender beauty ideals (Groesz, Levine, & Murnen, 2002; Heinberg & Thompson, 1995; Irving, 2000; Posavac et al., 1998; Shaw & Waller, 1995). Therefore, I hypothesized that after controlling for pretest mood scores that BMI would be the strongest predictor of posttest mood scores, followed by body satisfaction, and then internalization (Botta, 2000; Groesz et al.; Thompson et al., 1999).

## CHAPTER 2 REVIEW OF LITERATURE

The purposes of this chapter are to (a) define body image, (b) describe the prevalence and correlates of body-image disturbance, (c) discuss the social theoretical explanations for body-image disturbance, (d) review the literature examining the relationship between mood disturbance and media images of the aesthetic-ideal physique, (e) examine the role of ethnicity in body-image disturbance, and finally (f) discuss the research limitations of the body-image and media literature.

### **Body Image Defined**

Thompson and colleagues (1999) defined body image as an umbrella term that encompasses cognitions, behaviors, perceptions, affect, and subjective evaluations (Thompson et al.). The cognitive dimension describes how body-image schema affects the input, storage, and retrieval processing of information. For example, body-related thoughts may dominate the cognitions of individuals with body-image disturbance resulting in distorted processing of their physique. The behavioral aspect characterizes those behaviors that a person engages in due to his or her appearance. For example, a person may avoid situations or environments that evoke body-image scrutiny (e.g., public beaches and pools), and engage in behaviors related to weight change or maintenance (e.g., dieting and exercise). The perceptual component is the accuracy in estimating the size of either body sites or the whole body (i.e., distortions of actual body size). For example, comparisons between an individual's estimation of the size of her body parts

(i.e., chest, waist, hips, thighs) to the actual width of her body parts can be evaluated in a body-site perceptual test. A larger difference between the actual and perceived measurements indicates greater body-image disturbance. The affective aspect is a person's feelings and anxiety regarding his or her appearance. An example of this dimension is social physique anxiety, which is caused by fear of negative social evaluation of one's body (Hart, Leary, & Rejeski, 1989). Finally, subjective evaluation is a person's body evaluation and dissatisfaction of his or her physique. This dimension is the most global, as it encompasses affective, cognitive, perceptual and behavioral features. Examples of subjective evaluation include the degree of dissatisfaction with the size of body parts (e.g., hips, thighs) or the whole body (Thompson et al.). The phrase *body-image disturbance* will be used in this thesis to refer to negative affect, behaviors, perceptions, and cognitions of body image (Thompson et al.).

### **Prevalence and Correlates of Body-Image Disturbance**

Body-image disturbance is prevalent (Cash & Henry, 1995; Garner, 1997), and it is associated with negative physical and psychological consequences (APA, 1994). Negative feelings and thoughts resulting from body-image disturbance can lead to either positive or negative behaviors. In regard to positive behaviors, body-image disturbance may result in positive lifestyle adjustments such as healthy eating and exercise behaviors. In contrast, body-image disturbance may lead to negative behaviors such as disordered eating (e.g., starvation, bingeing, and purging) and excessive exercise (Thompson et al., 1999). According to Thompson (1992), a person exhibiting these extreme negative behaviors may be evaluated as having a body-image disorder. Thompson defined *body-image disorder* as a persistent report of dissatisfaction, concern, and distress that is

related to an aspect of physical appearance. Some degree of impairment in social relations, social activities, or occupational functioning must also be involved.

Certain populations are more dissatisfied with their body than are others. Demographic correlates of body-image disturbance include gender, age, weight, socioeconomic status, and ethnicity. The incidence of body-image disturbance is higher for women than men (APA, 1994). In regard to age, the prevalence of eating disorders, which are preceded by body-image disturbance, is 125.1 per 100,000 per year for women ages 15-19 and 82.7 per 100,000 per year for women ages 20-24 (van Hoeken, Lucas, & Hoek, 1998). Higher incidences of body-image disturbance have also been found in population groups that are more affluent versus those populations that are less affluent (Allaz et al., 1998). Ethnicity also predicts body dissatisfaction (Botta, 2000). That is, Caucasians have higher incidences of body-image disturbance and eating disorders than do ethnic minorities (i.e., African Americans, Latino/a Americans, and Asians; Altabe, 1998; Cash & Henry, 1995; Demarest & Allen, 2000; Miller et al., 2000). The role of ethnicity in body-image disturbance is elaborated on further in a subsequent section. Also, there is a positive relationship between weight, percent body fat, BMI and body-image disturbance (APA). Finally, experiences such as teasing, sexual harassment, and sexual abuse are also associated with body-image disturbance in women (Thompson et al., 1999).

### **Social Theoretical Explanations for Body-Image Disturbance**

Various theories and models propose explanations for the development and maintenance of body-image disturbance (Fallon, 1990; Heinberg, 1996; Powell & Khan, 1995; Rodin, Silberstein, & Striegel-Moore, 1984). These can be categorized into biological, cognitive-behavioral, interpersonal, feminist, and social explanations of body-

image disturbance. Theories examining social factors have received the strongest empirical support (Fallon; Stormer & Thompson, 1996; Thompson et al., 1999), and they suggest that society provides people, especially women, with beauty ideals that are almost impossible to achieve without resorting to extreme dieting and exercise behavior. The two most popular social theoretical explanations of body-image disturbance are the sociocultural model and Social Comparison Theory (Morrison, 1999; Thompson et al.). Each of these theories will be described below.

According to the sociocultural model, the mass media promote unrealistic standards of attractiveness of an extremely thin and lean physique for women (Thompson et al., 1999). These standards contribute to negative body-image perceptions. Society overemphasizes the importance of thinness, which for many, is not an achievable standard of beauty (Tiggeman & Pickering, 1996). A comprehensive review of the body-size ideals in fashion over the past 100 years highlights an increasingly thinner ideal body (Fallon, 1990). In 1947 the ideal body weight was 5' 4" (1.62 m) and 125 lbs (56.70 kg; BMI of 21.5), but by 1975, the ideal height increased to 5' 8" (1.72 m) while the ideal weight dropped to 118 lbs (53.52 kg; BMI of 17.9). Furthermore, while the ideal size has become progressively thinner over the past few decades (Wiseman, et al., 1992), the average American woman has become progressively larger (Garner et al., 1980; Wiseman et al.). The prevalence of overweight (BMI greater than or equal to 25) and obesity (BMI greater than or equal to 30) has increased. Data from the National Center for Health Statistics (Center for Disease Control [CDC], 2002) reported that 41.0% of women aged 20-34 years were overweight during 1971-1974 and 16.7% were obese. Currently 51.5% of women are overweight and 34.0% are obese.

Using the sociocultural model, researchers have demonstrated the changes in the aesthetic ideal body over time, pervasiveness of a thin ideal, and the impact of the mass media (Thompson et al., 1999). Although the sociocultural model has given researchers testable explanations to work from, it has been criticized for failing to explain the variance of body-image disorders (Thompson et al.). More specifically, most women are exposed to daily societal messages about the ideal body; however, each woman experiences different levels of body-image disturbance. Thus, another theoretical model was needed to explain why some women report little body-image dissatisfaction while others develop body-image disturbances and eating disorders.

The Social Comparison Theory, which developed from the sociocultural model, is useful in attempting to explain the variance of body-image disturbance (Shaw & Waller, 1995). This theory suggests that people develop negative body-image perceptions because they compare themselves to unrealistic targets, such as magazine and advertisement models (Morrison, 1999; Thompson et al., 1999). Festinger (1954) hypothesized that people who are insecure about specific attributes will try to explain their feelings by comparing themselves to objective sources of information or against direct physical standards.

This process of comparing oneself with others in the social environment was the basis for the Social Comparison Theory. When making an upward comparison, a woman would compare herself to a superior target (Kruglanski & Mayseless, 1990; Wood, 1989). Upward comparisons serve as a mechanism for self-improvement, such that the comparisons can serve as an inspiration or motivation. A woman who is trying to lose weight (e.g., “I want to lose 10 pounds and tone my abdominal muscles.”) may look to a

model or celebrity, who is closer to the ideal physique, as a source of inspiration (e.g., “I want my body to look like Celebrity A’s.”) There is a risk, however, that feelings of inferiority may arise and then threaten the individual’s self-esteem. In fact, upward comparisons are associated with increases in emotional distress and decreases in self-esteem (Major, Testa, & Bylsma, 1991).

In contrast, a woman makes a downward comparison when comparing herself to a target that is inferior on the attribute of interest. If a woman is insecure about her weight (e.g., “I am too heavy”), she may feel more secure when comparing herself to a woman who is heavier (e.g., “At least I am thinner than that woman”). Wood (1989) suggested that downward comparisons could serve as mechanisms for increasing self-enhancement. That is, when a person is in doubt about a certain physical attribute, he or she can make downward comparisons with an inferior target to cope with feelings of doubt.

A recent large-scale survey published in *Psychology Today* provides evidence of the Social Comparison Theory. Garner (1997) found that 27% of women “always or very often compared themselves to models in magazines” and 28% of women “carefully study the shapes of models.” Furthermore, Marsh and Parker (1984) and Ruble (1983) showed that even when an objective standard is available, individuals rely on their “relative standing in their social environment to define themselves.” That is, although medical charts with healthy weights and heights may be available, an individual may still rely on comparisons with thinner peers.

Not all women are at risk for body-image disturbance. Along with various interpersonal factors that are involved in the development and maintenance of body-image disturbance, researchers have examined the association of *awareness* and

*internalization* of the societal ideal. Agreement with the belief that, for example, women with toned bodies are more attractive than women who are overweight, reflects an individual's awareness that this ideal exists. Endorsing this belief and having a desire to emulate the appearance of a toned physique reflects the internalization of this standard (Heinberg, Thompson, & Stormer, 1995; Sands & Wardle, 2003).

Most people are aware of the thin ideal the media depict (Murray, Touyz, & Beumont, 1996). For example, 50 anorectic and 30 bulimic patients displayed awareness of the media's pressure to attain a thin physique; however, just being aware did not cause the development of an eating disorder (Murray et al.). As mentioned earlier, not all people who are aware of the influences of mass media develop body-image disturbance or eating disorders. Myers and Biocca (1992) proposed that women use the following three reference points when constructing their body image the: (a) objective body, (b) socially represented ideal portrayed by the media, or promoted by significant others, and (c) internalized ideal body. They argued that the internalized ideal body has become unrealistically thinner because of the media's tendency to make the socially represented ideal very thin.

The Social Comparison Theory accounts for internalization of societal ideal by assuming that some individuals are more vulnerable than others to sociocultural appearance pressures because of individual differences in comparisons towards others (Thompson et al., 1999). That is, higher levels of internalization predicted body dissatisfaction, which was associated with increased levels of eating disturbances (Stice, et al., 1994). Internalization of societal body-image ideals accounts for significant levels of body-image disturbance beyond that explained by awareness (Cattarin et al., 2000;

Cusumano & Thompson, 1997; Sands & Wardle, 2003; Thompson et al.). Women with a history of eating disorders or high body-dissatisfaction are more susceptible to the negative effects of thin media images that activate their internalized slender beauty ideals than women with no history of eating disorders or body disturbance (Groesz et al., 2002; Heinberg & Thompson, 1995; Irving, 2001; Posavac et al., 1998; Shaw & Waller, 1995). Awareness and internalization of the thin physique play an important role in the development and maintenance in body-image disturbances (Sands & Wardle; Thompson et al.). Further research is required to identify why some people are more likely to internalize the thin ideal once aware of its existence.

### **Research Examining the Effects of Media Images of the Aesthetic Ideal on Mood**

Mass media are forms of communication that generate messages designed for large, heterogeneous, and anonymous audiences (Harris, 1994). The relationship between the mass media and body-image disturbances is complex. Researchers agree, however, that the media are influential in communicating society's standards of the *perfect body* (Cusumano & Thompson, 1997; Harrison & Cantor, 1997; Irving, 1990; Kalodner, 1997; Lavin & Cash, 2001; Mazur, 1986; Tiggemann & Pickering, 1996; Waller et al., 1992). Historically, figures of women in art were romanticized as unattainable. Today's media, however, blur the boundary between fiction and reality. The audience now sees airbrushed, computer-generated, and altered models representing real people (Freeman, 1986). The mass media appear to place emphasis on beauty and external appearances in girls and women over more substantive issues, such as identity and independence. The thinner standard set forth for women is evidenced in television characters, movie stars, and women's magazines (Silverstein, Perdue, Peterson, & Kelly, 1986).

Correlational and laboratory experimental studies reveal that the media's portrayal of the thin body as an ideal is associated with weight and shape dissatisfaction, increased mood disturbance, and disordered eating (Harrison, 2001; Irving, 2001; Stice et al., 1994; Thompson & Heinberg, 1999). The general finding that exposure to physique images results in increased body-image disturbance (Irving, 1990; Posavac, et al., 1998) and negative mood (Cattarin et al., 2000; Hausenblas Janelle, Gardner, & Focht, 2004) is important because these are risk factors for eating pathologies (APA, 1994). Some of this research will be presented in more detail below.

Over 50 studies have examined the effects of exposure to images of a thin physique on people's body image and mood. In their recent meta-analysis, Groesz, Levine, and Murnen (2002) reviewed 25 studies that evaluated the immediate effects of images of slender, ideal beauty on female body image. Groesz and colleagues examined several moderator variables including the following: types of control images (e.g., average versus overweight models), age of participants (e.g., not yet in college versus college-age and older), body-dissatisfaction history of the participant (e.g., participants with and without significant body-image issues), and number of stimuli presented (e.g., less than 10 versus 10 or more). They reported that body satisfaction for women was significantly lower after viewing thin media images compared to viewing media images of average size models, overweight models, or controls. The effect was stronger for participants who were younger than 19 years old, participants with high body disturbance, and participants who viewed fewer than 10 stimuli.

Stice and Shaw (1994) assessed the effects of exposure to the thin-ideal on women's affect, body satisfaction, and endorsement of the thin-ideal stereotype.

Undergraduate women ( $N = 157$ ) viewed pictures from magazines containing “ultra-thin models, average-sized models, or no models.” The participants reported that exposure to media images of thin women produced depression, stress, guilt, shame, insecurity, and body dissatisfaction. Further, multiple regression analyses indicated that negative affect, body dissatisfaction, and subscription to the thin-ideal predicted bulimic symptoms.

Using a different medium, Heinberg and Thompson (1995) investigated the effect of viewing 10-minute television commercials containing appearance-related or nonappearance-related images on women’s body-image satisfaction and mood, and whether body-image disturbance and internalization of the aesthetic ideal moderated body-image satisfaction and mood ( $N = 138$ ). They found that women with higher levels of body-image disturbance and higher internalized ideals became more depressed, angrier, and dissatisfied with their appearance following the appearance video, compared to the women who viewed the nonappearance video. All of the women, regardless of level of body-image disturbance, showed a decrease in appearance dissatisfaction after viewing the nonappearance video.

In an investigation that extended this study, Cattarin and colleagues (2000) asked college women ( $N = 180$ ) to view 12-minute television commercials containing stimuli emphasizing thinness and attractiveness or television commercials containing neutral, nonappearance-related stimuli. This study manipulated social comparison by creating three instructional conditions (neutral, comparison, or distraction). Participants in the neutral condition were instructed to “watch [the video] as if you were watching television in your own home.” Participants in the comparison condition were instructed that, “your task when you watch the videotape is to compare yourself to the people in the video—

notice what they look like, what they're wearing, things like that." Participants in the distraction condition were instructed that "your task when you watch the videotape is to pay close attention to the products being advertised in the commercials—notice what they are, what they look like, how they're packaged, things like that." They found that media-presented images of women have the ability to either positively or negatively affect mood and satisfaction with appearance within a nonclinical female sample. Participants in the comparison condition who watched the experimental video reported more anger, anxiety, and depression than participants in the distraction or neutral conditions (Cattarin et al.).

In another study of mood, Hausenblas and colleagues (2004) examined affective responses of media exposure to nonphysique-control, self-physique, and model-physique slides for university women ( $N = 30$ ) who were either high or low on drive for thinness (DT). The participants' affective responses were assessed 4 times in the 4 hours following the slide-viewing task. They found that the high DT group, compared to the low DT group, reported higher negative affect 1 and 2 hours after viewing the model-slides. The positive affect, when collapsed across group and condition, was also lowest at the 1 hour post-assessment. Thus, not only can viewing thin-model slides lead to a negative mood and higher body dissatisfaction for certain individuals, the affective responses may last for up to two hours after exposure.

In contrast, not all researchers have found that media exposure to the aesthetic ideal results in increased mood disturbance. For example, Cusumano and Thompson (1997) found that exposure to thin-media images, however, did not predict body-image disturbance in college-aged women. They surveyed women ( $N = 175$ ) about the type of magazines that they read, along with the time spent reading each magazine, and they

hypothesized that exposure to smaller body sizes would be most associated with awareness, internalization, body dissatisfaction, eating disturbance, and low self-esteem. Using regression analyses, they found that awareness, not exposure, was a significant positive correlate of body-image disturbance. Furthermore, internalization of societal norms of appearance accounted for significant amounts of variance in body-image disturbance after controlling for the role of awareness. For example, for body-shape ratings, internalization accounted for 12.9% additional variance for the EDI-body dissatisfaction measure, 18% additional variance for the EDI-drive for thinness measure, and 9.1% additional variance for self-esteem.

Another area of media and body-image studies that has revealed inconsistent findings is whether women with different levels of body-image disturbance experience different effects from exposure to a thin ideal. For example, Posavac and colleagues (1998) assessed weight concern of 138 female undergraduate students in three experiments. The participants were divided into high and low body-dissatisfied groups. Experiment 1 examined exposure to media images vs. neutral images. Experiment 2 examined exposure to media images vs. images of realistic feminine attractiveness. Experiment 3 examined exposure to image neutral slides (i.e., automobiles) vs. media images. They found that exposure to media images of attractiveness increased women's weight concern for the high body-dissatisfied women only.

Also demonstrating the moderating effect of body-image disturbance, Groesz and colleagues (2002) reported that high body-dissatisfied samples were more adversely affected by the thin media stimuli than low body-dissatisfied samples. Similarly, Heinberg and Thompson (1995) also revealed that the women with higher body-image

disturbance and higher internalization of an ideal were more adversely affected by the appearance videos than women with low levels of body-image disturbance and internalization.

In contrast, other researchers have found that body-image disturbance does not moderate media effects. Irving (1990) examined the impact of exposure to slides of thin, average, and oversize models on college women ( $N = 162$ ) exhibiting varying levels of self-reported bulimic symptoms. These results, however, revealed that exposure to thin model slides was related to lower self-evaluations (i.e., lower self-esteem and decreased weight satisfaction) regardless of severity of bulimic symptoms. Similarly, Kalodner (1997) assessed the immediate impact of brief exposure (i.e., less than one minute) to images taken from media on the self-consciousness and anxiety of noneating-disordered female college students ( $N = 60$ ). The results revealed that the college-aged women who viewed pictures of thin female models expressed higher private self-consciousness, body competence, and state anxiety compared to those who viewed control slides. Therefore, regardless of eating disorder status, women experience societal pressure, expressed in the media, to be thin.

A third potential moderator variable for the effects of the media portrayal of the ideal physique on mood is the moderating effect of age. The general finding in this area is that younger women report more body-image disturbance than older women. Garner (1997) reported in *The Body Image Survey* the following:

The youngest women, ages 13-19, are both the thinnest and most satisfied with their appearance, however 54% of them are still dissatisfied. The number barely increased to 57% among women ages 20-29...The good news is that even

though women gain weight with age, they don't become more dissatisfied as they get older. (p. 38)

Groesz and colleagues (2002) found that women who were not yet college-aged were more adversely affected by the presentation of thin media stimuli than people aged 19 and over. They coded the 25 studies used in the meta-analysis according to two categories: younger than 19 and older than 19. This may have led to a slight discrepancy because the studies I have described above generally sampled from college populations with an average age of 18-mid 20s. For example, the Cusumano and Thompson (1997) study sample ranged in age from 18-49 ( $M = 24$ ,  $SD = 6.6$ ), and the Kalodner (1997) study sample ranged in age from 17-40 ( $M = 18.97$ ). Thus, further research is needed examining the moderating effect of age on body-image disturbance.

### **Ethnicity and Body-Image Disturbance**

When examining the comparisons that people make and their own body-image disturbance, it is necessary to include ethnicity as a moderating factor. As a scientific term, *ethnicity* distinguishes “groups of people by their ancestry, language, customs, religion, culture, or nationality without relying upon the physical characteristics that are central to the definition of race” (Atkinson, 2003). According to the United States Census Bureau (2000) the largest ethnic minorities in the United States are Hispanics/ Latinos (12.5% of the US population; 16.8% of Florida's population) and Black/ African Americans (12.30% of the US population; 14.6% of Florida's population). Although African Americans comprise the second largest minority, studies have consistently shown that African-American women have a more positive body image than Caucasian women (Altabe, 1998; Cash & Henry, 1995; Miller et al., 2000; Rosen, Anthony, Booker & Brown, 1991). African-American women also report more body satisfaction and less

overestimation of weight than Caucasian women (Miller et al.). I have chosen to study African Americans as the ethnic minority in my thesis because differences in body image are largest between Caucasians and African Americans. This will be discussed further in this section.

Although researchers have found differences in body-image disturbance between different ethnic populations, they caution that there are also differences among ethnic minority samples. For example, within the U.S. Black population, there is a general preference for a fuller shape and a shapelier figure because a larger body size is culturally associated with high social status, health, and beauty (Ofosu, Lafreniere, & Senn, 1998). When increased social, vocational and economic opportunities are available to women of color, women of color may become vulnerable, and conform to pressure to be "perfect" in the context of upward social mobility (Root, 1990). This perfection may be pursued by shaping one's body to fit the mainstream culture's female body ideal. Thus, research examining the ideal physique for different ethnic populations is also needed.

In a 1994 survey, *Essence* magazine (a fashion magazine marketed to an African-American audience) reported that its readers were just as dissatisfied with their body weight as the *Glamour* magazine (a fashion magazine marketed to a Caucasian audience) readers had been a decade earlier (Pumariega et al., 1994.) Thus, Gregory (1994) stated that "...largeness...once accepted-even revered-among Black folks...now carries the same unmistakable stigma as it does among Whites" (p. 57). Results show that participants had adopted attitudes toward body image, weight, and eating, and suffered from levels of depression, equal to their White counterparts. The *Essence* magazine eating disorder study examined a sample of 600 women and found that 66% of the respondents reported

dieting behavior, 39% claimed that food controls their lives, and 54% were at risk for an eating disorder. Similarly, 75% of *Glamour* respondents thought they were "too fat" (Pumariega et al.). It is important to note that this type of survey research has its limitations. First, the survey was only available to readers of *Glamour* and *Essence* magazines. Second, the respondents were most likely women with strong feelings about their body image. Third, the authors had no control over how the respondents would interpret the questions. Although body-image surveys can provide an abundance of data, researchers must be careful when interpreting the data and generalizing their findings to a larger population.

Demarest and Allen (2000) also found that the African-American women ( $n = 20$ ) in their study were not more satisfied with their body sizes than were the Caucasian women ( $n = 20$ ). Although body dissatisfaction may be similar in these two ethnic groups, the African-American women had the most accurate perceptions of what men found attractive, while Caucasian women had the greatest distortion of what men found attractive. That is, the Caucasian women thought that men would prefer shapes thinner than the ones the men indicated as being attractive. African-American women still reported a desire to be thinner; however, they knew exactly how thin the men wanted them to be (Demarest & Allen).

This narrowing of the gap of body dissatisfaction between Caucasians and Minorities is not limited to adult women. In their study of Black and White, 9 and 10-year olds, 40% of the girls reported wanting to lose weight, with no significant difference between Black or White girls (Schreiber, Robins, Striegel-Moore, Obarzanek, Morrison, & Wright, 1996). Another study by Smith and Krejci (1991) examined eating disordered

behavior and attitudes among high school Hispanics, Native Americans, and Whites in the U.S. They concluded that the rate of disturbed eating behavior is at least as prevalent among Native Americans and Hispanics as it is among White adolescents.

Although there is a difference between Caucasian women and African-American women regarding their body images, current research shows that both groups are becoming more dissatisfied with their bodies. The images perpetuated by the media may be influencing women of all ethnic backgrounds. More research is needed to identify reasons for why the gap is narrowing.

### **Research Limitations**

There are several research limitations to consider when reviewing the literature on body image (Thompson et al., 1999), media effects, and ethnicity. First, researchers are using multiple operational and conceptual definitions of body image (Bane & McAuley, 1998). For example, body-image constructs include appearance evaluation, body-size perception, physique anxiety, and avoidant behaviors that are related to appearance (Thompson et al.). In some cases, researchers and clinicians are using the terms (e.g., body-image dissatisfaction, body-image disorder, and body-image disturbance) interchangeably. Due to the casual use of the term, caution must be taken when comparing studies that claim to assess body image because, for example, one study may examine perceptions of appearance whereas the other may assess attitudes about appearance (Hausenblas & Symons Downs, 2001). It is recommended that body image be viewed and measured as a multidimensional construct and that the dimensions of body image assessed are clearly defined (Bane & McAuley; Thompson et al.). Researchers also need to examine the difference between *awareness*, as well as, *internalization* of societal ideals of appearance on the influence of body image (Hausenblas & Symons Downs).

Second, these numerous body-image measures that have been developed vary depending on which aspect of body-image disturbance is being assessed. These instruments differ in regards to their psychometric properties, feasibility, and frequency of use (Bane & McAuley, 1998; Thompson, et al., 1999.) Comparing individual studies investigating the body-image-media relationship is difficult. When choosing a body-image measure, researchers should consider the population they are investigating as well as inspect the body-image measures based on the validity and reliability of the measure, and the scale type (e.g., Likert or visual analog). With regard to scale type, researchers have recently suggested that traditional measures of body-image using Likert scales anchored with "weak", "moderate", and "strong" are inadequate because the intensity of those adjectives depends on the range of people's experiences (Bartoshuk, 2000a, 2000b, Carpenter, 2000). Therefore, visual analog scales with universally adjective-labeled scales are suggested for use in psychology (Bartoshuk, 2000a, 2000b; Carpenter).

Third, it is difficult to generalize from the experimental media studies because they vary in the demographics of the participants, procedures followed, stimuli selected, and assessments used. Most participants are U.S. college students (particularly, women) and several studies have used only one method of measuring body image (Demarest & Allen, 2000; Groesz et al., 2002). Groesz and colleagues noted in their meta-analysis that studies have used different methods of presenting the mass media (e.g., magazine slides, magazine photos, and television commercials), different numbers of stimulus slides (e.g., 10 photos versus 36 photos), different exposure times (e.g., less than one minute, 20 minutes, and even an inability to account for the quantity of time), and different control conditions (e.g., models of normal weight, overweight models, images of cars and

houses). With regard to the presentation of the mass media and exposure time, the authors sampled studies that used all three forms mentioned above but they did not analyze differences between the presentation methods. They found that the effect size was greatest with only a few exposures to slide stimuli (i.e., not with 10 or more); however, they did not analyze differences in the actual time spent looking at the stimuli. Finally, they found that studies using average models as the control produced the strongest effect size (Groesz, et al.).

Finally, there have been no studies of body image, media effects, and ethnicity. Body image concerns are influenced by cultural and ethnic factors, yet most research on the media and disordered eating has focused on Caucasians (Irving, 2001). Thus, research on ethnicity and media response is needed.

## CHAPTER 3 METHOD

### **Participants**

The participants were 31 female Caucasian and 30 female African-American, undergraduate students who were enrolled in sport and fitness, Anatomy, and Personal and Family Health classes at the University of Florida. Participants ranged in age from 18-25. A power analysis indicated that based on an alpha level of .05, a sample size of 60 (30 Caucasian women and 30 African-American women) was needed to obtain a moderate effect size with a power of .77 for the analyses conducted (Tran, 1997).

### **Measures**

#### **Demographic Questionnaire**

The Demographic Questionnaire assessed the participant's age, height, weight, ideal weight, and ethnicity. The participants also indicated their country of birth and how long they had lived in the United States. These answers were used to select Caucasian and African-American participants who have spent a majority of their lives in the United States.

#### **Body Composition**

**Body Mass Index.** Body Mass Index (BMI), an assessment of body weight relative to height, was computed based on self-reported height and weight of the participants. This is calculated by converting weight from pounds to kilograms, and converting height from inches to meters ( $\text{kg}/\text{m}^2$ ). BMI is a reliable estimate of obesity; however, there is a 5% standard error when using BMI to estimate body fat percentage

(American College of Sports Medicine [ACSM], 2000; Garrow & Webster, 1985). To calculate actual BMI, height and weight of each participant were measured by a Healthometer scale (Chicago, IL)

### **Ideal Body Stereotyping Scale-Revised**

The participant's internalization of the ideal-body stereotype was assessed with the 8-item Ideal Body Stereotyping Scale-Revised (Stice, Ziemba, Margolis, & Flick, 1996). The participants indicated their agreement with statements on a 5-point Likert Scale anchored with *strongly disagree* (1) to *strongly agree* (5; See Appendix C). Sample statements include "Slim women are more attractive" and "Tall women are more attractive." High scores indicated that the participant agreed with socioculturally endorsed views of the ideal woman. The Ideal Body Stereotyping Scale-Revised has adequate reliability and validity (Stice et al.).

### **Body-Areas Satisfaction Scale**

The participant's satisfaction with body features such as the face, hair, weight, and muscle tone was assessed with the 8-item Body-Areas Satisfaction Scale of the Multidimensional Body-Self Relations Questionnaire (Cash, 2000). The participant indicated her satisfaction on a 5-point scale anchored at the extremes with *very dissatisfied* (1) to *very satisfied* (5). High scores indicated greater satisfaction with one's body. The Body-Areas Satisfaction Scale has good psychometric properties (Cash; See Appendix D).

### **Mood Visual Analog Scale**

The participant's mood (anxiety, depression, anger, and body dissatisfaction) was assessed using a 4-item Mood Visual Analog Scale (Heinberg & Thompson, 1995; See Appendix E). The participant indicated her mood by drawing a perpendicular line across

the 10cm horizontal line at the location that “best describes how you feel right now.” The four items were anchored from *No Anxiety, Depression, Anger, Body Dissatisfaction* to *Worst Possible Anxiety, Depression, Anger, Body Dissatisfaction*. The lines drawn by the participant were measured using a ruler. This measure has adequate psychometric properties, and it has been used in studies examining media effects on mood and body image (e.g., Heinberg & Thompson; Lavin & Cash, 2001).

### **Stimulus Slides**

The following two slide conditions were used representing women: (a) Caucasian mass media ideals and (b) Caucasian normal-weight controls. Each condition contained nine pictures of women (exercising, in lingerie, in designer clothing, in bathing suits) taken from popular fashion, beauty and, health magazines and clothing catalogues marketed for women (*Vogue, Cosmopolitan, Allure, Marie Claire, InStyle, Shape, Victoria's Secret Catalogue, New Port News Catalogue, Junonia active wear catalogue*).

Following the procedures of Cusumano and Thompson (1997) and Waller, Hamilton, and Shaw (1992), all pictures met the following criteria:

- Photographs depicted individual women.
- Figures were positioned so that their bodies were within 45° of facing front or directly back.
- Photographs showed at least a three-quarter shot (i.e., head down to at least the lower thigh).
- At least three-fourths of the arms, upper torso, stomach, or legs were either visible or not obscured by baggy clothing.

- Figures were well-defined (i.e., baggy clothing or dark clothing were not be masking body shape.)
- Photographs had no overlaid type.
- Figures were larger than a 3 x 3cm square.
- Preadolescent females, adolescent females, and pregnant women were not selected.

A content analysis was performed to select the pictures that were used in the two conditions. A group of nine female graduate students and one female professor at the University of Florida viewed and rated 60 photos (i.e., 30 Mass Media Ideal photos and 30 Control photos). Each rater viewed the slides in a Microsoft PowerPoint© format just as the participant would view them in the actual viewing task. They were asked to indicate whether each picture was either a mass media ideal, a control, or neither. A *mass media ideal* was defined as “the female body that is reflected in the media as ‘perfect.’” A *control* was defined as representative of “the average ‘real’ American woman.” The raters were told that “the photographs in the Control condition may not reflect the ideal set forth by the mass media but rather more of a realistic ideal for society.” Finally, the raters indicated *neither*, if the woman in the picture did not portray a mass media ideal or a control.

If the raters indicated that the pictures represented either the mass media ideal or the control, they were then asked to indicate their agreement with the statement “This picture accurately portrays a [mass media ideal or control],” on a 5-point Likert scale anchored with extremes from *Strongly Agree* (5) to *Strongly Disagree* (1; See Appendix F). Higher scores indicated that the photo was an accurate portrayal of a mass media ideal

or a control. The top 9 photos (i.e., photos with the highest scores) for each condition were selected for the viewing task. According to a meta-analysis on media images and body satisfaction (Groesz et al., 2002), effect size was the greatest with exposure to nine or less stimuli ( $d = -.45$ ) than with 10 to 19 exposures ( $d = -.31$ ), or more ( $d = -.28$ ). The mean score of the raters for the nine mass media ideal pictures was  $M = 4.6$  (range = 4.9 to 4.3) and the mean score for the control pictures was  $M = 4.35$  (range = 4.6 to 4.1).

## **Procedure**

### **Recruitment**

Over 600 undergraduate students from the University of Florida were prescreened to participate and about 200 were contacted to participate in the study, which was approved by the University of Florida Institutional Review Board (Protocol # 2002-124; See Appendix A). Female students were recruited from sport and fitness, Anatomy, and Personal and Family Health classes and asked to complete the following three questionnaires: the Demographics Questionnaire, Body-Areas Satisfaction Scale, and Ideal Body Stereotyping Scale-Revised. Prior to completing the questionnaires, the participants completed an Informed Consent (See Appendix B). The students received extra credit for completing the measures in class.

Based on the answers to the recruitment questionnaire, 61 female participants (31 Caucasians and 30 African-Americans) were randomly chosen to complete the remainder of the study. As discussed previously, the participants indicated where they were born and how long they had lived in the United States. The answers provided were used to identify women who were exposed and assimilated to the ideals of the American mass media and society. For example, a Caucasian woman who was born and raised in the

United States would be recruited before a Caucasian woman who was born and raised in Germany, but was currently studying in the United States.

To increase the response rate, several procedures were taken (Ransdell, 1996). First, each participant received a maximum of two phone calls to recruit and schedule them for the slide-viewing task. Second, each participant received an e-mail reminder two days before they were scheduled to come to the Exercise Psychology Lab. Third, each participant was given a phone call reminder the night before their visit. Finally, the participants may have had the opportunity to receive extra credit depending on the class they were recruited from (i.e., Participants were recruited from classes whose instructors may have offered extra credit for participation in a study.)

The next two parts of the study were conducted in the Exercise Psychology Lab. Condition A and Condition B (described in detail below) were one week apart and each session was about 15 minutes. Instructions and procedures were identical in both parts; however, the slides viewed by the participant were different--either mass media ideals or controls. The order of the conditions was randomized for each participant and the slides within each condition were counterbalanced to control for order effects.

### **Laboratory Conditions**

The participants came to the Exercise Psychology Lab individually and met with the experimenter, who went over the directions of the slide-viewing task, answered any questions, and then stepped outside of the room. The experimenter told the participants they were participating in a study examining body image and the media. The participant filled out the Mood Visual Analog Scale and then viewed the 9 slides (either mass media ideals or controls). The participant was sitting 2 feet away from a 15-inch computer monitor during the slide-viewing task that was presented in a Microsoft PowerPoint©

presentation format. Each slide flashed on the computer screen for 15 seconds and then automatically transitioned to the next slide. The timing of the slides was controlled so that all participants had the same amount of time to view each slide. Slide viewing took 2 min 15 sec. When the participant finished viewing the slides, she opened the door and the experimenter came back into the room with another Mood Visual Analog Scale that was then completed by the participant. Finally, the experimenter scheduled the next visit one week later at the same time of day for the participant to view the other slide condition to control for the diurnal effects of mood (Gauvin, Rejeski & Reboussin, 2000). At the end of the second visit, the experimenter assessed each participant's actual height and weight on a scale provided in the Exercise Psychology Lab.

### **Manipulation Check**

At the end of each condition, the participant answered two questions. The first was "How representative of your current ideal body were the pictures you just viewed today?" The participant indicated her answer on a 5-point scale anchored at the extremes with *not at all representative* (1) to *extremely representative* (5). Then the participant was asked to explain her answer in as much detail as possible (See Appendix G.) For example, if she had circled a (1), she was to explain why she thought the pictures were not at all representative of her ideal body. The participant also answered the question "What do you consider to be the ideal physique?"

### **Debriefing**

At the end of time two, the experimenter explained the true purpose of the study (i.e., to look at the effect of ethnicity on body-image and mood) and informed the participant that the photos they viewed purposely contained only Caucasian women. Each participant was given a debriefing form (See Appendix H) that asked for her permission

to use the data that was just collected. The experimenter also answered any questions that were asked and addressed any comments that were made about the study.

### **Data Analysis**

First, prior to conducting the analysis, the data were examined to ensure they met the appropriate statistical assumptions. Second, internal consistency scores for the study variables of the Body-Areas Satisfaction Scale and the Ideal Body Stereotyping Scale-Revised were assessed. Third, the descriptive statistics were computed for the sample characteristics. Fourth, separate one-way ANOVAs were used to compare group differences (i.e., Caucasians vs. African-American women) for age, height, weight, BMI, internalization, and body satisfaction. The independent variable was group (i.e., Caucasian, African-American) and the dependent variables were age, height, weight, BMI, internalization scores, and body-area satisfaction scores. If group differences existed for these three variables, they would be used as covariates in further analysis.

For the primary purpose, four separate 2 (Group: Caucasian, African-American) x 2 (Slide: mass media ideals, ) x 2 (Time: pre-test and post-test scores) repeated measures ANOVA were conducted for the Mood Visual Analog Scale. The between-group variable was the two *groups* (i.e., Caucasian vs. African-American.) The within-group units were the *slides* (i.e., the mass media ideals and the control slides) and the *time* (i.e., pre-test and post-test scores). The independent variables were the two groups and the slide conditions. The dependent variable was the Mood Visual Analog Scale scores (i.e., anxiety, depression, anger, and body dissatisfaction).

For the secondary purpose, four separate forced entered hierarchical regression analyses were conducted to examine if pretest scores, BMI, internalization, and body satisfaction could predict posttest scores of each group. The order and content of the

blocks of variables for the independent variables were entered in the following manner: posttest scores (dependent variable) were regressed on pretest scores of anxiety, depression, anger, and body dissatisfaction (Block 1), followed by BMI, internalization scores, and body satisfaction scores (Block 2).

## CHAPTER 4 RESULTS

### **Internal Consistency**

Internal consistency scores (i.e., Chronbach's alpha; Nunnally, 1978) were calculated for the Body-Areas Satisfaction Scale and the Ideal Body Stereotyping Scale-Revised by ethnicity (i.e., Caucasian, African-American). Because the alpha value increases with the number of variables, there is no consensus regarding the interpretation of internal consistency scores. I used the rules for the interpretation of alpha values described by George and Mallery (2001). For the Caucasian women, Chronbach's Alpha for the Body-Areas Satisfaction Scale was good ( $\alpha = .88$ ) and for the Ideal Body Stereotyping Scale-Revised it was excellent ( $\alpha = .90$ ). Similarly, for the African-American women, Chronbach's Alpha for the Body-Areas Satisfaction Scale was good ( $\alpha = .89$ ) and for the Ideal Body Stereotyping Scale-Revised it was excellent ( $\alpha = .93$ ).

### **Sample Characteristics**

A total of 672 women were screened for this study ( $n = 478$  Caucasian,  $n = 101$  African-American,  $n = 50$  Hispanic,  $n = 31$  Asian, and  $n = 12$  other.) Based on the inclusion criteria of the participants being Caucasian or African-American, 579 women qualified to participate (i.e.,  $n = 478$  Caucasian +  $n = 101$  African-American = 579.) Of the 579 women who qualified to participate, 191 were randomly selected and contacted for study participation. Mean and standard deviation scores for age, height, weight, BMI, body satisfaction, and internalization for the 672 women screened for study participation,

the 579 eligible participants, and the 191 women contacted for study participation are presented in Table 4.1.

Table 4.1. Mean and Standard Deviation Scores for Descriptive Statistics of Women Screened for Participation, Eligible for Participation, and Phoned for Participation

| Variable   | Screened<br>Participants<br>( <i>N</i> = 672)<br><i>M</i> ( <i>SD</i> ) | Eligible<br>Participants<br>( <i>n</i> = 579)<br><i>M</i> ( <i>SD</i> ) | Randomly<br>Selected<br>Participants<br>( <i>n</i> = 191)<br><i>M</i> ( <i>SD</i> ) |
|------------|---|---|---|
| Age        | 19.81 (1.57)  | 19.79 (1.52)  | 19.73 (1.37)  |
| Height (m) | 1.62 (0.07)   | 1.63 (0.07)   | 1.63 (0.07)   |
| Weight(kg) | 60.58 (9.92)  | 60.98 (9.62)  | 62.45 (10.88)   |
| BMI        | 22.98 (3.51)  | 22.99 (3.45)  | 23.47 (4.07)  |
| BASS       | 27.71 (5.37)  | 27.87 (4.69)  | 27.51 (5.78)  |
| IBSS-R     | 28.02 (4.47)  | 28.03 (4.52)  | 27.52 (5.23)  |

Note. BMI = Body Mass Index. BASS = Body-Areas Satisfaction Scale. IBSS-R = Ideal Body Stereotyping Scale-Revised. The eligible and randomly selected participants did not differ significantly on the above variables,  $p > .05$ .

Of the 191 potential participants, 27 did not wish to participate, 77 did not return my two phone calls, and 9 women could not be reached (i.e., no answering machine, wrong phone number, disconnected phone number.) Therefore, I had a response rate of 59% (i.e., 113/191). Of the 78 women scheduled to participate in the study, 11 did not show up to their first scheduled session, and 6 women did not attend their second scheduled session (i.e., nonadherers). Therefore, 61 women completed the full laboratory portion of this study, demonstrating a 22% attrition rate. One-way Analysis of Variance (ANOVA) showed that the nonadherers did not differ significantly from the adherers on the demographic variables of age [ $F(1, 66) = 1.99, p = .16$ ], height [ $F(1, 66) = .95, p = .34$ ], weight [ $F(1, 66) = .92, p = .34$ ], BMI [ $F(1, 66) = 1.89, p = .17$ ], body satisfaction [ $F(1, 64) = .91, p = .34$ ], and internalization [ $F(1, 65) = .07, p = .79$ ] (see Table 4.2).

Table 4.2. Mean and Standard Deviation Scores for the Nonadherers and Adherers.

| Variable    | Nonadherers                               | Adherers                                   |
|-------------|---|--|
|             | ( <i>n</i> = 6)<br><i>M</i> ( <i>SD</i> ) | ( <i>n</i> = 61)<br><i>M</i> ( <i>SD</i> ) |
| Age         | 19.00 (0.89)                              | 19.70 (1.19)                               |
| Height (m)  | 1.67 (0.03)                               | 1.64 (0.07)                                |
| Weight (kg) | 60.08 (5.70)                              | 65.49 (13.67)                              |
| BMI         | 21.61 (2.33)                              | 24.28 (4.69)                               |
| BASS        | 30.33 (6.12)                              | 27.85 (6.06)                               |
| IBSS-R      | 26.67 (4.37)                              | 27.31 (5.83)                               |

Note. BMI = Body Mass Index. BASS = Body-Areas Satisfaction Scale. IBSS-R = Ideal Body Stereotyping Scale-Revised. Nonadherers and adheres did not differ significantly on the above variables,  $p > .05$ .

Mean and standard deviation scores for descriptive statistics for age, height, weight, BMI, body satisfaction, and internalization for the 130 nonparticipants and the 61 participants are listed in Table 4.3. Nonparticipants were the women who did not wish to participate ( $n = 27$ ), did not return my phone calls ( $n = 77$ ), could not be reached ( $n = 9$ ), did not show up to a scheduled session ( $n = 11$ ) and did not complete the study ( $n = 6$ ). The results of a one-way ANOVA revealed no differences between the nonparticipants and the participants for BMI [ $F(1, 180) = 1.20, p = .27$ ], body satisfaction [ $F(1, 182) = .49, p = .49$ ], or internalization [ $F(1, 181) = 0.19, p = .66$ ].

Table 4.3. Mean and Standard Deviation Scores for the Nonparticipant and Participants.

| Variable    | Nonparticipants                             | Participants                               |
|-------------|---|--|
|             | ( <i>n</i> = 130)<br><i>M</i> ( <i>SD</i> ) | ( <i>n</i> = 61)<br><i>M</i> ( <i>SD</i> ) |
| Age         | 19.71 (1.44)                                | 19.70 (1.19)                               |
| Height (m)  | 1.62 (0.07)                                 | 1.64 (0.07)                                |
| Weight (kg) | 61.83 (10.18)                               | 65.49 (13.67)                              |
| BMI         | 23.26 (3.71)                                | 24.28 (4.69)                               |
| BASS        | 27.33 (5.64)                                | 27.85 (6.06)                               |
| IBSS-R      | 27.63 (4.96)                                | 27.31 (5.83)                               |

Note. BMI = Body Mass Index. BASS = Body-Areas Satisfaction Scale. IBSS-R = Ideal Body Stereotyping Scale-Revised. Nonparticipants and participants did not differ significantly on the above variables,  $p > .05$ .

Mean and standard deviation scores for descriptive statistics for the 61 Caucasian and African-American women who completed the study are presented in Table 4.4. An ANOVA revealed no group differences between the Caucasian and African-American women for BMI [ $F(1, 60) = 3.23, p = .08$ ], body-areas satisfaction [ $F(1, 58) = .83, p = .37$ ], or internalization [ $F(1, 59) = 3.35, p = .07$ ].

All 31 of the Caucasian women reported that they were born in the United States. Furthermore, 29 of the women had lived in the US since birth, while the other 2 women had lived in the US for at least 15 years. For the African-American women, 26 out of 30 reported being born in the US, with 25 living in the US since birth and 1 living in the US for at least 15 years. The other 4 African-American women were born abroad (e.g., Canada, England, Jamaica, and Nigeria) and had lived in the US for at least 10 years.

Table 4.4. Mean and Standard Deviation Scores for the Caucasian and African-American Experimental Groups.

| Variable    | Caucasians<br>( $n = 31$ )<br>$M(SD)$ | African-Americans<br>( $n = 30$ )<br>$M(SD)$ |
|-------------|---------------------------------------|--|
| Age         | 19.52 (1.09)                          | 19.90 (1.27)                                 |
| Height (m)  | 1.64 (0.06)                           | 1.64 (0.07)                                  |
| Weight (kg) | 62.87 (9.55)                          | 68.20 (16.65)                                |
| BMI         | 23.24 (3.10)                          | 25.36 (5.77)                                 |
| BASS        | 27.16 (6.10)                          | 28.61 (6.04)                                 |
| IBSS-R      | 28.67 (4.96)                          | 25.97 (6.38)                                 |

Note. BMI = Body Mass Index. BASS = Body-Areas Satisfaction Scale. IBSS-R = Ideal Body Stereotyping Scale-Revised. The Caucasians and African-American women did not differ significantly on the above variables,  $p > .05$ .

### Preliminary Analyses

To verify that the data met the assumptions for normality, the data were examined for skewness and kurtosis. Although, a value of zero indicates a normal distribution, values between  $-2$  and  $+2$  are acceptable criterion for meeting the assumptions of

normality. Thus, the sample in this experiment ( $N = 61$ ) met the criterion for normality for age, height, weight, BMI, Body-Areas Satisfaction Scale, and Ideal Body Stereotyping Scale- Revised (see Table 4.5 for means and standard deviations of skewness and kurtosis for the adherers).

Table 4.5. Mean and Standard Deviation Scores for Skewness and Kurtosis of the 61 Adherers for the study variables.

| Variable    | Skewness    | Kurtosis    |
|-------------|-------------|-------------|
|             | $M (SD)$    | $M (SD)$    |
| Age         | .60 (0.31)  | -.10 (0.60) |
| Height (m)  | .59 (0.31)  | .28 (0.60)  |
| Weight (kg) | 1.46 (0.31) | 2.61 (0.60) |
| BMI         | 1.48 (0.31) | 2.36 (0.60) |
| BASS        | -.34 (0.31) | .39 (0.61)  |
| IBSS-R      | -.37 (0.31) | -.10 (0.61) |

Note. BMI = Body Mass Index. BASS = Body-Areas Satisfaction Scale. IBSS-R = Ideal Body Stereotyping Scale-Revised.

### Primary Analyses

Four separate 2 (group: African-American and Caucasian) x 2 (slide: models and controls) x 2 (time: pre and posttest mood) repeated measures ANOVA were conducted to determine if the participants in the two groups who viewed both the slide conditions (IV) differed on their pre and posttest mood scores (DV). See Table 4.6 and 4.7 for the means and standard deviation scores of pre and posttest mood for both the Model and the Control slide conditions, respectively. The results of these analyses are separated by mood and described in detail below.

**Anxiety.** Homogeneity of variance-covariance was met [ $F(9, 158860) = 1.06, p = .39$ ], therefore Wilks' Lambda statistic was used to interpret the within-subjects ANOVA results. No significant main effects for time [Wilks' Lambda = .98,  $F(1, 118) = 2.29, p = .13, \eta^2 = .019$ ] or slide [ $F(1, 118) = .77, p = .38, \eta^2 = .01$ ] were found. However, a significant main effect for group was found [ $F(1, 118) = 6.73, p = .01, \eta^2 = .05$ ].

Examination of the mean scores revealed that the Caucasian women had higher overall pretest and posttest anxiety than the African-American women.

No significant group x slide interaction [ $F(1, 118) = .01, p = .94, \eta^2 < .01$ ], time x group interaction [Wilks' Lambda = 1.0,  $F(1, 118) = .12, p = .73, \eta^2 = .001$ ], time x slide interaction [Wilks' Lambda = .99,  $F(1, 118) = 1.46, p = .23, \eta^2 = .012$ ], or time x group x slide interaction [Wilks' Lambda = .99,  $F(1, 118) = .82, p = .37, \eta^2 = .007$ ] were evidenced for anxiety.

**Depression.** Homogeneity of variance-covariance was met [ $F(9, 158860) = .90, p = .53$ ], therefore Wilks' Lambda statistic was used to interpret the within-subjects ANOVA results. No significant main effect for group [ $F(1, 118) = 1.20, p = .28, \eta^2 = .02$ ], or slide [ $F(1, 118) = .45, p = .50, \eta^2 = .004$ ] was found. However, a significant main effect for time was found [Wilks' Lambda = .95,  $F(1, 118) = 5.76, p = .02, \eta^2 = .047$ ]. Examination of the mean scores indicated that all of the women became more depressed after viewing the slides, regardless of the condition (i.e., Model and Control slides).

No significant group x slide interaction [ $F(1, 118) = .03, p = .86, \eta^2 < .001$ ], time x group interaction [Wilks' Lambda = .99,  $F(1, 118) = 1.43, p = .23, \eta^2 = .012$ ], time x slide interaction [Wilks' Lambda = .97,  $F(1, 118) = 3.43, p = .07, \eta^2 = .028$ ], and time x group x slide interaction [Wilks' Lambda = .99,  $F(1, 118) = 1.82, p = .18, \eta^2 = .015$ ] were evidenced for depression.

**Anger.** Homogeneity of variance-covariance was met [ $F(9, 158860) = 1.3, p = .23$ ], therefore Wilks' Lambda statistic was used to interpret the within-subjects ANOVA results. No significant main effects for time, [Wilks' Lambda = .99,  $F(1, 118) = .91, p =$

.34,  $\eta^2 = .008$ ], group [ $F(1, 118) = 1.04, p = .31, \eta^2 = .009$ ], or slide [ $F(1, 118) = .03, p = .87, \eta^2 < .001$ ] were evidenced for anger.

Similarly, no significant group x slide interaction [ $F(1, 118) = .06, p = .80, \eta^2 = .001$ ], time x group interaction [Wilks' Lambda = 1.0,  $F(1, 118) = .62, p = .43, \eta^2 = .005$ ], time x slide interaction [Wilks' Lambda = 1.0,  $F(1, 118) = 17, p = .68, \eta^2 = .001$ ] and time x group x slide interaction [Wilks' Lambda = .99,  $F(1, 118) = 1.06, p = .31, \eta^2 = .009$ ] were found for anger.

**Body Dissatisfaction.** Homogeneity of variance-covariance was met [ $F(9, 158860) = .81, p = .61$ ], therefore Wilks' Lambda statistic was used to interpret the within-subjects ANOVA results. No significant main effects for time [Wilks' Lambda = 1.0,  $F(1, 118) = .04, p = .85, \eta^2 < .001$ ], group [ $F(1, 118) = 3.28, p = .07, \eta^2 = .027$ ], or slide [ $F(1, 118) = .93, p = .34, \eta^2 = .008$ ] were evidenced for body dissatisfaction.

Similarly, no significant group x slide interaction [ $F(1, 118) = .13, p = .72, \eta^2 = .001$ ], and time x group interaction [Wilks' Lambda = 1.0,  $F(1, 118) = .23, p = .64, \eta^2 = .002$ ] were found. Results indicated, however, a significant time x slide [Wilks' Lambda = .89,  $F(1, 118) = 14.76, p < .001, \eta^2 = .111$ ] and time x group x slide [Wilks' Lambda = .94,  $F(1, 118) = 7.30, p = .008, \eta^2 = .058$ ] interaction for body dissatisfaction.

Examination of the mean scores revealed that the Caucasian women reported higher body dissatisfaction scores after viewing the model slides, but they reported +b lower body dissatisfaction scores after viewing the control slides. In comparison, the African-American women showed no significant changes from pre to posttest body dissatisfaction after viewing either slide condition (see Figure 4.1).

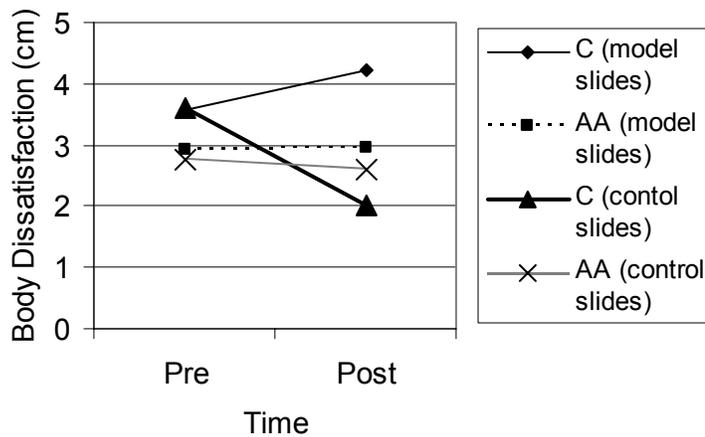


Figure 4.1. Time by group by slide interaction for body dissatisfaction.

Table 4.6. Means and Standard Deviations for the Model Slide Condition.

| Mood States          | Caucasian women<br>( <i>n</i> = 31) |                                    | African American women<br>( <i>n</i> = 30) |                                    |
|----------------------|-------------------------------------|------------------------------------|--|------------------------------------|
|                      | Pretest<br><i>M</i> ( <i>SD</i> )   | Posttest<br><i>M</i> ( <i>SD</i> ) | Pretest<br><i>M</i> ( <i>SD</i> )          | Posttest<br><i>M</i> ( <i>SD</i> ) |
| Anxiety              | 3.02 (2.23)                         | 2.87 (2.40)                        | 1.93 (2.16)                                | 2.02 (2.18)                        |
| Depression           | 1.96 (2.24)                         | 2.43 (2.48)                        | 1.78 (2.21)                                | 1.90 (2.24)                        |
| Anger                | 1.18 (1.49)                         | 1.25 (1.52)                        | 0.86 (1.21)                                | 0.97 (1.53)                        |
| Body Dissatisfaction | 3.57 (2.14)                         | 4.22 (2.62)                        | 2.92 (2.53)                                | 2.97 (2.68)                        |

Table 4.7. Means and Standard Deviations for the Control Slide Condition.

| Mood States          | Caucasian women<br>( <i>n</i> = 31) |                                    | African American women<br>( <i>n</i> = 01) |                                    |
|----------------------|-------------------------------------|------------------------------------|--|------------------------------------|
|                      | Pretest<br><i>M</i> ( <i>SD</i> )   | Posttest<br><i>M</i> ( <i>SD</i> ) | Pretest<br><i>M</i> ( <i>SD</i> )          | Posttest<br><i>M</i> ( <i>SD</i> ) |
| Anxiety              | 2.70 (1.96)                         | 2.50 (1.93)                        | 1.83 (1.87)                                | 1.53 (1.75)                        |
| Depression           | 1.99 (2.15)                         | 2.02 (2.23)                        | 1.48 (1.91)                                | 1.53 (2.09)                        |
| Anger                | 1.04 (1.25)                         | 1.20 (1.40)                        | 0.98 (1.29)                                | 0.89 (1.18)                        |
| Body Dissatisfaction | 3.61 (2.09)                         | 2.01 (2.24)                        | 2.77 (2.69)                                | 2.60 (2.70)                        |

### Secondary Analyses

Four separate forced entered hierarchical regression analyses (HRA) were undertaken to examine if pretest mood scores (i.e., anxiety, depression, anger, and body dissatisfaction), BMI, internalization, and body satisfaction predicted posttest mood scores. In Block 1, posttest mood scores were regressed on pretest mood scores (i.e.,

anxiety, depression, anger, and body dissatisfaction.) In Block 2, BMI, internalization, and body satisfaction were entered into the regression. The results of these analyses are separated by mood and described below.

**Anxiety.** Examination of the tolerance values for the anxiety HRA revealed that I did not have multicollinearity among the independent variables (tolerance value range = .94 to 1.0; Mertler & Vannatta, 2002). In the anxiety HRA, anxiety posttest score (dependent variable) was regressed on anxiety pretest (Block 1), followed by BMI, internalization, and body satisfaction (Block 2). Results of this HRA showed that anxiety pretest score (Block 1) explained 77.3% of the variance in the anxiety posttest [ $F(1, 114) = 388.63, p < .001$ ]. Block 2 (BMI, internalization, and body satisfaction) explained an additional 1.9% of the variance in posttest anxiety [ $F(4, 111) = 109.28, p < .001$ ], with only pretest anxiety ( $\beta = .85, p < .001$ ) and body satisfaction ( $\beta = -.04, p < .04$ ) being significant predictors of posttest anxiety. See Table 4.8 for predictors of anxiety posttest mood scores.

Table 4.8. Hierarchical Regression Predicting Posttest Anxiety for all the Women.

| Anxiety           | R <sup>2</sup> | F      | df     | $\beta$ | t     | p   |
|-------------------|----------------|--------|--------|---------|-------|-----|
| Block 1           |                |        |        |         |       |     |
| Pretest mood      | .77            | 388.63 | 1, 114 | .88     | 19.71 | .00 |
| Block 2           |                |        |        |         |       |     |
| Pretest mood      | .80            | 109.25 | 4, 111 | .83     | 18.52 | .00 |
| BMI               |                |        |        | .04     | .77   | .44 |
| Internalization   |                |        |        | .08     | 1.83  | .07 |
| Body Satisfaction |                |        |        | -.10    | -2.05 | .04 |

**Depression.** Examination of the tolerance values for the depression HRA revealed that I did not have multicollinearity among the independent variables (tolerance value range = .88 to .96; Mertler & Vannatta, 2002). In the depression HRA, depression posttest score (dependent variable) was regressed on depression pretest score (Block 1),

followed by BMI, internalization, and body satisfaction (Block 2). Results of this HRA showed that the depression pretest score (Block 1) explained 87.9% of the variance in depression posttest [ $F(1, 114) = 831.31, p < .001$ ]. Block 2 (BMI, internalization, and body satisfaction) explained an additional 0.8% of the variance in posttest depression [ $F(4, 111) = 217.78, p < .001$ ], with only pretest depression ( $\beta = .85, p < .001$ ) being a significant predictor of posttest depression. See Table 4.9 for predictors of depression posttest mood scores.

Table 4.9. Hierarchical Regression Predicting Posttest Depression for all the Women.

| Depression        | R <sup>2</sup> | F      | df     | $\beta$ | t     | p   |
|-------------------|----------------|--------|--------|---------|-------|-----|
| Block 1           |                |        |        |         |       |     |
| Pretest mood      | .88            | 831.31 | 1, 114 | .94     | 28.83 | .00 |
| Block 2           |                |        |        |         |       |     |
| Pretest mood      | .89            | 217.78 | 4, 111 | .90     | 25.32 | .00 |
| BMI               |                |        |        | .04     | 1.09  | .28 |
| Internalization   |                |        |        | .01     | .38   | .70 |
| Body Satisfaction |                |        |        | -.07    | -1.74 | .09 |

**Anger.** Examination of the tolerance values for the anger HRA revealed that I did not have multicollinearity among the independent variables (tolerance value range = .98 to 1.0; Mertler & Vannatta, 2002). In the anger HRA, anger posttest score (dependent variable) was regressed on anger pretest score (Block 1), followed by BMI, internalization, and body satisfaction (Block 2). Results of this HRA showed that anger pretest (Block 1) explained 70.9% of the variance in the anger posttest score [ $F(1, 114) = 278.21, p < .001$ ]. Block 2 (BMI, internalization, and body satisfaction) explained an additional 1.6% of the variance in posttest anger [ $F(4, 111) = 73.15, p < .001$ ], with only pretest anger ( $\beta = .82, p < .001$ ) being a significant predictor of posttest anger. See Table 4.10 for predictors of anger posttest mood scores.

Table 4.10. Hierarchical Regression Predicting Posttest Anger for all the Women.

| Anger             | R <sup>2</sup> | F      | df     | β    | t     | P   |
|-------------------|----------------|--------|--------|------|-------|-----|
| Block 1           |                |        |        |      |       |     |
| Pretest mood      | .71            | 278.21 | 1, 114 | .84  | 16.68 | .00 |
| Block 2           |                |        |        |      |       |     |
| Pretest mood      | .73            | 73.15  | 4, 111 | .82  | 16.31 | .00 |
| BMI               |                |        |        | .03  | .48   | .64 |
| Internalization   |                |        |        | .10  | 1.85  | .07 |
| Body Satisfaction |                |        |        | -.05 | -.86  | .39 |

**Body Dissatisfaction.** Examination of the tolerance values for the body dissatisfaction HRA revealed that I did not have multicollinearity among the independent variables (tolerance value range = .72 to .89; Mertler & Vannatta, 2002). In the body dissatisfaction HRA, body dissatisfaction posttest score (dependent variable) was regressed on body dissatisfaction pretest score (Block 1), followed by BMI, internalization, and body satisfaction (Block 2). Results of this HRA showed that body dissatisfaction pretest score (Block 1) explained 81.6% of the variance in the body dissatisfaction posttest score [ $F(1, 114) = 506.61, p < .001$ ]. Block 2 (BMI, internalization, and body satisfaction) explained an additional 0.3% of the variance in posttest body dissatisfaction [ $F(4, 111) = 129.10, p < .001$ ], with only pretest body dissatisfaction ( $\beta = .87, p < .001$ ) being a significant predictor of posttest body dissatisfaction. See Table 4.11 for predictors of body dissatisfaction posttest mood scores.

Table 4.11. Hierarchical Regression Predicting Posttest Body Dissatisfaction for all the Women.

| Body Dissatisfaction | R <sup>2</sup> | F      | df     | β    | t     | p   |
|----------------------|----------------|--------|--------|------|-------|-----|
| Block 1              |                |        |        |      |       |     |
| Pretest mood         | .82            | 506.61 | 1, 114 | .90  | 22.51 | .00 |
| Block 2              |                |        |        |      |       |     |
| Pretest mood         | .82            | 129.10 | 4, 111 | .87  | 16.41 | .00 |
| BMI                  |                |        |        | .02  | .37   | .72 |
| Internalization      |                |        |        | -.03 | -.54  | .59 |
| Body Satisfaction    |                |        |        | -.08 | -1.67 | .10 |

### Manipulation Check

For the manipulation check, participants were asked for both slide conditions, “How representative of your current ideal body were the pictures you just viewed today?” The participant indicated her answer on a 5-point scale anchored at the extremes with *not at all representative* (1) to *extremely representative* (5). A two-way ANOVA was conducted to determine the effects of ethnicity (i.e., Caucasian, African-American) and slide condition (i.e., model, control) on representativeness of an ideal physique (DV). Significant main effects for ethnicity [ $F(1, 122) = 7.89, p = .01$ ] and slide condition [ $F(1, 122) = 29.30, p < .001$ ] were found. Also, a significant ethnicity by slide interaction [ $F(1, 122) = 7.20, p = .01$ ] was found. Examination of the mean scores indicated that the Caucasian women reported the models as more representative of their ideal body compared to African-American women, but both groups of women reported the models to be more representative of their ideal body than the control slides (see Table 4.12 and Figure 4.2)

Table 4.12. Mean and Standard Deviation Scores for Representativeness of Slides Viewed for both Groups of Women (Caucasians and African-Americans).

| Slide Condition | Caucasians   | African-Americans |
|-----------------|--------------|-------------------|
|                 | ( $n = 31$ ) | ( $n = 30$ )      |
|                 | $M (SD)$     | $M (SD)$          |
| Models          | 3.30 (1.22)* | 2.28 (1.10)*      |
| Controls        | 1.79 (0.89)  | 1.77 (0.94)       |

\* The Caucasians and African-American women differ significantly on the above variables,  $p = .01$ .

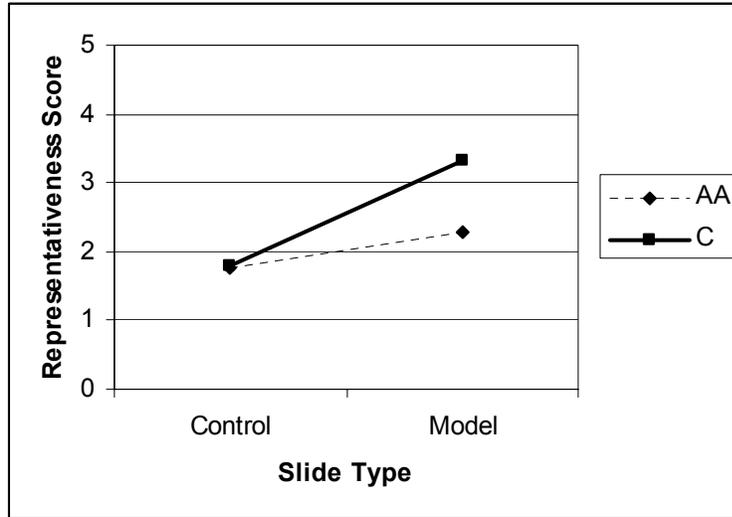


Figure 4.2. Group by slide interaction for representativeness.

Finally after the debriefing, each participant was asked, “Did you notice that all of the women in the slides were Caucasian?” The frequency counts are presented in Table 4.13, which show that more of the African-American participants noticed that the slides contained only Caucasian women. A Chi-square test revealed that the frequency counts did significantly differ between the ethnicities [ $\chi^2(1) = 11.97, p = .001$ ; Cramer’s  $V = .44$ ]. Results will be discussed in the subsequent chapter.

Table 4.13. Frequency Count for Debriefing Question.

|                  | Did notice ethnicity | Did not notice ethnicity | Totals |
|------------------|----------------------|--------------------------|--------|
| Caucasian Women  | 9                    | 22                       | 31     |
| African-American | 22                   | 8                        | 30     |
| Total            | 31                   | 30                       | 61     |

\* The Caucasians and African-American women differ significantly on the above frequency count,  $p = .001$ .

## CHAPTER 5 DISCUSSION

During the past three decades, researchers have documented significant increases in body-image disturbance for women (Berschied et al., 1973; Garner, 1997; Feingold & Mazzella, 1998). This trend has been identified and studied primarily in Caucasian women, who have shown higher incidences of body-image disturbance and eating disorders compared to African-American women (Altabe, 1998; Cash & Henry, 1995; Miller et al., 2000). Recent research, however, indicates that both ethnic groups are becoming more dissatisfied with their body shape and size (Demarest & Allen, 2000; Root, 1990), as their ‘ideal’ physiques are becoming thinner. Furthermore, African-American women are not necessarily more satisfied with their body sizes than Caucasian women (Demarest & Allen).

Many authors have implicated that the media promotes unrealistically thin ideal physique, thus contributing to the rise of body disturbance in women (Levine & Smolak, 1996; Tiggemann & Pickering, 1996; Thompson, et al., 1999). It is known that exposure to thin physiques in the media leads to high levels of body dissatisfaction (Harrison, 2001; Irving, 2001; Thompson & Heinberg, 1999), and has negative effects on mood (Cattarin et al., 2000). Body image concerns are influenced by cultural and ethnic factors yet, most research on the media and disordered eating has focused on Caucasians (Irving, 2001). Therefore, the purpose of this thesis was to investigate the influence of ethnicity (i.e., Caucasian or African-American) on the negative mood states elicited by exposure to pictures of the “ideal” female Caucasian physique portrayed by the media.

My primary purpose was to examine the pre and posttest mood effects for Caucasian women and African-American women after exposure to female Caucasian physique slides of the media ideal and of the “average American woman” (i.e., control slides). My hypothesis was partially supported, such that the Caucasian women reported more increased mood disturbance for anxiety, depression, and body dissatisfaction after viewing slides of the mass media ideals than the African-American women. Results for each of these mood states are described in detail below.

With regard to anxiety, my hypothesis was confirmed such that the Caucasian women reported significantly higher pretest and posttest anxiety scores compared to the African-American women for both slide conditions. My hypothesis that media images would produce increased anxiety compared to control slides for Caucasians was not confirmed.

Consistent with my hypothesis both groups of women reported higher levels of depression after viewing media pictures of the ideal body (Pinas et al., 1999; Stice & Shaw, 1994); however, the women also reported higher levels of depression after viewing control pictures of the average Caucasian woman. There may be several reasons for the latter result. Although the women in the control slides were supposed to represent the average American woman, the pictures were taken from magazines and catalogues. Thus, these women in the control pictures were also “models”; therefore, these women were attractive, had happy expressions, and were physically fit which may have prompted upward social comparisons from the participants.

While the African-American women showed no significant changes from pre to posttest body dissatisfaction after viewing either slide condition, the Caucasian women

reported significantly higher body dissatisfaction after viewing the model slides, and significantly lower body dissatisfaction scores after viewing the control slides. This latter finding was consistent with my primary hypothesis and supported the research that exposure to ideal images negatively affects a woman's body image. More importantly, this finding presents a strong case for the Social Comparison Theory (Festinger, 1954; Shaw & Waller, 1995). Festinger advanced that people make social comparisons only with others who are similar with respect to themselves (i.e., similar skin color, stature, opinions, abilities, etc.) In this study it is plausible that the Caucasian participants identified (i.e., made social comparisons) with the photos based on similar skin color, while the African-American participants did not. My results generally support the literature on social comparison and are similar to a recent study that reported African-American women are not affected by exposure to advertising with images of physically attractive Caucasian women (Frisby, 2004). Specifically, Frisby found that African-American women had a more positive body image than Caucasian women, and despite their body size/shape, their body esteem was not affected by exposure to idealized Caucasian images.

Contrary to my primary hypothesis, however, there were no significant group or slide differences for anger. These results may be due to a floor effect for anger scores, such that both groups were already reporting low levels of anger before viewing the slides. Thus, little change could be observed at the posttest (See Tables 4.6 and 4.7).

To examine if the slide conditions were representative of what I wanted them to portray (i.e., media ideals or controls), a manipulation check was included at the end of each condition. In response to the question "How representative of your current ideal

body were the pictures you just viewed today?” both groups of women stated that the pictures in the control slide condition were not representative of their ideal physique. While both groups stated that the media slide condition were more representative of their ideal than the control slides, the Caucasian participants found the media slide condition more representative of their ideal compared to the African-American women. Thus, the manipulation check supported that the Caucasian women made appropriate social comparisons during each slide condition that they viewed.

The frequency counts from the debriefing question (“Did you notice that all of the women in the slides were Caucasian?”) showed that 22 African-Americans (73%) noticed ethnicity of the women in the slides, but only 9 Caucasian (29%) women noticed. This may indicate that Caucasian women were making social comparisons with the pictures that they viewed. African-American women, however, noticed the ethnicity of the women in the pictures. This group of women indicated that they did not feel that the pictures in both slide conditions were representative of their ideal. One participant wrote, “...these women were too skinny...Also, the women were White, so they don’t represent Black beauty which is different from what is appealing to White women.” Because they did not identify with the slide pictures, I am assuming they did not engage in social comparisons.

Because I did not measure actual cognitions of each participant, I can only make assumptions based on the answers to the manipulation check and the debriefing question. I do not know which features of the pictures my participants were attending to. For example, I cannot say if the African-American women who did not identify with the model slides noticed the thin physiques or the ethnicity of the models. Thus, it is useful to examine the immediate thought patterns that occur on a moment-to-moment basis in a

study like this. In a nonlaboratory setting, it is important to examine these processes on a day-to-day basis in individuals with body-image disturbance (Thompson et al., 1999). Gaining this information may aid researchers and clinicians in understanding how individuals see themselves and others in relation to body-image dimensions (Thompson et al.)

My secondary purpose was to identify the predictors of posttest mood. After controlling for pretest mood scores, BMI, internalization and body satisfaction were not significant predictors of posttest depression, anger, or body dissatisfaction. Body satisfaction was the only predictor of posttest anxiety, indicating that women who reported high body satisfaction experienced less anxiety compared to women who reported low body satisfaction. Therefore, general results for the secondary purpose did not support my hypothesis that BMI, then internalization of the aesthetic ideal, and finally body satisfaction would predict posttest mood scores.

My results failed to corroborate research findings that have shown that BMI serves as a predictor of body dissatisfaction (Hausenblas & Fallon, 2002; Sands & Wardle, 2003). The Caucasian women reported a lower BMI ( $M = 23.24$ ,  $SD = 3.10$ ) than the African-American women ( $M = 25.36$ ,  $SD = 5.77$ ); while the Caucasian women's BMI was in the normal weight range (i.e., the women are not overweight or obese), the African-American women's BMI was in the overweight range (ACSM, 2000). A one-sample t-test indicated that the average body satisfaction score for Caucasian women ( $M = 27.16$ ,  $SD = 6.10$ ) did not differ significantly from the normative mean score of 29.07 [ $t(30) = -1.74$ ,  $p = .09$ ]. Similarly, the average score for the African-American women ( $M = 28.61$ ,  $SD = 6.04$ ) did not significantly differ from the normative mean of 29.07 [ $t(28)$

= -.41,  $p = .69$ ]. However, this suggests that college-age women may be dissatisfied with their bodies regardless of their BMI. This also supports the research that even though African-American women have higher BMI scores than Caucasian women, they are generally more satisfied with their bodies and may even prefer a fuller shape and a shapelier figure (Altabe, 1998; Cash & Henry, 1995; Miller et al., 2000; Ofose et al., 1998).

Researchers have also found that internalization serves as a predictor of body image and the media (Cusumano and Thompson, 1997; Thompson & Heinberg, 1999; Thompson et al., 1999). Specifically, women reporting higher internalization experienced increased levels of depression and anger after viewing appearance-related media. My findings, however, do not support this literature. Although the internalization scale that I used (i.e., Ideal Body Stereotyping Scale-Revised) did measure the socioculturally endorsed views of the ideal woman, it may not have sufficiently tapped into internalization of the media ideal. Thus, use of a different scale is warranted; the 38-item Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3; Thompson, Van den Berg, Roehrig, Guarda, & Heinberg, 2004) has a subscale that measures social comparison and internalization of TV/magazine, comparison, and athletics.

Several other limitations existed within this experiment that must also be considered when interpreting the results. First, the mass media ideal photos were taken from well-known magazines that have an established popularity, and therefore are representative of what the media portrays as ideal. The control photos, on the other hand, were from plus-size catalogues. Many women commented that “I hope I look that healthy when I am that age,” which showed that they did not identify with the pictures. The

average age of the participants in this study was 19, but based on a visual examination the women in the control pictures were in their late 20- early 30s. Despite extensive searches, I could not find pictures of women in their late teens- early 20s with an equivalent shape and size of the average women; furthermore, it was difficult to find pictures of average women (size 10-12), regardless of the age.

Second, although I based the number of slides on the meta-analysis conducted by Groesz and colleagues (2002), there was no stipulation for the amount of time that each slide was to be viewed. Each slide was viewed for 15 seconds, producing a 2 minute 15 second exposure to the media ideal. Thus, there may not have been enough viewing time included for the media images to produce increases in anxiety, depression, or anger.

Third, all of the pictures in the slide conditions were of Caucasian women, which may be a study confound. A confound variable is a variable that can cause or prevent the outcome of interest, is not an intermediate variable, and is associated with the factor under investigation. Although I can make some inferences, I do not know if the participants' moods were changing as a result of the ethnicity of the pictures in the slide condition or if their moods were changing as a result of viewing pictures with people in them in general.

Possible future studies can manipulate different variables in the design to examine similar moderating effects of ethnicity. For example, in addition to the slide conditions that I used (i.e., Caucasian models and Caucasian controls), I would add two additional slide conditions: African-American models and African-American controls (i.e. average women). Another manipulation in a future study would be to add an additional neutral slide condition (e.g., non-body image related people, head shots, children, or non-people

photos). A study 2 could use the same design as this study, but with both slide conditions containing pictures of only African-American women. Also, control pictures (i.e., the “average” woman) that represent a college-age population are needed.

Fourth, as mentioned above in the primary purpose, a floor effect was seen in the Mood Visual Analog Scales. Specifically, the women’s anger did not show significant change from pre to posttest. If a participant were at or close to “No Anger,” there is little room for improvement. In general, the Mood Visual Analog Scales are anchored from *No Anxiety, Depression, Anger, Body Dissatisfaction* to *Worst Possible Anxiety, Depression, Anger, Body Dissatisfaction*. Therefore, research should look into creating and using visual analog scales that assess a full positive to negative spectrum of moods. Other validated measures could be used to assess more moods, for example, the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), which assesses cognitive aspects of state anxiety, or the 65-item Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971), which also assesses mood using six subscales of tension, fatigue, vigor, anger, confusion, and depression.

Fifth, self-report may often result in measurement errors (Sallis & Owen, 1998), for example if participants unconsciously misrepresent their moods. Additionally, the social desirability aspect of self-report may occur when women who do not wish to be suspected of body-image disturbance are motivated to give more socially acceptable answers for the Body Areas Satisfaction Scale and the Ideal Body Stereotyping Scale-Revised. The variability presented by self-report questionnaires can be decreased in future research by holding clinical interviews for all participants. Social desirability can

be assessed using a more objective measure such as the Marlow-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1964).

Finally, caution is warranted when attempting to generalize the study findings to other populations. The study participants ranged in age from 18 to 23, were obtained from a University setting, and only represented Caucasian women and African-American women. Thus, generalizations of the study findings to other populations such as older women, men, other ethnic minorities (e.g., Hispanics and Asians), and women who are clinically diagnosed with an eating disorder are limited. Thus, future researchers are encouraged to examine the media influences of the ideal physique with these populations.

In conclusion, this study supports findings that body-image dissatisfaction increased with acute exposure (two minutes) to ideal physique images. It seems that women identify and compare themselves to ideal images, especially if the ideals are closer (even if only by skin color) to their own appearance. Specifically, my results imply that the Caucasian women were comparing themselves to the pictures they viewed, thus changing their posttest moods. Therefore, more realistic models, that portray a broader array of body sizes and shapes in visual mass media, are needed (Irving, 1990, 2001). Future research should look to create prevention programs and treatment programs that educate women about the mass media and the societal pressure it exerts about the ideal physique (Irving, 2001; Levine & Smolak, 1996).

APPENDIX A  
IRB APPROVAL



**Institutional Review Board**

98A Psychology Bldg.  
PO Box 112250  
Gainesville, FL 32611-2250  
Phone: (352) 392-0433  
Fax: (352) 392-9234  
E-mail: [irb2@ufl.edu](mailto:irb2@ufl.edu)  
<http://rgp.ufl.edu/irb/irb02>

DATE: 26-Feb-2003

TO: Ninoska DeBraganza  
PO Box 118207  
campus

FROM: C. Michael Levy, Chair *CML/TF*  
University of Florida  
Institutional Review Board

SUBJECT: **Reapproval of Protocol #2002-U-134**

TITLE: The Influence of Ethnicity on the Media Effects of Body Image

SPONSOR Unfunded

Your request to continue your research protocol involving human participants has been approved. Participants are not placed at more than minimal risk by the research. You are reminded that any changes, including the need to increase the number of participants authorized, must be approved by resubmission of the protocol to the Board.

Reapproval of this protocol extends for one year from the date of the review, the maximum duration permitted by the Office for Human Research Protection. If this project will not be completed by 20-Feb-2004, please telephone our office (392-0433), at least six weeks in advance so we can advise you how to reapply.

It is important that you keep your Department Chair informed about the status of this research project. Also, if your project is funded, you should send a request to extend your grant along with a copy of this project renewal notification to DSR, Awards Administration, P.O. Box 115500.

CML:dl/tf

cc: Vice President for Research

APPENDIX B  
CONSENT FORM

**To:** Volunteers for the Mass Media Ideals Study

**From:** Dr. Heather Hausenblas and Ninoska DeBraganza

**RE:** Informed Consent

The purpose of this statement is to summarize the study we are conducting, explain what we are asking you to do, and assure you that all participants in the study will be assigned a coded number; individuals will not be identified by name but by the assigned code number. Your identity will be kept confidential to the extent provided by law. All data will be treated in strict confidence and will be locked in a filing cabinet in the Exercise Psychology Laboratory in Room 145, Florida Gymnasium.

Dr. Hausenblas is an Assistant Professor in Exercise Psychology and Ninoska DeBraganza is a Master's student in Exercise Psychology at the University of Florida. We are interested in examining the role of the mass media in body image. This study will involve three parts. In the first part, you will be asked to complete a series of questionnaires that will take approximately 15 minutes to complete. If you are selected for participation in the remainder of the study, you will be asked to return to the Exercise Psychology Laboratory for Parts 2 and 3. Parts 2 and 3 are identical in their procedure, but Part 3 will occur approximately one week later than Part 2. Part 2 and Part 3 will take approximately 30 minutes each to complete. You will be asked to fill out a questionnaire, to view a series of pictures, and fill out an additional questionnaire. You are free to discontinue your involvement in the study at any time without consequence. If at any time you do not wish to continue with the study, you will be free to withdraw from participation. There are minimal risks involved with participating in the study. Viewing the series of pictures may result in minor temporary increases in negative mood. The benefits associated with the study include a better understanding of the role of the mass media in the development of body image issues.

Your participation is voluntary, but it is hoped that you will agree to take part in this study. Without the cooperation of volunteers, projects of this type would not be possible. Please ask any questions that you may have at this time, and if you have any additional questions or concerns during the course of the study, please contact Dr. Hausenblas (392-0584 ext. 1292) or Ninoska DeBraganza (392-0580 ext.1367). If you have any questions or concerns about your rights as a research participant, you may contact the University of Florida Institutional Review Board at Box 112250, University of Florida, Gainesville, FL 32611-2250, or call (352) 392-0433.

If you have no further questions at this time, and if you agree to volunteer to become involved in this study, please read the following statement and sign your name in the signature blank below.

---

I have read the procedure described above. I voluntarily agree to participate in the procedure, and I have received a copy of this description.

**Participant's signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Principal Investigator's Signature:** \_\_\_\_\_

APPENDIX C  
IDEAL BODY STEREOTYPING SCALE-REVISED

| <b>Please circle the response that reflects your agreement with these statements:</b> | strongly disagree | disagree | neutral | agree | strongly agree |
|---|-------------------|----------|---------|-------|----------------|
| 1. Slim women are more attractive . . . . .   | 1                 | 2        | 3       | 4     | 5              |
| 2. Tall women are more attractive. . . . .  | 1                 | 2        | 3       | 4     | 5              |
| 3. Women with toned bodies are more attractive . . . . .                              | 1                 | 2        | 3       | 4     | 5              |
| 4. Women who are in shape are more attractive. . . . .                                | 1                 | 2        | 3       | 4     | 5              |
| 5. Slender women are more attractive. . . . .   | 1                 | 2        | 3       | 4     | 5              |
| 6. Women with long legs are more attractive . . . . .                                 | 1                 | 2        | 3       | 4     | 5              |
| 7. Curvy women are more attractive. . . . .   | 1                 | 2        | 3       | 4     | 5              |
| 8. Shapely women are more attractive . . . . .  | 1                 | 2        | 3       | 4     | 5              |

APPENDIX D  
BODY-AREAS SATISFACTION SCALE

**Instructions.** The following statements pertain to how people might think, feel, or behave. Using the scale below, please indicate the extent to which each item relates to you personally. Please place your answer in the blank space provided after each statement.

|                              |                                |   |                             |                           |
|------------------------------|--------------------------------|---|-----------------------------|---------------------------|
| <b>1</b>                     | <b>2</b>                       | <b>3</b>                                      | <b>4</b>                    | <b>5</b>                  |
| <b>Very<br/>Dissatisfied</b> | <b>Mostly<br/>Dissatisfied</b> | <b>Neither satisfied<br/>Nor Dissatisfied</b> | <b>Mostly<br/>Satisfied</b> | <b>Very<br/>Satisfied</b> |

- |   |                             |
|---|-----------------------------|
| 1. Face (facial features, complexion) _____           | 6. Muscle tone _____        |
| 2. Hair (color, thickness, texture) _____             | 7. Weight _____             |
| 3. Lower torso (buttocks, hips, thighs, legs) _____   | 8. Height _____             |
| 4. Mid torso (waist, stomach) _____                   | 9. Overall appearance _____ |
| 5. Upper torso (chest/breasts, shoulders, arms) _____ |                             |

APPENDIX E  
MOOD VISUAL ANALOG SCALE

Instructions: Please draw a vertical line perpendicularly across the horizontal line at the location that best describes how you **feel right now** for each of the 4 questions below.

1. 

---

No Anxiety Worst Anxiety
2. 

---

No Depression Worst Depression
3. 

---

No Anger Worst Anger
4. 

---

No Body Dissatisfaction Worst Body  
Dissatisfaction

APPENDIX F  
CONTENT ANALYSIS

**Instructions:**

1. View each picture
2. Indicate whether you think the picture depicts a
  - “mass media ideal” (MMI)
  - control (C) or
  - neither (N)
3. If you chose MMI or C, then indicate the response that reflects your agreement with the following statement:

**This picture accurately portrays a [MMI or Control].**

|                           |               |              |            |                        |
|---------------------------|---------------|--------------|------------|------------------------|
| Strongly<br>Disagree<br>1 | Disagree<br>2 | Neutral<br>3 | Agree<br>4 | Strongly<br>Agree<br>5 |
|---------------------------|---------------|--------------|------------|------------------------|

APPENDIX G  
MANIPULATION CHECK

**Instructions.** Please rate the following question on the scale provided below.

**1. How representative of your current ideal body were the pictures you just viewed today?**

|                                   |   |                                   |   |                                  |
|-----------------------------------|---|-----------------------------------|---|----------------------------------|
| Not at all<br>representative<br>1 | 2 | Moderately<br>representative<br>3 | 4 | Extremely<br>representative<br>5 |
|-----------------------------------|---|-----------------------------------|---|----------------------------------|

Please explain your answer below in as much detail as possible. For example, if you had circled a 3, please explain why you thought the pictures were only moderately representative of your ideal body.

**2. What do you consider to be the ideal physique?**

APPENDIX H  
DEBRIEFING FORM

Originally, you were told that the title of this study was “Body Image and the Mass Media”. This is true, but the study also investigated the effects of ethnicity on body dissatisfaction and mood. By this we mean that the slide show contained pictures of only Caucasian women. This information was intentionally kept from you so you would be more likely to respond freely to the questions.

Because we kept the full purpose of the study from you, we would like to confirm that we have your permission to use your data. If so, you may sign the “YES” line. If you do not wish us to use your data, you may sign the “NO” line and take your data sheets with you when you leave the laboratory. No matter which line you sign, you will be given your extra course credit or phone card.

---

I understand that the purpose of this study was to better understand the effects of ethnicity on mood (i.e., anger, depression, and anxiety) as well as body dissatisfaction.

Additionally, I know that I have the choice to agree to allow the researchers to use my data or take it with me when I leave. Whichever choice I make, I will still receive my extra course credit or 60-minute phone card.

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

**YES**, I will allow the researchers to use my data.

Signature: \_\_\_\_\_

**NO**, I will not allow the researchers to use my data. (Please take data sheets with you.)

Signature: \_\_\_\_\_

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