Media Exposure, Body Dissatisfaction and Disordered Eating: An Examination of Mediating and Moderating Mechanisms

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Media Exposure, Body Dissatisfaction and Disordered Eating:
An Examination of Mediating and Moderating Mechanisms

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ABSTRACT

The purpose of this study is to further explore the relationship of media exposure to body dissatisfaction and eating disturbance by examining the mediating effects of pressures and internalization as well as the moderating effects of ethnicity and weight. In the current study, the effects of television and magazine exposure were separated. Pressure was operationalized as influences perceived to be exerted by the media. Internalization was operationalized as the incorporation of specific values (conveyed by the media) to the point they become guiding principles.

The results regarding media use reveal that women read an average of three magazines and watch four television programs on a regular basis. They spend an average of two hours reading magazines and 12.3 hours watching television programs weekly. The results further reveal that while non-White women weigh more than White women, White women exhibit greater body dissatisfaction, feel more pressure to conform to thin images in media and display greater risk of eating disorder. Thus, ethnicity was found to moderate the effects of internalization, body dissatisfaction, and pressure in relation to magazine exposure. Because Body Mass Index (BMI) was not related to the sociocultural variables, it was not found to moderate the effects of internalization. The relationships to television exposure are negative or non-significant; therefore, magazine exposure is a more pertinent predictor of body dissatisfaction, eating disorder, pressure and indirectly internalization. Likewise, pressure is more salient than internalization revealing, that internalization is not a necessary precursor to women experiencing increased levels of body dissatisfaction and eating disorder.

This study adds to our understanding of the relationship of media exposure to body dissatisfaction and eating disturbance by examining the mediating roles of pressures and internalization as well as the moderating roles of ethnicity and weight, as measured by the BMI. The results of this study reveal that body dissatisfaction and eating disturbance must be examined in light of exposure to magazines and the pressure women feel to conform to thin images portrayed in the media.

The results reveal different underlying processes for magazine and television exposure. Future research should continue to focus on operationalizing media exposure in a precise manner that separates the effects of the media of interest. Future research should also focus on samples
that are more diverse and larger in terms of age, gender, ethnicity, and BMI. Finally, studies should continue to explore the mediating effects of pressures and the moderating effects of ethnicity, as well as other variables that mediate and moderate the relationship of media exposure and body image.
CHAPTER 1
INTRODUCTION

Body image is a multidimensional construct which is comprised of two central components: attitudinal (the attitudes or feelings individuals have towards their bodies) and perceptual (the experience of one’s body size, as measured in the accuracy of body size estimations) (Sondhaus, Kurtz, & Strube, 2001; Gardner, 1996). Slade (1994) defined body image as “a loose mental representation of body shape, size, and form which is influenced by a variety of historical, cultural and social, individual, and biological factors, which operate over varying time spans” (p. 302). Research has often noted sociocultural values as one of the most important predisposing factors which influence high levels of body image disturbance, body dissatisfaction, dieting behaviors and the increasing rate of eating disorders exhibited by females in Western society (Groesz, Levine, & Murnen, 2002; Tiggemann & Pickering, 1996). The basis of these values is thought to stem from the sociocultural model which promotes slender bodies as the accepted standard of beauty (Tiggeman & Pickering, 1996). Although a number of sociocultural factors have been found to reinforce the thin-ideal, such as ethnicity, social class, family, and peers (especially the opposite sex), the most pervasive purveyors of the thinness beauty standard are thought to be the mass media (Groesz et al.; Abrams & Stormer, 2002; Mcabe & Ricciardelli, 2001; Jade, 2002). As a result, it is believed media audiences learn or feel pressured to accept the depictions of a thin body as the norm.

The prevalence of thin bodies being promoted as the acceptable standard of beauty has greater social and clinical implications for females as they have been reported to have more negative attitudes and perceptions toward their bodies compared to males (Demarest & Allen, 2000; Sondhaus et al., 2001). In addition, many advertisements contain messages addressing attractiveness and dieting. For example, it has been reported that women’s magazines contain 10.5 times as many advertisements and articles promoting weight loss as men’s magazines (Andersen & DiDomenico, 1992). Research has further revealed that watching even 30 minutes of television can alter a female’s perceptions about her body; and that these perceptions can fluctuate as media content fluctuates (Myers & Biocca, 1992). The National Eating Disorders Association (2005) estimates that females in the United States outnumber males 10 to 1 in the
reported cases of eating disorders such as anorexia or bulimia. According to National Institute of Mental Health (2001), in the general population, an estimated 0.5 to 3.7 percent of females suffer from anorexia and approximately 1.1 to 4.2 percent suffer from bulimia. The National Eating Disorders Association (2002) further estimates that 1 to 5 percent of the general population suffers from binge eating disorder, of which 60 percent are female. Thus, continued efforts to understand the impact of thin media portrayals on female self-perception has implications for the quality of interventions and treatments provided to improve body image and decrease the diagnoses of eating disorders in females.

A current review of the literature reveals only a few studies that have explored factors that mediate and moderate the relationship of media exposure to body dissatisfaction and eating disorders. A mediating factor explains a relation, intervenes, or provides a causal link between two variables. It may also be referred to as an intervening factor (Vogt, 1993). A moderating factor influences (“moderates”) the relationship between two other factors producing an interaction effect (Vogt, 1993). Thus, a moderating factor affects the direction and/or strength of the relationship between two factors (Stice, 1994). Support for the mediating role of pressures and internalization and the moderating role of weight and ethnicity have been reported in the literature (Stice, Schupak-Neuberg, Shaw, and Stein, 1994; Stice, 1994; Tiggemann, 2003; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). Nevertheless, it has been suggested that there needs to be more empirical consideration of the processes mediating or moderating media influences (Tiggemann, 2003). Furthering our understanding of the distinct contribution of media influences, such as internalization and pressures, has implications for intervention and prevention related to body dissatisfaction and eating dysfunction (Thompson et al., 2004).

This study will add to our understanding of the relationship of media exposure to body dissatisfaction and eating disturbance by examining the mediating roles of pressures and internalization as well as the moderating roles of ethnicity and weight, as measured by the Body Mass Index (BMI). This is an initial study to investigate the mediating role of pressures and the moderating role of ethnicity. In keeping with recent research, the effects of television and magazine exposure are separated (Tiggemann, 2003; Vaughn & Fouts, 2003). For the purposes of this study, pressures will be operationalized as influences perceived to be exerted by the media.
(Thompson et al.). Internalization will be operationalized as “the incorporation of specific values (conveyed by the media) to the point they become guiding principles” (Thompson et al., p. 294). The present study will also have implications for the theories of Social Comparison and Cultivation.
CHAPTER 2

LITERATURE REVIEW

Research has shown that females tend to develop eating disorders to attain an ideal body shape (Spitzer, Henderson, and Zivian, 1999). “For girls, cultural messages about achievement are often narrowly and sharply focused on their bodies; the culture promotes the idea that girls’ bodies are projects to work on” (Muren, Smolak, Mills, & Good, 2003, p.428). According to the National Eating Disorders Association (2005) over $40 billion dollars is spent on dieting and diet-related products each year in America. On a daily basis, at least 25% of American men and 45% of women are dieting. Kurth, Krahn, Nairn, & Drewnoski (1995) found that 91% of women on a college campus had attempted to control their weight through dieting and 22% reported dieting “often” or “always.” “Over one half of teenage girls and nearly one-third of teenage boys use unhealthy weight control behaviors such as skipping meals, fasting, smoking cigarettes, vomiting, and taking laxatives” (National Eating Disorders Association, 2005, p.2).

Eating disorders are considered complex conditions that can result from psychological, interpersonal, and social factors, such as low self-esteem, being teased about one’s size, and cultural pressures that glorify “thinness” and attaining the “perfect body” (National Eating Disorders Association, 2005). The health consequences of eating disorders may include high blood pressure, gallbladder disease, tooth decay, muscle loss, and even death. According to the National Eating Disorders Association (2005), anorexia nervosa has the highest premature fatality rate of any mental illness. The National Institute of Mental Health (2001) reports the mortality rate of women with anorexia to be 0.56 percent per year or 5.6 percent per decade, which is 12 times higher than the annual death rate due to all causes of death among females ages 15-24 in the general population.

The prevalence of overweight and obesity continues to rise in the United States among adults and children. Obesity puts people at risk for diseases such as heart disease and diabetes and is defined as an excess of body fat that frequently results in a significant impairment of health due to an increase in the size or number of fat cells in a person’s body (Myers, 2005, Definition of Obesity, p.1). The Centers for Disease Control report that the prevalence of overweight (BMI 25.0 to 29.9) in U.S. adults, age 20-74 increased from 47% in 1976-1980 to
56% in 1988-1994 and to 65% in 1999-2002. Obesity (BMI 30.0 or greater) increased from 15% in 1976-1980 to 23% in 1988-1994 and to 31% (over 60 million people) in 1999-2002 (Centers for Disease Control, n.d.). The combination of a heavier population and the pervasive social ideal of a thin standard of beauty contribute to the development of body dissatisfaction and ultimately, eating disorders. For example, it has been found that 80% of American women are dissatisfied with their appearance (National Eating Disorders Association, 2005). As a result, it is important to explore all of the possible contributing factors to the development of eating disorders. The present study seeks to explore the relationship between media, body dissatisfaction, and eating disorders.

The literature review is organized as follows: a review of the historical trends of idealized images, a review of content analyses conducted on magazines and television, a review of literature regarding media exposure, a discussion of pertinent theory and the study rationale.

**Historical Trends of Idealized Images**

Garner, Garfinkel, Schwartz and Thompson (1980) examined height, weight, and body measurements of *Playboy* centerfolds and Miss America Pageant contestants for the period of 1959 to 1978. The study showed significant decreases in the weights of *Playboy* centerfolds and pageant contestants as a percent of their expected weight based on actuarial norms for the same period. Specifically, in 1960, the average weight of *Playboy* centerfolds was 91% of the population mean compared to 84% of the population mean by 1978. The mean weight for Miss America pageant contestants prior to 1970 was 88% of the population mean compared to 85% of the population mean after 1970. The authors also found that Miss America pageant winners weighed less than the other contestants for most of the period, 1959 to 1978, and that there had been an increase in the number of diet articles in popular female magazines from 17% in the 1960’s to 30% in the 1970’s.

Wiseman, Gray, Mosimann, & Ahrens (1992) continued the research of Garner et al. and found that from 1979 to 1988 *Playboy* centerfolds and pageant contestants continued to decrease in body size. Specifically, 60% of the Miss America contestants and 69% of the *Playboy* centerfolds weighed 15% or more below the expected weight for their age and height. This was a significant finding because anyone weighing 15% below their expected body weight meets the criterion for anorexia nervosa (American Psychiatric Association, 1994). Similar to Garner et al.
Wiseman et al. also reported an increase in the number of diet articles in female magazines from 1979 to 1988.

Spitzer, Henderson, & Zivian (1999) sought to improve on the research by Garner et al. and Wiseman et al. by comparing media-portrayed body size differences to reported population body size differences and then comparing each of these against the government recommended standard over four decades. The population sample consisted of men and women aged 18 to 24 who completed national health surveys in Canada and the United States from the 1950s to the 1990s. The sample of media-portrayed bodies consisted of women who modeled as Playboy centerfolds from 1977 to 1996, Miss America Pageant winners from 1953 to 1985 and men who modeled in Playgirl magazine from 1986 to 1997. Body Mass Index (BMI) was used as the measure of body size in the study. The Body Mass Index is an estimate of what a person should weigh based on his or height and is considered an excellent indicator of body fat.

In the population sample, males and females in America and Canada increased in size from the 1950s to the 1990s with a more dramatic increase found in American women and Canadian men. However, similar to Wiseman, Spitzer et al. (1999) found that Playboy centerfolds decreased in size, with the most significant decreases noted from 1959 to 1978. Miss America contestants experienced the most significant decreases in size from 1953 to 1985. The authors reported that almost all of the Playboy centerfolds were underweight according to Canadian health guidelines. In addition, approximately one third of the centerfolds met the World Health Organization’s BMI criterion for anorexia nervosa compared to seventeen percent of the pageant winners. Thus, the standard of beauty portrayed by Playboy centerfolds and Miss America contestants was clearly promoting thinness within ranges that could endanger the health of female viewers who might seek to conform.

While some research has tracked changes in the standards of beauty portrayed by the media, other research has focused on changes in the perceptions and attitudes of individuals over time regarding body image and dissatisfaction. Cash and Henry (1995) compared the results of two national surveys conducted in 1985 and 1993 that assessed body image in women ranging in age from 18 to 70. The authors utilized portions of the Multidimensional Body-Self Relations Questionnaire (MBSRQ) and the Body Areas Satisfaction survey (BASS) as the instruments to examine three dimensions: appearance evaluation, body areas satisfaction, and overweight preoccupation. Cash and Henry found the women surveyed in 1993 had a more negative global
appearance evaluation than the women surveyed in 1985, indicating a worsening of body dissatisfaction over the eight year period. Specifically, 48% of the women reported an unfavorable appearance evaluation score in 1993 compared to 30% in 1985. The authors identified this downward trend in female body dissatisfaction as a “normative disconsent” among women in society. Although the women in 1993 indicated less preoccupation with being overweight than women in 1985, the authors note that the decline in appearance evaluation was much greater than the reduction in overweight preoccupation. Thus, the dissatisfaction women displayed toward their general appearance in 1993 outweighed the decline in being preoccupied with the condition of being overweight.

In reference to body area satisfaction, the majority of the 803 women sampled in 1993 reported not being satisfied with their middle or lower torso, weight, or muscle tone. Due to changes in the Body Areas Satisfaction scale from 1985 to 1993, a valid comparison could not be made between samples. Cash and Henry further found that Black women reported significantly more favorable appearance evaluations, more body area satisfaction, and less overweight concern when compared to White and Hispanic women.

Sondhaus et al., (2001) investigated the body attitudes of male and female college students by comparing data from a sample in 1966 to a sample in 1996 measured by the Body Attitude Scale (BAS). The BAS measures 30 different body concepts along three dimensions: evaluative (good…bad), potency (strong…weak), and activity (active…passive). The authors found that women in 1996 exhibited more negative attitudes towards their body than women in 1966. The results further showed that women in 1996 had more negative body attitudes than the combined male groups from 1966 and 1996. Conversely, women in 1966 exhibited more positive attitudes than the combined male groups from 1966 and 1996. No significant differences were found in the body attitudes of males in 1996 compared to 1966. These findings support other studies in identifying women as having more negative body images than men (Ferron, 1997).

Content analyses have revealed a continual decline in the sizes of woman portrayed in the media from as early as the 1950’s to the 1990’s (Garner et al., 1980; Wiseman et al., 1992; Spitzer et al., 1999). Specifically, in a study that compared the size of women in the population to women portrayed in the media, the gap between the average women’s body size and the size of women in the media was found to be large and growing larger from the 1950’s to the 1990’s.
(Spitzer et al). Thus, the increase in negative body attitudes in women during 1996 compared to women in 1966 may be related to the widespread depiction of the thin-ideal as the female standard of beauty leading to women becoming increasingly dissatisfied with their bodies.

Cash, Morrow, Hrabrosky, & Perry (2004) conducted a cross-sectional examination of the changes in body image among college students from 1983 to 2001. The authors utilized the MBRSQ and BASS to assess body image in more than 3,000 students age 30 and younger over the 18 year period. Across all scales, the authors observed a reliable pattern of worsening evaluative body image followed by improvements. Specifically, non-Black women reported increasingly negative evaluations of their appearance and more overweight preoccupation from the 1980’s to the mid-1990’s. Furthermore, non-Black women reported decreasing satisfaction with body areas such as the mid-torso, upper torso, and overall appearance. The only decline noted for Black women during this time was in weight satisfaction from the early to mid-1990’s. In contrast, from the mid-1990’s to 2001, non-Black and Black women reported more favorable body image, less preoccupation with being overweight and improved satisfaction with the lower torso. The authors note these findings as significant in that females surveyed from the mid-1990’s to 2001 were heavier than females surveyed from 1983 to the early 1990’s. Explanations of the improvement in body image for women from the mid-1990’s to 2001 in this study can only be speculative, but may be indicative of the women in this study not viewing portrayals of women in the media as similar to themselves, leading them not to compare themselves to the images. They may also have learned how to view the media while effectively analyzing the images as unrealistic.

Researchers have continued to document the preference of the female thin-ideal portrayed in the media and the acceptance of the thin-ideal as the societal norm for females (Groesz et al., 2002). Based on the changes that have occurred over time in the portrayal of the mediated thin-ideal and in individual attitudes and perceptions, it is clear that there is a need for continued examination of the factors which impact body image.
Content Analyses of Magazines and Television

Silverstein, Perdue, Peterson, and Kelly (1986) analyzed the curvaceousness of models portrayed in *Vogue* and *Ladies Home Journal* from 1901 to 1981 and of popular movie actresses from 1941 to 1979 and found a movement toward a thinner, less curvaceous figure in the depictions of female models. The bust-to-waist ratio of models in *Vogue* and *Ladies Home Journal* was found to have declined significantly over the 80 year period. At the beginning of the century, the bust-to-waist ratios for models appearing in *Ladies Home Journal* and *Vogue* were 1.9 and 2.1, respectively. The most significant decline was reported in 1925 with a ratio of 1.1 for models appearing in both magazines. Although the bust-to-waist ratios for models in both magazines increased slightly after 1925, they did not return to the higher ratios reported at the beginning of the century. According to Silverstein et al., “Beginning in 1949, the ratio dropped again, reaching the 1920’s level in the late 1960’s and 1970’s. In fact, the combined average of the bust-to-waist ratios of the two magazines has been below 1.3 since 1965” (p.528).

Support for the declining trend in bust-to-waist ratios derives from portrayals of movie actresses in the 1960’s and 1970’s. They were found to be significantly smaller than actresses from the 1940’s and 1950’s (Silverstein et al., 1986). The average bust-to-waist ratio of actresses from 1960 to 1979 was 1.22 compared to 1.34 for actresses depicted from 1940 to 1959. In addition to the decline in bust-to-waist ratios, the authors also found that the thin, body standard promoted in the media targets females more than males. Coders for the study rated 69% of televised female characters compared to 17% of male characters as thin and found that women’s magazines promoted more thinness-depicting messages than men’s magazines.

Andersen and DiDomenico (1992) analyzed advertisements in 20 popular magazines read by males and females ages 18-24. The results revealed that women’s magazines contained 10.5 times as many advertisements and articles promoting weight loss as men’s magazines. Magazines targeting the male audience more often displayed advertisements to encourage a change in body shape rather than weight loss. Andersen and DiDomenico posited that a “dose-response” relationship exists between the prevalence of eating disorders and exposure to mediated images that promote thinness as the sociocultural norm. Evidence of the “dose-response” is supported in that the prevalence of diet-related advertisements and articles found in female magazines has been reported to mirror the ratio (10:1) of female-to-male incidence of eating disorders (National Eating Disorders Association, 2005). The assumption of a dose-
response relationship is that the prevalence of eating disorders in a population is equal to the prevalence of magazine advertisements that promote dieting and thin body ideals. Thus, higher incidences of eating disorders in females may then be attributed to higher numbers of advertisements relating to weight and dieting in women’s magazines.

Fouts and Burggraf (1999) analyzed 28 prime-time situation comedies aired in October of 1996. The results revealed that a majority (69%) of the central characters were female between the ages of 20-35. The weights of the 52 central female characters were reported as follows: 33% below average, 60% average and 7% above average. The authors note that the prevalence of below-average weight females, age 20-35, was in contrast to the actual population rates in Canada and the United States at 26% for the same age group. Thus, viewers of situation comedies were exposed to an over-representation of females who were below average weight compared to what they would experience in society. Furthermore, the authors found that 46% and 21% of the central female characters received positive comments from males and females, respectively, regarding their weight, shape or bodies. It was revealed that the thinner the female character, the more positive the comments she received from males. Twelve percent of the central female characters indicated through behavior or verbalizations that they were dieting or restricting their food intake. The more females characters engaged in dieting activities, the more they made negative comments about themselves.

Fouts and Buggraf (2000) analyzed 18 situation comedies aired in January and February of 1997. The authors sought to expand their earlier research by exploring audience reactions and negative comments made by males. Thirty-seven females were identified as central characters. The weights of the 37 central female characters were reported as follows: 76% below average, 19% average and 5% above average. As in the earlier study, the prevalence of below average weight females was disproportionate based on actual population rates. Fourteen percent of the central female characters received negative comments from males regarding their bodies or weight. The heavier the female character, the more negative comments she received from males. Eighty percent of these negative comments from males were followed by audience reactions, such as laughter, “oohs,” and giggles; thus rewarding the male character for making the comment and supporting the idea that it is acceptable to laugh at females based on their weight.

Fouts and Vaughn (2002) extended the research on portrayals in situation comedies by examining female responses to male weight and audience reactions. The authors analyzed 27
situation comedies aired in February, 1999. The weights of the 75 central male characters were reported as follows: 33% below average, 54% average and 13% above average. The authors note that the portrayal of above-average weight males (13%) was in contrast to the actual population rates in the United States (30%). Nine percent of the central male characters received negative comments from females regarding their bodies or weight. Unlike the earlier studies, no relationship was found between the frequency of negative comments received and the weight of the male characters, nor audience reactions to the negative comments. These findings support the notion that the thin-ideal body standard is more prevalent for females than males. Males are thought to be more interested in shape and building muscular or mesomorphic bodies. Thus, the overrepresentation of thin females in situation comedies coupled with positive and negative comments made by males, depending on character size, and supporting audience reactions, sends the message to all viewers that females should be rewarded or punished based on the size of their bodies. As a result, female audience members may internalize these images and behaviors as a standard they must achieve which has implications for the development of body dissatisfaction and eating disorders.

**Media Exposure: Effects Studies**

**Television**

In addition to content analyses, researchers have explored the relationship of media exposure to body image, body dissatisfaction and eating disorders. Media exposure has been operationalized as a single medium, a composite of several media, and separate media evaluated in one study. Myers and Biocca (1992) explored the effects of television advertising and programming on the elasticity of female body image. Participants in the study were 76 female students ranging in age from 18 to 24. Fifty hours of day-time and prime-time television commercials and programming were taped over a 2-week period. The researchers selected 120 commercials out of 770 to be classified in the following manner: 60 as body image commercials and 60 as neutral image commercials. Coders rated the commercials on a five-point scale ranging from least body-image-oriented to most neutral-image-oriented. Three program categories were selected: prime-time drama/comedy, *Star Search* talent competitions, and music video talent competitions. Using the same five-point scale, each television program segment displaying the highest body image orientation and the highest neutral image orientation were selected. Four
videotapes, each approximately 26 minutes, were created containing the following combinations: body image commercials/body image programming (BIC-BIP), body image commercials/neutral image programming (BIC-NIP), neutral image commercials/body image programming (NIC-BIP), and neutral image commercials/neutral image programming (NIC-NIP). Each program segment was preceded and followed by a commercial break containing three to four commercials. The final edited tapes resembled an actual television broadcast. After viewing one of the four videotapes, subjects were asked to estimate their body shape using a body image detection device (BIDD). The BIDD utilized three projected bands of light to represent the size of the subjects’ chest, waist, and hips. The subjects were able to manipulate the widths of the bands of light from an overhead projector until the image represented her perception of her body. After viewing the videotapes, subjects were also asked to list the commercials they remembered from the tapes.

Overall, the authors found overestimation of body size to be the most common body size distortion made by the female participants. Women who were exposed to body image programming overestimated their body size to a greater extent than women exposed to neutral commercials and programming. Interestingly, although women who were exposed to body image commercials overestimated their sizes, it was to a lesser extent than women exposed to neutral commercials or the control setting. As the authors hypothesized exposure to body image commercials would lead to greater overestimation in body size, this finding indicates that exposure to thin images actually made the women feel thinner or better about themselves than the women exposed to neutral commercials and the control setting. The authors concluded that a young woman’s perception of her body is a psychological construct: a body image which is part of her self-schema, or mental construction of herself, that is “elastic” and can fluctuate in response to depictions of a thin-ideal body shape in the media. Specifically, it was shown that a woman’s body shape perception could be altered by watching as little as 30 minutes of television commercials and programs.

Tiggeman and Pickering (1996) examined the role of television in body dissatisfaction and drive for thinness. The researchers utilized the Body Dissatisfaction and Drive for Thinness subscales of the Eating Disorder Inventory (EDI) to survey 94 adolescent females whose average age was 15. Participants had to report the amount of television and the types of programs watched over a period of a week. Programs were rated by independent coders into the following
categories: situation comedies/comedy, action/adventure, prime time soap operas/serials, daytime soap operas/serials, information (e.g. news and documentaries), movies on television, sports, cartoons, and music videos. While the overall amount of television watched did not correlate with body dissatisfaction or drive for thinness, time spent watching soaps, movies, and (negatively) sports predicted body dissatisfaction. In addition, time spent watching music videos predicted drive for thinness. According to the authors, “The results were consistent with the sociocultural model, whereby body dissatisfaction and eating disorders are a function of the sociocultural ideal of thinness. And, one major way it is transmitted is through the media” (p. 202).

Botta (1999) also examined the role of television exposure on body image disturbance among adolescents. The measure of television exposure was the average amount of time spent weekly watching television including programs such as Melrose Place and Beverly Hills 90210 which were identified as thin-oriented television dramas. Body image disturbance was assessed with three sub-scales of the EDI: Body Dissatisfaction (BD), Drive for Thinness (DT) and Bulimia (B). The sample consisted of 214 females whose average age was 15. The results showed that amount of hours per week viewing television in general neither specific viewing of thin-oriented dramas was related to body dissatisfaction or the drive for thinness. Yet, exposure to thin-oriented dramas was negatively related to the tendency toward bulimia. In other words, the more the participants reported being exposed to thin dramas, the less they reported engaging in actions tending toward bulimia. These findings might lead one to conclude that there is no relationship between exposure to media images and female body image.

However, Botta also assessed the participants’ endorsement of the thin ideal by measuring their agreement with items such as the following: “the ideal woman is thin,” “women should always be dieting,” “overweight women are unattractive,” and “women should always work on their figures if they want to succeed.” Endorsement of the thin ideal predicted all three body image variables, body dissatisfaction, drive for thinness and the tendency toward bulimia. Thus, the participants in the study were definitely aware of the thin body ideal that is perpetuated in American culture. For this sample of females, it is simply unclear how much of their knowledge may have been influenced by the media. As a result, continued exploration into the impact of media images on female body image is crucial to understanding whether media shape or reflect societal values.
Harrison (2003) explored the relationship of exposure to thin-ideal television to college students’ perceptions of the ideal female bust, waist, and hip ratios. The author also examined the relationship of thin-ideal television exposure to participants’ approval of 12 cosmetic and surgical body alterations including: leg-length surgery, rib removal, liposuction, breast reduction, breast augmentation, diet, exercise, wearing a shaper/girdle or control-top pantyhose, wearing a padded bra or minimizing bra, and wearing height-altering shoes. The student sample consisted of 149 females and 82 males. Participants were surveyed regarding their perception of the ideal female body, including specific areas of the body, their approval of cosmetic and surgical procedures, and their frequency of viewing 36 top-rated programs in the winter/spring season of 2000. Coders were recruited to rate the body sizes of the main female characters of the 36 programs on a 7-point scale ranging from conspicuously fat to conspicuously thin. The average ratings provided by the coders for the female characters were multiplied by the participants’ frequency of viewing to create an index of television exposure. The results showed that exposure to thin-ideal body images on television predicted females’ desire for a smaller waist and hips, and a larger bust (for those who had small busts) and smaller busts (for those who had larger busts). Viewing thin-ideal images on television also predicted the approval of women’s use of cosmetic and surgical body alterations. For women, exposure was specifically related to breast surgery, liposuction, and wearing a special bra to change one’s appearance. For males, exposure to thin-ideal television predicted their approval of women breast augmentation and liposuction. These findings reveal that exposure to the thin standard of female beauty perpetuated by the media is related to a female’s choice to alter her body in an effort to meet the standard. Even more interesting is the finding that male viewers express approval for females making cosmetic or surgical alterations based on the media standard. The implication is that the pressure women feel to adhere to the media-depicted thin standard may not only be self-imposed, but also influenced by the preferences of the males in their lives.

Hargreaves and Tiggemann (2003) conducted one of the few studies that examined the effects of exposure over time. The authors collected the data on two occasions over a two year period. During the initial phase (August 1999), subjects viewed a 10 minute segment of appearance and non-appearance related commercials. Pre-test (T1) and post-test (T2) measures of body dissatisfaction were collected as a measure of media responsiveness, i.e. the change in body dissatisfaction in response to being exposed to appearance and non-appearance related
commercials during the initial phase of the study. The second phase of the study was conducted in (September 2001) and subjects were again surveyed relative to measures of body dissatisfaction, as well as drive for thinness and the drive for muscularity. Although the sample of 80 males and females was small, the results for females are clear: Females who were most responsive to appearance-related commercials at T1 expressed more dissatisfaction and an increased drive for thinness two years later. For males, responsiveness to appearance-related commercials at T1 was only related to drive for thinness at T2. The results of this study support the notion that females are more affected by exposure to thin-ideal media and provide the important longitudinal data to show these effects can be long term.

**Magazines**

In a longitudinal experiment designed to analyze exposure to thin-ideal images in magazines, 219 female subjects ranging in age from 13 to 17 received issues of *Seventeen* magazine mailed to their homes over a 15-month period. The researchers sought to make the study more germane to the manner in which exposure to media generally takes place. Females in the sample completed surveys at baseline (T1), 10 months after baseline (T2), and 20 months after baseline (T3). Stice, Spangler, and Agras (2001) found no main effects of long-term exposure to thin images on thin-ideal internalization, body dissatisfaction, dieting, negative affect, or bulimic symptoms. However, the results revealed that exposure to thin-ideal images produced greater negative effects for adolescents who exhibited initial elevations in pressure to be thin and body dissatisfaction, as well as youth who indicated a lack of social support and exhibited elevations in body dissatisfaction, dieting, and bulimic symptoms. Based on these findings, the authors concluded that exposure to thin-ideal images has lasting negative effects for vulnerable youth. The authors further posit that the concern over the effects of media exposure on body image may be somewhat overstated because this study only revealed long-term effects for females who were pre-disposed at baseline (T1). Nevertheless, the authors note that the contradiction in the results of their study and research based on brief media exposure demonstrates that further study should be done to clarify the impact of duration on the adverse effects of exposure.

Monro & Huon (2005) examined the relationship of media exposure to body shame and appearance anxiety. A small sample of 37 female college students were exposed to 24
magazines advertisements composed of 12 body-related and 12 non-body-related advertisements. Pre-test and post-test measures of body shame and appearance anxiety were recorded. The authors also considered the role of self-objectification. Fredrickson and Roberts (1997) explain that some women are more likely than others to see themselves from the viewpoint of an outsider, and to regard their body as an object of other people’s gaze. Thus, “self-objectification is a chronic, trait-like propensity to adopt a hypothetical observer’s view of the self” (Harrison & Frederickson, 2003, p. 217). Monro and Huon found that exposure to idealized images led to an increase in body shame and appearance anxiety. However, interaction effects with regard to self-objectification were only found with regard to appearance anxiety. High self-objectifiers exhibited a marked increase in appearance anxiety after exposure to idealized images, whereas low self-objectifiers exhibited a small increase in appearance anxiety.

Botta (2003) analyzed the relationship of magazine reading to body image and eating disturbances in a sample of high school and college males and females. Participants reported time spent reading and attention paid to three types of magazines: fashion, sports, and health/fitness. Overall, the results showed that magazine reading, social comparisons, and critical body image processing are important predictors of body image and eating disturbances in males and females. However, magazine reading and processing were stronger predictors of body image and eating disturbances in females. Specifically, magazine reading and processing accounted for twice the variance in females’ anorexic behaviors and body satisfaction and almost three times the variance in drive for thinness. These findings support other research that has found the effects of exposure to thin-ideal images to have greater implications for body dissatisfaction in females (Hargreaves & Tiggemann, 2003).

Although many media exposure studies have primarily focused on females or gender differences, a few exposure studies have focused on the impact of ethnicity on females’ perceptions of body image. Frisby (2004) utilized Social Comparison Theory to examine the relationship of exposure to magazine advertisements of Caucasian and African American models on the self-evaluations of African American females exhibiting different levels of body esteem. The study was conducted in two phases. The purpose of phase one was to examine the relationship between exposure to idealized images of Caucasian models and African American women’s levels of self-esteem and body esteem. The results showed African American women were unaffected by exposure to idealized images of Caucasians. The purpose of phase two was
to examine the effects of idealized images containing African American models on self-esteem and body dissatisfaction of African American females. Unlike the results of phase one, exposure to idealized images of African American models negatively affected Black women who were predisposed to be dissatisfied with their bodies. Thus, the Black females in this study viewed Caucasian females as dissimilar to them and did not engage in social comparison.

Poran (2006) conducted a qualitative study on body image, social pressures and media representation of Black women. The study was conducted with a sample of 15 college age females who participated in a focus group. Participants were asked to write what they loved and hated about their bodies on a 3x5 card. The cards were collected and redistributed to generate discussion. After this discussion ended, participants were provided with poster boards displaying images of women from popular magazines. The participants began new discussions with the aid of a facilitator. The results of the focus group discussions indicated that Black women feel: (1) pressures to be thin, (2) pressures from the preferences of men of diverse ethnicities, (3) competition with other Black women in regard to beauty, (4) and a strong sense of being misrepresented by the media.

The finding that Black women tend to express greater body satisfaction and report heavier ideal body weights compared to White women has been well documented in the literature (Henriques, Calhoun, Cann, 1996; Miller et al., 1998; Parnell et al., 1996). “Studies further suggest that the African American culture supports female perceptions of body type and physical attractiveness. Thus, the Black culture does not influence a Black female to conform to the thin-ideal or dieting behaviors that are typically found with Caucasian females” (Frisby, 2004, 324-325). In contrast, Poran’s (2006) qualitative study revealed that Black women are not only aware of the thin-ideal, but also believe it applies to them. According to Poran, “The standard was recognized, the pressure of the standard was acknowledged and actively critiqued; however, this knowledge does not translate into immunity but rather into an active negotiation” (p. 744).

Pompper & Koenig (2004) examined the perceptions of magazines’ idealized body standard among two generations of Hispanic females aged 18-35 (Generation X) and 36 and older (Baby Boomers). The authors utilized focus group and telephone interview methodologies. The results revealed that both generations of Hispanic females regarded the images portrayed in magazines as setting the societal standard for the ideal body. The researchers also found that
Hispanic women’s perceptions of ideal body image have changed over time. For example, Hispanic females aged 18-35 were found to be preoccupied with weight and a desire to achieve a thin ideal with little regard to health. However, females aged 35 and over were more preoccupied with being healthy and less concerned about body image. Finally, the study revealed that magazines serve as a social comparison function for Hispanic females with younger females most actively trying to achieve the thin ideal.

**Magazines & Television**

The operationalization of media exposure based on a consideration of television and magazine usage in a single study has allowed researchers to separate the effects of the two media and better understand the underlying processes in relationship to eating disturbance and body dissatisfaction. Harrison and Cantor (1997) explored the relationship of television and magazine consumption to eating disorders. Questionnaires were administered to 232 female and 190 male college students during the spring of 1994. Media exposure was operationalized as the quantity of media use (hours of television viewed and the issues of magazines read) and the content of media use (television programs viewed and magazine genres read). The measure of television content was based on six television programs which were categorized according to the body types of the female main characters: thin bodies (*Beverly Hills 90210* and *Melrose Place*), average bodies (*Seinfeld* and *Northern Exposure*), and heavy bodies (*Designing Women* and *Roseanne*). Magazines were categorized according to the emphasis on thinness and fitness into the following groups: health and fitness, beauty and fashion, entertainment and gossip, news and current events, and men’s entertainment magazines. The authors used the term thinness-depicting and thinness-promoting (TDP) to reference television programs with primarily thin main characters and magazines which primarily displayed thin models and dieting behavior.

The results for females revealed that overall television viewing predicted body dissatisfaction. When considering thinness depicting/promoting (TDP) media, only viewing programs with primarily heavy main characters and the reading of fashion magazines were significantly related to body dissatisfaction. Overall magazine reading predicted drive for thinness. When considering TDP media, only viewing programs with primarily thin main characters and reading fashion magazines were related to drive for thinness. In addition, anorexia and bulimia were predicted by overall magazine reading but not overall television...
viewing. After considering TDP media, reading fitness magazines and viewing shows with thin characters significantly predicted anorexic behaviors. No TDP media variables were found to predict bulimia. Based on these findings, the authors noted magazine reading to be a more consistent predictor of eating disorders than television. For males, the authors found that TDP media predicted endorsement of personal thinness and dieting.

Harrison (2000) further examined the relationship of thin-ideal media to eating disorders. The author specifically analyzed the relationship of exposure to programs depicting overweight characters and sports magazines to eating disorders, as well as the role of age (defined as grade) in the relationship of media exposure to eating disorders. The sample included 366 adolescents in the 6th, 9th, and 12th grades. Television exposure was based on frequency of total viewing and viewing of 15 top-rated (Nielsens) programs aired during the winter/spring of 1997. Magazine exposure was assessed based on the total magazines read in a month and the number of magazines read in five categories: news and current events, health and fitness, fashion, entertainment and gossip, sports and activities. To obtain an index of thin-ideal programs and magazines, college students rated television characters and magazine models on a scale ranging from “conspicuously thin” to “conspicuously fat.” Selective exposure was measured as interest in programs or magazines related to fitness, dieting, and sports. Eating disorder was measured utilizing three subscales of the Eating Disorder Inventory (EDI): bulimia, body dissatisfaction, and drive for thinness. Anorexia was measured utilizing the Children’s Eating Attitudes Test (ChEAT).

The results revealed that exposure to television programs with primarily overweight characters was related to bulimic action tendencies in females. Similarly, exposure to thin-ideal magazines was related to anorexia in females. Thin-ideal magazine exposure was related to increased bulimia among 9th and 12th grade females suggesting that media exposure is more important in the development of bulimia as females mature. Sports magazine exposure was related to increased body dissatisfaction in 12th grade females only. For females, grade level increased the relationship between media exposure and disordered eating. For males, exposure to television programs with primarily fat characters was related to body dissatisfaction for 6th graders only.

Vaughn and Fouts (2003) conducted a longitudinal study to examine the impact of changes in television and magazine exposure over time. The sample consisted of 374 female
participants, ranging in age from 9 to 14, who completed questionnaires at the baseline (T1) and 16 month later (T2) that assessed eating disorder symptomatology and media exposure. Exposure to television consisted of the total number of hours viewed weekly. The authors based this measurement of television exposure on past research that has shown general television programming and situation comedies have an overrepresentation of thin characters. Magazine exposure was measured as the frequency of reading 22 magazines popular with adolescents. The authors reported that girls with increased eating-disorder symptomatology had significantly increased their exposure to fashion magazines, but decreased their television viewing. Conversely, girls with decreased eating disorder symptomatology exhibited significant decreases in television viewing and magazine reading. The results of this study imply that understanding the development of eating disorders in females cannot be done apart from a consideration of exposure to magazines. Harrison and Cantor (1997) propose that this relationship may exist because “women’s magazines provide the dieting instructions that may be left out or drowned out by television’s competing messages” (p. 45).

Mediating and Moderating Factors

Internalization and Pressures

It has been suggested that more research should be conducted to understand the various factors that mediate and moderate the relationship of media exposure to body dissatisfaction and eating disorders (Stice et al., 1994; Vaughn & Fouts, 2003; Tiggemann, 2003). As a point of clarification, a mediating variable explains a relation, intervenes, or provides a causal link between two variables (Vogt, 1993). Hence, according to Vogt, a mediating variable may also be referred to as an “intervening” or “intermediary” variable. A moderating variable influences (“moderates”) the relationship between two other variables producing an interaction effect. An interaction effect occurs when independent variables have separate and combined effects on a dependent variable (Vogt). Thus, a moderating variable affects the direction and/or strength of the relationship between two variables (Stice, 1994). To date, the mediating factor which has been most examined in the literature is internalization (Murnen, Smolak, Mills & Good, 2003; Stice et al., 1994; Tiggemann, 2003; Thompson et al., 2004; Cusumano & Thompson, 1997; Heinberg, Thompson, & Stormer, 1995). For the purposes of the current study, internalization will be defined as “the incorporation of specific values (conveyed by the media) to the point they
become guiding principles” (Thompson et al., p. 294). Pressures will be defined as influences perceived to be exerted by the media. Furthering our understanding of the factors that influence the relationship of media exposure to body dissatisfaction and eating disorders has implications for improvements in the treatment of eating disorders and the development of critical viewing skills. Critical viewing is a skill that assists people in recognizing and analyzing the messages conveyed by the media as constructions rather than reflections of reality.

In a comprehensive review of literature that explored the evidence implicating sociocultural factors in the promotion of bulimia, Stice (1994) proposed a model of potential mediators and moderators of the relationship of sociocultural influences to bulimia. The author identified internalization of pressures, body dissatisfaction, restrained eating and negative affect as potential mediators of the relationship. Self-esteem, identity confusion, weight, coping skills, impulsivity, and family, peer, and media modeling were identified as potential moderators. Based on the literature, Stice proposed that sociocultural pressures to be thin are perpetuated by the media, family and peers. In order for women to become dissatisfied with their bodies and develop bulimia, they must internalize the sociocultural pressures to be thin. In other words, internalization implies the acceptance of media messages as true reflections of reality rather than constructed realities for the purpose of entertainment. Stice (1994) states, “The most obvious prerequisite for sociocultural pressures to adversely affect eating behavior is that they must be internalized. If a woman does not subscribe to these pressures, it is unlikely that they would negatively impact her eating behavior” (p. 649).

The Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) was developed as a method of assessing women’s recognition of societally-sanctioned standards of appearance (Heinberg et al., 1995). Thompson et al. (2004) sought to revise and expand the SATAQ to account for other media influence variables beyond awareness and internalization. In an effort to develop and validate a revised SATAQ, the authors surveyed 175 female undergraduates ranging in age from 17 to 25 on forty items relevant to the following dimensions: awareness, internalization, pressures, information, and sports and athleticism. The initial analysis revealed four factors or subscales: information (reflected media as a source of information), pressures (reflecting perceived pressure by media to accept societal norms), internalization-general (incorporation and acceptance of general societal norms), and internalization-athletic (incorporation and acceptance of athletic societal norms). The authors
further examined the relationship of the factors to the Eating Disorder (EDI) measures Drive for Thinness and Body Dissatisfaction. The four factors produced a significant overall effect for Drive for Thinness and Body Dissatisfaction; however, the Pressures subscale was the only subscale to contribute significant unique variance associated with body dissatisfaction.

In a second study, the sample consisted of 195 female undergraduates and a comparison sample of 15 in-patients with eating disorders from Johns Hopkins Hospital. Thompson et al. (2004) combined the student data from study 1 and 2 to create a sample of 33 participants who met the normative criteria for being classified as eating disturbed. Further testing of the subscales revealed that the samples of 33 eating-disturbed students and 15 eating-disordered inpatients scored higher on the internalization and pressures subscales when compared to a control sample. As a result, the authors deemed the scale valid, renamed it as the third version (SATAQ-3) and suggested that future research evaluate the new dimensions (information, pressures, and athlete-internalization) of the scale when studying media exposure, body image and eating disorders. The authors also suggested that future research utilize the SATAQ-3 with diverse samples differing in age, gender, and ethnicity. A thorough search of the literature to date has not yielded a study that has incorporated the pressures subscale of the SATAQ-3.

Cusumano and Thompson (1997) utilized the SATAQ to examine the relationship of media exposure (magazines), awareness and internalization on body image. The sample consisted of 175 female students ranging in age from 18 to 49. Participants completed a questionnaire addressing seven areas. Eating dysfunction was assessed based on the Bulimia and Drive for Thinness subscales of the Eating Disorder Inventory (EDI). Body image was measured utilizing the Body Dissatisfaction subscale of the EDI and the Physical Appearance Evaluation subscale of the Multidimensional Body Self-Relations Questionnaire. Magazine exposure based on a tool created by the researchers to assess usage (Participant Magazine Assessment Tool or PMAT). The PMAT contains 69 magazine titles selected from subscription statistics in the *World Almanac* and local Tampa Bay merchants. For each magazine, participants identified the approximate time spent each month reading each magazine. The authors also had coders rate the body shapes of the most popular magazine models identified by the participants utilizing the Contour Drawing Rating Scale proposed by Thompson and Gray, 1995. Thus, magazine exposure consisted of (1) the average body shape rating of the female images in the magazines, (2) the average breast shape rating of the models, and (3) total number of rated images.
Cusumano and Thompson (1997) found no relationship between magazine exposure and body image, eating dysfunction, and self-esteem. However, awareness of societal pressures regarding appearance was reported to be related to eating dysfunction. Internalization was found to account for substantial variance even after controlling for awareness, indicating that internalization of media pressures explains more of the variance associated with eating disorder and body dissatisfaction. The authors posit that a possible reason for the lack of a relationship between magazine exposure and body image is that a wide range of body shapes was not found in the magazines. Most of the magazine models were thin. In addition, some images were excluded from analysis because they could not be matched to a figure drawing. According to Cusumano & Thompson, the direct effect of internalization on body dissatisfaction may mediate the effect of other influences, such as perceived pressures from family, friends, and the media to lose weight.

Murnen et al. (2003) utilized the SATAQ to analyze the responses of 88 girls and 58 boys to objectified images of men and women in the media. The study was based on the tenets of Objectification Theory, which posits that exposure to media images will lead individuals, especially females, to see their bodies as objects (Murnen et al.). The researchers showed objectified images of male and female celebrities obtained from the Internet to subjects and interviewed them regarding their responses to the pictures. The results revealed that for both girls and boys, internalization was related to liking the way the models looked, wanting to look like the models and thinking it was important to look like the models. A similar result was reported for girls regarding awareness. However, awareness was not related to any of the boys’ responses. Although internalization was positively related for boys, a stronger relationship between the girls’ responses to the pictures, body esteem, awareness and internalization of media images was found suggesting girls are more affected by objectified images of women than boys are by images of men.

Stice et al. (1994) proposed one of the earliest path analysis models addressing the factors that influence the relationship of media exposure and eating disorders. The participants were 238 women whose average age was 20. Participants completed a 10-page questionnaire containing measures for: media exposure, gender endorsement, ideal-body stereotype internalization, body dissatisfaction and eating disorders. Participants reported the number of magazines read over the course of a month in the following categories: health and fitness, beauty
and fashion, entertainment, arts and gossip magazines. In addition, participants reported the number of hours they viewed television comedy, drama, and game shows over the course of a month. Standardized scores for the exposure items were summed to create a composite score of media use. Body dissatisfaction was measured using the nine-item Body Dissatisfaction subscale of the EDI. Eating disorder was assessed using the twenty-six item Eating Attitudes Test which measures cognitions, emotions, and behaviors related to anorexia and bulimia. Stice et al. created a six-item measure of ideal-body stereotype internalization. The instrument was based on statements that reflected stereotypes of the ideal female body generated by the participants in a pilot study.

Stice and his colleagues (1994) theorized that exposure to thin-ideal portrayals would lead to internalization of the ideal-body stereotype, body dissatisfaction, and ultimately, eating disorders. The authors found a direct relationship between media exposure and eating disorders. This finding not only supported their assertion that exposure to the thin-ideal stereotype is related to disordered eating, but also that women may engage in eating and dieting behaviors portrayed by the media. The hypothesized direct relationship between media exposure and internalization was not found. However, media exposure was indirectly related to internalization through gender-role endorsement, women’s acceptance of social gender roles, which suggests that internalization of the thin-ideal was filtered through the women’s beliefs regarding the social roles of males and females. The results further revealed an indirect relationship of ideal body stereotype internalization to eating disorders mediated by body dissatisfaction. In summary, the results showed that internalization of the thin-ideal only partially mediated the effects of media exposure on body dissatisfaction. Based on these findings, intervention and prevention programs may increase their effectiveness by decreasing the degree to which women internalize the thin-ideal and feel dissatisfied with their bodies.

Tiggemann (2003) utilized Stice and colleagues’ (2004) path analysis model as a basis to further examine the effects of television and fashion magazines on body dissatisfaction and eating disorders. Unlike Stice et al., the author separated the effects of television and magazine exposure in order to analyze the mediating role of internalization (acceptance of the thin-ideal as a principle) and the moderating roles (interaction effect) of self-esteem and weight on body dissatisfaction and eating disorders. The sample consisted of 104 female undergraduates. Body dissatisfaction was measured utilizing the Figure Rating scale as the discrepancy between the
women’s current and ideal body types. Disordered eating was measured utilizing all 64 items of the EDI. Magazine exposure was assessed as the number of different magazines read and total time spent reading or looking at a copy of 17 pre-selected fashion magazines over the course of a month. Television exposure was assessed as the total viewing hours and total time spent viewing soap operas and music videos over the course of a month. The SATAQ was utilized to measure the participants’ awareness and internalization of the thin-ideal body standard.

Overall, the analysis revealed differences in the underlying processes which link magazine and television exposure to body dissatisfaction (Tiggeman, 2003). To illustrate, magazine exposure was related to body dissatisfaction through internalization. Thus, women’s increased exposure to thin-ideal images in magazines was related to internalization (acceptance as a principal) which was related to body dissatisfaction. However, women’s increased exposure to thin-ideal images in television was directly related to body dissatisfaction. In addition, to television viewing not being related to internalization, it was negatively related to awareness. Thus, women who reported increased exposure to thin-ideal television images were less aware of the thin body ideal. The author states that:

Watching a large dose of thin idealized female figures on television possibly normalizes such figures, in accord with Cultivation Theory (e.g. Gerbner, Gross, Morgan, & Signorelli, 1994) which emphasizes the cumulative effect of television’s portrayal of certain values, types of people and themes on viewers’ conceptions of social reality. Such effects occur over time without necessary awareness. In contrast, it is difficult for the readers of fashion magazines to remain unaware of societal beauty ideals because of their explicit depiction (p. 426).

**Weight**

Body Mass Index (BMI) is an estimate of how much an individual should weigh based on his or her height. Limited research exists to address the moderating effects of weight on body dissatisfaction and disordered eating. In a comprehensive literature review, Stice (1994) discussed weight as a moderator of the relationship between media exposure and bulimia. Stice theorized that “being overweight would not produce body dissatisfaction unless the thin-ideal was internalized” (p.650). In other words, weight should interact with internalization in
relationship to body dissatisfaction. Tiggemann (2003) examined Stice’s theory regarding weight. Based on the four categories of BMI (underweight, normal weight, overweight and obese), the author examined BMI as a moderator of the relationship between internalization and body dissatisfaction as well as disordered eating. The author found that BMI moderated the relationship between internalization of the thin ideal and body dissatisfaction. Although BMI did not moderate the relationship of internalization and disordered eating, the size of correlations between the two increased as the BMI category increased. Hence, being overweight and scoring high on internalization produced an interaction effect which predicted greater body dissatisfaction and an increased risk of disordered eating.

**Ethnicity**

To date, a search of the literature has not revealed a study that has examined the moderating role of ethnicity in relationship to body image and eating disorders. Much of the research examining the affect of weight and ethnicity on body image has been psychological in nature. These studies tend to assess reported differences in respondents’ actual and ideal body shape based on a selection of silhouettes or figure drawings. A consistent finding in the literature is that African American females tend to be larger in actual size and prefer larger body shapes, and, therefore experience lesser degrees of body dissatisfaction and eating disorder when compared to Caucasian females (Patel & Gray, 2001; Gluck & Geliebter, 2002; Henriques, Calhoun, & Cann 1996; Parnell et al., 1996). To illustrate, Henriques et al. examined ethnic differences in women’s body dissatisfaction by conducting an experiment in which respondents received positive or negative feedback based on responses to the Social Rating Scale. The Social Rating Scale measures an individual’s level of social skills pertaining to attributes such as conversation skills, interpersonal skills, friendliness and overall first impression. After a brief social interaction, participants rated each other on each attribute. In addition to the Social Rating Scale, respondents had to complete the Eating Disorder Inventory (EDI) and the Body Esteem Scale (BES). The BES measures satisfaction with 35 aspects of physical appearance and functioning. The respondents were 97 White and 42 Black women with an average age of 21 and 20, respectively. The results revealed that Black females’ body satisfaction was not affected by the positive or negative feedback in reference to their social skills. Nevertheless, White women who received positive comments exhibited an increase in BES scores; and conversely a
decrease in BES score when receiving negative comments. Overall, Black women reported heavier ideal body weights, greater body dissatisfaction, less problematic eating behaviors, and less dietary restraint than White women. The finding that White women’s body esteem was influenced by the feedback regarding their social skills implies greater sensitivity to the perceptions of others, compared to Black women, which could lead to an increased risk of developing eating disorders. In addition, the conclusion could be drawn that exposure to media that portrays women negatively could have greater influence on the body image of White women.

Gluck and Geliebter (2002) explored racial differences in body image and eating behaviors. The sample included 194 respondents of which 108 were Caucasian, 46 African American, and 40 Asian ranging in age from 15 to 33. Body dissatisfaction was measured utilizing the Figure Rating Scale (FRS) as the discrepancy between current and ideal body size. Participants also had to complete the Eating Habits Questionnaire (EHQ) which measures a range of existing and potential eating disorders. In reference to eating behaviors, Caucasians displayed greater eating pathology than African Americans and Asians based on higher scores on overeating and weight/dieting subscales of the Eating Habits Questionnaire (EHQ). However, when controlling for BMI, the results revealed that Asians also exhibited eating disorders at a rate higher than African Americans but lower than Caucasians. African Americans, Asians, and Caucasians were more likely to perceive themselves as overweight. African Americans exhibited less body distortion and chose a larger ideal body than both Asians and Caucasians; however, when controlling for BMI, the previously stated difference found in African Americans was non-existent.

A meta-analysis conducted by Grabe & Hyde (2006) of research examining ethnicity and body dissatisfaction led them to encourage caution in assuming a large difference in body dissatisfaction between Black and White women. The analysis revealed 6 main effect sizes for differences among White, Asian, Hispanic and Black women with a sample of 98 studies. The average $d$ for the Black-White comparison was 0.29, indicating that Whites are more dissatisfied, but the difference was small. The additional racial comparisons yielded even smaller results. Thus, Grabe & Hyde stated:

Although it appears that Black women on average do not have the same body issues as White women, it is not safe to assume that they are without
dissatisfaction. Furthermore, simply because Asian American and Hispanic women appear as dissatisfied as White women does not mean that their dissatisfaction reflects the same concerns or that dissatisfaction predicts the same set of psychological consequences. For instance, Hispanic and White women have reported a desire for larger breasts, whereas Black and Asian American women have reported lighter skin as an ideal trait (p.635).

Theoretical Considerations

Objectification occurs when female bodies or body parts are viewed as mere objects to be evaluated and utilized for the pleasure of others. Frederickson & Roberts (1997) proposed Objectification Theory as framework for understanding the impact a culture that sexually objectifies the female body can have on the female psyche. Frederickson and Roberts stated:

Objectification Theory posits that girls and women are typically acculturated to internalize an observer’s perspective as a primary view of their physical selves. This perspective on self can lead to habitual monitoring, which in turn, can increase women’s opportunities for shame and anxiety, reduce opportunities for peak motivational states, and diminish awareness of internal bodily states. Accumulations of such experiences may help account for an array of mental health risks that disproportionately affect women: unipolar depression, sexual dysfunction, and eating disorders. (p. 173).

Self-objectification can occur as a “trait” or “state” construct (Frederickson & Roberts, 1997). Females high in trait self-objectification are chronically prone to define their bodies in terms of observable rather than non-observable features based on an observer’s perspective (Frederickson & Roberts). Physical beauty or attractiveness in women has been shown to be a salient quality (Lennon, Lillethun, Buckland, 1999; Frederickson & Roberts, 1997). Thus, a female exhibiting heightened trait self-objectification would consistently monitor her body in order to adhere to a cultural standard of beauty. As the documented media standard of a beautiful body is thin, a high self-objectifier would be more susceptible to body dissatisfaction and eating disorders if she finds it difficult to maintain the culturally-accepted beauty standard. State self-objectification occurs relative to a specific context or situation in which a female would be more susceptible to focusing on and defining herself by her appearance (Frederickson
In a study conducted to further understand the consequences of “state” self-objectification in college women, females were grouped and asked to wear either a swimsuit or bulky sweater (Frederickson, Roberts, Noll, Quinn, & Twenge, 1998). The authors found that state self-objectification increased in the females who wore swimsuits compared to the females in bulky sweaters. Furthermore, the women who displayed heightened self-objectification performed worse on a subsequent math test. If wearing a swimsuit can heighten self-objectification, it is highly plausible that exposure to thin-ideal female images in programming such as beauty pageants and music videos as well as fashion magazines such as *Vogue, Essence*, or *Glamour* could also lead to heightened self-objectification in females.

Murnen, Smolak, Mills and Good (2003) examined the responses of grade school males and females in reference to objectified media images found in sports, fashion magazines, and the Internet. Murnen and colleagues reported that females exhibited a consistent positive response to the pictures. The results further revealed a stronger correlation between the females’ responses to the pictures, their awareness and internalization of the images, and their body satisfaction. Specifically, females who consistently rejected the pictures displayed greater body satisfaction.

Self-objectification has also been found to increase relative to the perceived observer. Calogero (2004) found women to display higher levels of self-objectification when anticipating a male versus a female gaze. The results of Calogero’s study show that, when anticipating a male gaze, females display greater body shame and social physique anxiety. The implication of this finding is that, when considering bodily standards of appearance, females are more likely to view their bodies based on beauty standards acceptable or pleasing to males. The argument could be made that in Western culture, females are pressured and socialized to live up to a male standard of beauty in order to attain goals relative to marriage and a career in certain male-dominated fields.

Objectification Theory is relevant to Sociocultural Theory and Cultivation Theory. Sociocultural Theory suggests that a female’s dissatisfaction with her body is the result of three factors: (1) the “thin” body ideal that is perpetuated in American culture; (2) the societal tendency for females to view their bodies as “objects;” and (3) the idea that acceptance of the “thin body” as good and attractive is universal (Morrison, Kalin, & Morrison, 2004). Cultivation Theory (Gerbner, Gross, Morgan, & Signorielli, 1994) assumes that exposure to images on television will, over time, result in a shared view of the world. According to the tenets of the
theory, television exposure cultivates beliefs, attitudes, and ideals about the real world that mimic the images depicted in the media. The cultivation effect should be more pronounced in heavier viewers of television compared to lighter viewers (Gerbner et al., 1994). Thus, heavy viewers of television should be more prone to experience body dissatisfaction and eating disorders based on the slender body ideals portrayed by female actresses in many television programs. The premise of Objectification Theory is that media messages shape the world’s views of women as objects, while the premise of Cultivation Theory is that media messages shape women’s views of the world (Harrison & Frederickson, 2003). If objectification is in effect, exposure to the thin ideal would induce a state of objectification in the female viewer prompting her to acquiesce to the standard of beauty portrayed by the media. If cultivation is in effect, a female, especially a heavy viewer, exposed to thin images of women would internalize these images as reality for females in society.

As previously discussed, Harrison (2003) examined viewers’ perceptions of ideal female bust, waist, and hip sizes and their approval of cosmetic and surgical body-alteration methods as a result of exposure to ideal body images on television. The author states that the “television worldview of the ideal female waist and hips could be described as relatively extreme: thinner is better. In contrast, the television worldview of the ideal female bust is more moderate: medium is ideal” (Harrison, p. 3). In other words, the world view of the ideal female body cultivated by television images is one with a well endowed chest but thin waist and hips. Women who are not able to achieve this standard would be more subject to body dissatisfaction and eating disorders. This view is supported in that the author found that exposure to thin ideals on television predicted female preference for smaller waist and hips, and either a larger bust (for those who saw themselves smaller-busted) or a smaller bust (for those who saw themselves larger-busted). Exposure to televised images predicted male and female approval of surgical alterations for women, such as liposuction and breast augmentation. Overall, the results of the study yielded support for Cultivation Theory, but more so for females than males.

Researchers have identified other theories that enhance our understanding of the relationship between media and body image. Festinger’s (1954) Social Comparison Theory postulates that: (1) people have a need to objectively evaluate their opinions and abilities; (2) if objective standards are not available, people will evaluate themselves in comparison to others socially; and (3) whenever possible, comparisons will be made to similar others. The theory
further asserts that people make downward comparisons (i.e., comparing oneself to someone worse off) which tend to enhance well-being, or upward comparisons (i.e., comparing oneself to someone better off) which tend to decrease well-being (Morrison, Kalin & Morrison, 2004).

The similarity hypothesis of the Social Comparison Theory asserts that people will selectively compare themselves to similar others called *comparison targets* (Lennon et al., 1999). Research has shown that members of stigmatized or disadvantaged groups (e.g. minorities) tend to selectively compare themselves to other (in-group) members of stigmatized or disadvantaged groups rather than non-disadvantaged (out-group) members (Lennon et al.). This type of social comparison may shield some disadvantaged group members from the effects of upward comparisons (Lennon et al.). For example, research has shown that Black females tend to prefer heavier body ideals (Patel & Gray, 2001). Therefore, when exposed to the media portrayals of thin body images which generally feature White females, Black females should be more protected from experiencing a decrease in well-being or self-esteem because the White female may not serve as a selected *comparison target*.

Nevertheless, given that it is not always possible to strategically select others with whom to compare, people may sometimes receive unwanted information and engage in social comparison with the accessible idealized media images (Lennon et al., 1999). For example, research has found that women exposed to thin models compare themselves and exhibit lower appearance self-esteem than women exposed to heavy models (Smeesters & Mandel, 2006). Results of this nature generate cause for concern because the average model portrayed in the media is approximately 5’11” and 120 pounds (Holmstrom, 2004). Nevertheless, the Centers for Disease Control (CDC) reported that 30% of adults 20 years of age and over – over 60 million people – had a body mass index (BMI) of 30 or greater in 1999-2002 compared with 23% in 1994 (CDC, Obesity Still a Major Problem, New Data Show, 2004). According to the tenets of Social Comparison Theory, as individuals become obese, they will make upward comparisons to mediated thin-ideal images which will cause them to experience increased body image disturbance and eating disorders (Morrison et al., 2004). Botta (1999) also found support for Social Comparison Theory in a study examining the relationship of body image disturbance and exposure to television. The more females compared their bodies to the bodies of television characters, the more they endorsed the thin ideal. Comparing their bodies to television characters was significantly correlated to an increased drive for thinness, increased participation
in bulimic behaviors, and body dissatisfaction. In making upward comparisons to the television models and characters, the females were accepting the televised thin-ideal images as their standard of beauty.

The basic proposition of Bandura’s Social Learning Theory is that a person learns through the application of reinforcement or incentive which is referred to as conditioning (Michener & Delamater, 1994). The theory posits that prevalence, or relative frequency of an event, and the provision of incentives or rewards makes an event more likely to be modeled (Harrison & Cantor, 1997). Based on the tenets of Social Learning Theory, preferences for female body types would be learned and reinforced in social and cultural contexts modeled by parents, peers, and the media. Television programs and magazines contain an enormous amount of thin-bodied characters and models, diet-related images and advertisements (Andersen & DiDomenico, 1990; Silverstein et al., 1986; Cash et al., 2004). According to Social Learning Theory, as audiences are exposed to thinness and dieting-related images in the media and rewards are perceived to be offered to characters or models who portray those images, learning or modeling should occur leading to the internalization of media images as body image ideals.

Fouts and Buggraf (2000) reported that male characters in situation comedies made positive comments to women based on their body weight. Heavy female characters received more negative comments from males. Furthermore, eighty percent of the cases of negative comments to heavy females were followed by audience response, such as laughter, giggles and “ooohs.” Fouts and Buggraf (1999) stated:

Thus, the combination of modeling thinness and the receipt of positive reinforcement (e.g., verbalizations such as “You look great!” or “Wow!”) may increase the internalization of the modeling and influence young viewers’ behaviors more than either modeling or positive reinforcement alone. Similarly, observing a heavier model and her receipt of negative comments about her weight from others may present a strong emotional message, leading the viewer to be dissatisfied with her body and wanting to be like the thin models she observes (p. 473).

Social learning may be more salient depending on the type of media in which images are portrayed. Content analyses have shown that television programs generally portray characters eating very little and women are shown eating less than men (Harrison & Cantor, 1997). This modeling of restrained eating could lead to the development of eating disorders in females who
are dissatisfied with their bodies (Harrison & Cantor). However, television advertisements tend to portray the consumption of junk foods which could potentially dampen the modeling effect of restrained eating found in television programs (Harrison & Cantor). Because magazines not only provide thinness and dieting images, but also more clearly provide dieting instructions, and reading magazines requires focused attention, it may be reasonable to assume that magazine reading would be more closely related to modeled behavior that could lead to the development of eating disorders when compared to television viewing (Harrison & Cantor).

Although there has been a large contribution of research in understanding the relationship of media images on body dissatisfaction and eating disorders, the theoretical implications noted above support the need for an increased understanding of the manner in which media depictions of the thin ideal body impact the feelings, attitudes, and behaviors females’ exhibit toward their own bodies.

**Rationale**

Based on the literature, exposure to media images can have a negative effect on body image and the development of eating disorders, especially in females (Botta, 1999, 2003; Myers & Biocca, 1992; Harrison & Cantor, 1997; Harrison, 2000; Tiggeman & Pickering, 1996; Hargreaves & Tiggemann, 2003; Tiggemann, 2003; Bissell & Zhou, 2004). In addition, there is evidence that females view media images of the thin-ideal body as a point of comparison to improve their current body shapes (Frisby, 2004; Botta, 1999, 2003). According to the tenets of Social Comparison Theory, when people make downward comparisons (i.e., comparing oneself to someone worse off), they are believed to enhance their well-being, or upward comparisons (i.e., comparing oneself to someone better off), they are believed to decrease their well-being (Morrison, Kalin, & Morrison, 2004). If upward social comparison is in effect, a discrepancy between a woman’s ideal body shape and her actual body shape should lead to more body dissatisfaction. Cultivation Theory posits that female viewers who watch more television will come to accept the constructed reality of television portrayals as a reflection of actual reality or the world. Objectification Theory suggests that viewers, especially females, perceive their bodies as objects to be conformed to the thin-ideal. In other words, acceptance of one’s body as the object of another’s desire and internalization of the thin ideal could produce body
dissatisfaction in a female, thus increasing her susceptibility to the development of an eating disorder.

The literature has clearly documented the role of internalization as a mediator of the relationship of media exposure to body dissatisfaction and eating dysfunction (Murnen et al., 2003; Stice et al., 1994; Tiggemann, 2003; Thompson et al., 2004; Cusumano & Thompson, 1997; Heinberg et al., 1995; Stice, 1994). Further research has been encouraged to increase our understanding of the various factors that mediate (i.e., intervene) and moderate the relationship of media exposure to body image disturbance and eating disorders (Stice et al., 1994; Vaughn & Fouts, 2003; Tiggemann, 2003). To that end, this study will add to our understanding of the relationship of media exposure and body dissatisfaction and eating disorders by examining the mediating roles of pressures and internalization as well as the moderating roles of ethnicity and weight. In keeping with recent research, the effects of television and magazine exposure will be considered separately (Tiggemann, 2003; Vaughn & Fouts, 2003).

Researchers have thoroughly documented the relationship of media exposure to all the variables included in the hypotheses below (Murnen et al., 2003; Tiggemann, 2003; Stice et al., 1994; Harrison & Cantor, 1997; Frisby, 2004; Harrison, 2000; Botta, 1999, 2003; Cusumano & Thompson, 1997; Vaughn & Fouts, 2003’ Thompson et al., 2004). It has been reported that watching just 30 minutes of television daily can alter a female’s body image (Myers & Biocca, 1992). Furthermore, Andersen and DiDomenico (1992) found that women’s magazines contained 10.5 times as many advertisements as men’s magazines. Based on the literature, the following hypotheses are advanced:

H1a: Greater exposure to television will be positively related to body dissatisfaction, eating disturbance, pressures, internalization, and ethnicity and negatively related to BMI.
H1b: Greater exposure to magazines will be positively related to body dissatisfaction, eating disturbance, pressures, internalization, and ethnicity and negatively related to BMI.

The following hypotheses are based on the results of Tiggeman’s (2003) study. She proposed a model of the relationship of media exposure to eating disorders based on Stice et al.’s (1994) model. Unlike Stice et al., Tiggemann, separated the effects of television and magazines. The results revealed that internalization only intervened (mediated) in the relationship of magazine exposure to body dissatisfaction and eating disorders. In addition, a direct relationship was found between television exposure and body dissatisfaction which was then related to eating
disorders. It should also be noted that one of the more interesting findings of Stice et al.’s study was a direct relationship between media exposure and eating disorder symptomatology. These findings support the notion that internalization of the thin-ideal mediates the relationship of media exposure and body dissatisfaction and eating disorders. In the development and validation of the SATAQ-3, the authors reported that the pressures subscale is the only subscale to contribute significant unique variance to the prediction of body dissatisfaction: Therefore, future research utilizing the pressures subscale was encouraged by the authors (Thompson et al., 2003). Thus, the following hypotheses are advanced:

H2a: Media Pressures will mediate (intervene in) the relationship of magazine exposure and body dissatisfaction and eating disturbance through internalization.
H2b: Media Pressures will mediate (intervene in) the relationship of television exposure and eating disturbance through body dissatisfaction.
H2c: Internalization will mediate the relationship between magazine exposure and body dissatisfaction and eating disturbance.

In an examination of the sociocultural factors that relate to bulimia, Stice (1994) proposed a model which includes weight as a factor that interacts with internalization to produce body dissatisfaction. Stice theorizes that “being overweight would not produce body dissatisfaction unless the thin-ideal was internalized” (p.650). Tiggemann (2003) further tested body mass as a moderator and found support for Stice’s model in that the size of the correlations between internalization and body dissatisfaction increased across the weight categorizations for BMI. Tiggemann reported the same finding relative to eating disorders and BMI.

A consistent finding in the literature is that African American females tend to be larger in size and prefer larger body shapes. They therefore experience lesser degrees of body dissatisfaction and eating disorders when compared to Caucasian females (Patel & Gray, 2001; Gluck & Geliebter, 2002; Henriques et al., 1996; Parnell et al., 1996). In a meta-analysis of research which explores the relationship of ethnicity to body dissatisfaction, Grabe & Hyde (2006), when comparing all racial groups to White females, found the largest effect size relative to differences in White and Black females. Frisby (2004) found that Black females only reported lower self-satisfaction with body esteem when exposed to idealized images of Black females. Furthermore, Bissell and Zhou (2004) examined thinness depicting and promoting media, such as entertainment and sports media. The authors predicted that White females compared to non-
White females would display greater body dissatisfaction based on exposure to thin-ideal television and magazines. The authors found the interaction between race and thin-ideal television and magazines to predict drive for thinness, bulimia, and anorexia.

Based on these findings, overweight women who exhibit increased internalization of the thin ideal should experience increased body dissatisfaction and be more susceptible to developing eating disorders. Similarly, White females who exhibit increased internalization of the thin ideal should exhibit increased body dissatisfaction when compared to non-White females. As a result, the following hypotheses are advanced:

H3a: BMI will moderate the degree of internalization in the relationship of media exposure to body dissatisfaction and eating disturbance.

H3b: Ethnicity will moderate the degree of internalization in the relationship of media exposure to body dissatisfaction and eating disturbance.
CHAPTER 3
METHODOLOGY

This study adds to our understanding of the relationship of media exposure and body dissatisfaction and eating disorders by examining the mediating role of pressures and internalization as well as the moderating roles of ethnicity and weight as measured by the Body Mass Index (BMI). In keeping with recent research, the effects of television and magazine exposure were separated (Tiggemann, 2003; Vaughn & Fouts, 2003). A mediating variable explains a relation, intervenes, or provides a causal link between two variables (Vogt, 1993). A moderating variable influences (“moderates”) the relationship between two other variables producing an interaction effect. Thus, a moderating variable affects the direction and/or strength of the relationship between two variables (Stice, 1994). For the purposes of this study, “pressures” was operationalized as influences perceived to be exerted by the media (Thompson et al.). Internalization was operationalized as “the incorporation of specific values (conveyed by the media) to the point they become guiding principles” (Thompson et al., p. 294).

Data Analysis

The data were examined using the following statistical analyses. Zero-order correlations were generated to examine the relationship of media exposure to the body image and eating disturbance variables. As in Stice et al. (1994) and Tiggemann (2003), path analysis was utilized to assess the mediational role of internalization and pressures. Path analysis is an extension of regression which allows the researcher to examine the ability of more than one predictor variable to explain or predict multiple dependent variables (Vogt, 1993). In path analysis, each variable is regressed on all variables assumed to precede it (Tiggemann, 2003). To assess the moderating role of ethnicity and weight a series of hierarchical multiple regressions were conducted. Multiple regression allows several predictor variables to be used in the prediction of one criterion variable (Vogt, 1993). Hierarchical regression assumes that when a higher order interaction term is included in the regression model, all lower order main effects are also included (Vogt, 1993).
Participants

The participants are a purposive sample of 246 female students enrolled in Communication courses at Florida State University and adult females who reside in Tallahassee, Florida. The researcher sought and obtained permission to survey students in large lecture classes. In most instances, students earned extra credit for completing the questionnaire. Adult females were recruited from the researcher’s place of employment and church. The average respondent is 22 years old (age range, 19-59 years), is 5 feet 5 inches tall and weighs 139 pounds (within the normal range of the Body Mass Index). Based on classifications of the Body Mass Index, 72% (176) of the respondents are within normal weight range, 15% (36) are overweight, 8% (20) are obese and 6% (14) are underweight. The ethnic background of the respondents is 75% (184) White, 15% (38) Black, 1% (2) Asian and 9% (21) classified their ethnicity as “other,” of which the majority (13) are Hispanic. An examination of race and age reveals that 96% (234) of the respondents across all ethnic categories are between the ages of 19-29 (see Appendix B, Table 5). The majority of Whites (104 or 57%) and those who classified their ethnicity as “other” (13 or 62%) are between the ages of 19-21. The majority of Blacks (20 or 53%) are between the ages of 22-29. An examination of weight and age reveals that 84% (205) of the respondents between the ages of 19-29 weighed between 92 to 160 pounds (see Appendix B, Table 6). Ninety-five percent (232) of the respondents are single. The respondents are highly educated as the majority 97% (239) are enrolled in college. All five class levels (freshman to graduate) are represented, with the majority 69% (170) classified as juniors or seniors. All female students and adults who provided complete data were retained as part of the sample.

General Measures

Questionnaire

A copy of the complete questionnaire utilized in this study is included in the Appendix. It includes questions developed to capture demographic data such as gender, ethnic background, age, marital status, level of income and level of education.

Body Mass Index

Participants were asked to report their height and weight. From these measurements, Quetelet’s Body Mass Index was calculated based on the following formula: BMI = weight (in
pounds) x 703/ height² (in inches). The adult ranges for BMI are as follows: Underweight (Below 18.5), Normal (18.5-24.9), Overweight (25.0-29.9), and Obese (30.0 and above).

Media Exposure Measures

Magazines

Respondents were asked to estimate the average number of hours they look at or read any magazines on a weekly basis. In addition, respondents were asked to list up to seven magazines they read most often, and note the frequency with which they read each magazine listed. Frequency was measured using a four-point scale ranging from “every issue,” “nearly every issue”, “some issues”, or “a few issues.” The magazines listed by the participants were coded into one of five categories: health and fitness, beauty and fashion, entertainment and gossip, news and current events, and sports. Past research has indicated that fashion, sports, health and fitness and entertainment magazines more often depict the thin ideal (Botta, 2003; Tiggemann, 2003; Harrison & Cantor, 1997; Stice et al., 1994). Magazines were coded into the categories by independent raters. The reliability of the two raters was assessed using Cohen’s Kappa. The resulting coefficient for magazines is 0.95. Magazine exposure was based on two measures: (1) average number of hours spent reading magazines weekly and (2) the number of magazines read most often.

Television

Respondents were asked to estimate the average number of hours spent weekly viewing television. In addition, respondents were asked to list up to seven television programs they watch most often, and note the frequency with which they watch each program listed. Frequency was measured using a four-point scale ranging from “every show,” “nearly every show”, “as often as can”, to “sometimes.” The television programs listed by the participants were coded into one of ten categories: situation comedies/comedy, action/adventure, prime-time soap operas/serials, daytime soap operas/serials, information (e.g. news and documentaries), movies on television, sports, cartoons, music videos, and reality programs. Past research has indicated situation comedies, soaps, movies, sports and music videos more often depict the thin ideal (Tiggemann & Pickering, 1996; Tiggemann, 2003; Fouts & Burggraf, 1999, 2000, 2002; Stice et al., 1994; Bissel & Zhou, 2004). Television programs were coded into the categories by
independent raters. The reliability of the two raters was assessed using Cohen’s Kappa. The resulting coefficient for television programs is 0.97. Television exposure was based on two measures: (1) average number of hours spent viewing television weekly and (2) the number of television programs watched most often.

**Body Dissatisfaction**

Body dissatisfaction was assessed as the discrepancy between current and ideal figures measured by the Contour Drawing Rating Scale of Thompson and Gray (1995). The scale consists of nine female contour drawings. Respondents were asked to respond to the following questions: (1) indicate the (same sex) figure which best represents or approximates your current figure and (2) indicate the (same sex) figure you aspire to look like.

**Eating Disturbance**

The Eating Disorder Inventory (EDI-3) was designed to assess a number of psychological and behavioral traits relevant to the development and maintenance of eating disorders (Garner, 2004). The utility of the EDI scales with clinical and non-clinical samples has been demonstrated in the literature (Garner, Olmsted & Polivy, 1983). Untransformed scores will be used as recommended for nonclinical populations (Schoemaker, van Strien, & van der Staak, 1994).

The EDI-3 scale has twelve sub-scales and 91 items. The participants in this study completed 25 items of the following Eating Disorder Risk Scales: Body Dissatisfaction (BD-10 items) assesses discontent with the overall shape and size of regions of the body that are of extraordinary concern to those who have eating disorders; Drive for Thinness (DT-7 items) assesses an extreme desire to be thinner, concern with dieting, preoccupation with weight, and an intense fear of weight gain; and Bulimia (B-8 items) assesses the tendency to think about and engage in uncontrolled overeating or binging (Garner, 2004). Participants rated how often they agreed or disagreed with the statements in the scales based on a six-point scale ranging from “always,” “usually,” “often,” “sometimes,” “rarely,” to “never” (Garner, 2004). Internal reliabilities were calculated for the respondents utilizing Cronbach’s alpha. The resulting alphas are as follows: Drive for Thinness 0.84, Bulimia 0.90, and Body Dissatisfaction 0.05. The calculation of alpha for Body Dissatisfaction is low due to a negative average covariance. The
researcher rechecked the data several times for anomalies to see if the reliability could be improved. It was concluded that this scale is unreliable for this sample. Therefore, it is excluded from further analysis.

**Pressures and Internalization**

The Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3) was designed as a revision of the SATAQ in order to address the multiple facets of media influence (Thompson et al., 2003). The developers of the SATAQ-3 found that current research supported a new form of media influence, (athleticism and sports) that was not accounted for in the original SATAQ (Thompson et al., 2003). The SATAQ-3 is comprised of 30 items and four sub-scales: Information, Pressures, Internalization-General, and Internalization-Athlete. Participants provided ratings of how often they agree or disagree with the statements in the scales based on a five-point type scale ranging from, “completely disagree,” “somewhat disagree,” “neither agree nor disagree,” “somewhat agree,” to “completely agree” (Thompson, et al, 2003). Internal reliabilities were calculated for the respondents utilizing Cronbach’s alpha. The resulting alphas are as follows: Information 0.97, Pressures 0.96, Internalization General 0.96, and Internalization Athlete 0.90. The data for the Information and Internalization Athlete scales of the SATAQ-3 are not relevant to the current study, but will be used in future research. Therefore, they are excluded from further analysis.

**Procedures**

Approval for the study was obtained from the Florida State University Human Subjects Review Committee. The survey containing all the relevant scales was posted to the Internet utilizing the Survey Pro © Software program. Participants were provided the survey link and a time-frame for completion of the survey. In class settings, participants were provided extra-credit to enhance recruitment. To enhance recruitment of adult participants, a drawing awarding dinner for two was announced. The data were analyzed using SPSS for Windows, Statistical Software for the Social Sciences. The alpha level for all statistical tests was set at .05. The next chapter details the results of the study.
CHAPTER FOUR

RESULTS

The results in this chapter will be reported separately for: overall media use, the relationship between media consumption and body image, the mediating role of internalization, and the moderating roles of body mass index and race.

Media Use

The females in the study reported reading an average of 2.62 magazines and watching 4.15 television programs on a regular basis (see Table 1). They spend an average of 1.75 hours reading magazines and 12.3 hours watching television programs weekly (see Table 1). In addition, respondents indicated the frequency with which they use two media at the same time. As the purpose of this study is to examine the relationship of media exposure to body dissatisfaction and eating disorders, multiple media use was measured to explore the depth of potential exposure to thin images by females who participated in the study. For example, a female who views television while reading a magazine is potentially subject to being exposed to thin images portrayed by both media. Overall, eighty-two percent of the females in the sample reported using two media very often (29%), often (26%), and occasionally (27%). To further assess the simultaneous use of multiple media, respondents were asked to identify other media they use while reading magazines and watching television. Of the total responses provided, females reported that while reading magazines they also view television (46%), listen to audio devices, such as the radio, I-POD, or MP3 players (28%), and surf the internet (18%). While watching television programs, they surf the internet (55%) and read magazines (35%).

To further capture information on media use respondents were asked to list up to seven magazines they read and up to seven television programs they watch on a regular basis. The types of magazines most frequently read by the respondents are beauty and fashion (48%) and news and current events (27%). When excluding the news and current events magazines, sixty-five percent of the reported magazines are health and fitness (6%), beauty and fashion (48%), entertainment and gossip (9%) and sports (2%) magazines.
Table 1: Means for Media Exposure, Body Image and Sociocultural Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exposure</strong></td>
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<td></td>
<td></td>
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<td># of Magazines</td>
<td>0-7</td>
<td>2.62</td>
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</tr>
<tr>
<td># of TV Programs</td>
<td>0-7</td>
<td>4.15</td>
<td>1.8</td>
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<td>Magazine Hours per week</td>
<td>0-12</td>
<td>1.75</td>
<td>1.6</td>
</tr>
<tr>
<td>TV Hours per week</td>
<td>0-112</td>
<td>12.27</td>
<td>11.3</td>
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<td><strong>Body Image</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>1-9 (9 figures)</td>
<td>1.21</td>
<td>1.7</td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td>1-6 (7 items)</td>
<td>23.91</td>
<td>8.0</td>
</tr>
<tr>
<td>Bulimia</td>
<td>1-6 (8 items)</td>
<td>17.04</td>
<td>7.2</td>
</tr>
<tr>
<td>EDI Risk (DT &amp; B)</td>
<td>1-6 (15 items)</td>
<td>41.28</td>
<td>13.4</td>
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<td>4.74</td>
<td>1.9</td>
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<td>1.5</td>
</tr>
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<td><strong>Sociocultural</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pressures</td>
<td>1-5 (7 items)</td>
<td>24.00</td>
<td>8.1</td>
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<td>Internalization</td>
<td>1-5 (9 items)</td>
<td>32.82</td>
<td>8.5</td>
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<td><strong>BMI</strong></td>
<td>16-44</td>
<td>22.94</td>
<td>4.4</td>
</tr>
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</table>

Note: Number of Magazines & Number of TV Programs was reported usage on a “regular basis.”

The frequency with which the participants report reading the listed magazines is “some issues” (42%), “a few issues” (24%) and nearly every issue (22%) of the magazines. The types of television programs most frequently viewed by the participants are prime-time soaps/serials (28%) reality programs (23%), situation comedies/comedy (20%) and action/adventure (12%).

The frequency with which the participants report viewing the listed television programs is “every episode” (43%), “nearly every episode” (25%) and “as often as they could” (24%).

A comparison of the respondents’ media use according to their body mass and race was conducted. The analysis shows that normal weight (28%), overweight (30%) and obese (25%) women indicated a preference for prime-time serials while underweight (30%) women preferred reality programs. Obese women (21%) indicated more interest in action/adventure programs compared to underweight (4%) women. With regard to viewing frequency and BMI, underweight (35%), normal weight (42%), overweight (53%), and obese (38%) women indicated a tendency to watch “every episode” of their preferred programs. Across all levels of body mass, underweight (53%), normal weight (47%), overweight (49%) and obese (45%) women exhibited
a preference for reading beauty and fashion magazines. In contrast, only (22%) underweight, (37%) normal weight, (29%) overweight and (35%) obese women indicated reading news and current events magazines. Across all levels of body mass, underweight (37%), normal weight (43%), overweight (37%) and obese (53%) women indicated reading “some issues” of the magazines.

A comparison of race and media use revealed that slightly more White women (31%) exhibited a preference for prime-time soaps/serials compared to non-White women (27%) for reality programs. A majority of both White (43%) and non-White (45%) females indicated viewing “every episode” of their preferred television programs compared to (9%) and (6%), respectively viewing their preferred programs “sometimes.” Most White (47%) and non-White (51%) women expressed a preference for reading beauty and fashion magazines. However, White women (7%) indicated more interest in health and fitness magazines than non-White women (4%). Although most White (41%) and non-White (45%) women indicated reading “some issues” of their preferred magazines, slightly more White women (13%) indicated reading “every issue” of their preferred magazines compared to non-White women (9%).

**Ethnicity, Media Exposure, Body Image & SocioculturalDescriptors**

Independent samples t-tests were conducted to compare means on the media exposure, body image and sociocultural variables between respondents based on ethnicity. The results of Table 2 reveal that, the average body mass for non-White women is 23.36 compared to 22.76 for White women, but the difference is not statistically significant (t = .906, df = 243, p = .366). Furthermore, the results show that non-White women on average perceived their body shapes to be larger by selecting larger current body shapes than did the White women, but the difference was not statistically significant (t = -.546, df = 241, p = .586). Non-White women aspired to attain larger figures (t = -3.72, df = 239, p < .001) and perceived larger same sex figures as most attractive to the opposite sex (t = -2.99, df = 240, p < .01). Similar to past research, White women exhibited greater body dissatisfaction (t = 2.70, df = 243, p < .05) and displayed greater risk of eating disorder (t = 2.41, df = 216, p < .05) compared to non-White women. White women also exhibited more pressure (t = 3.46, df = 233, p = .001) to conform and acceptance or internalization (t = 3.91, df = 210, p < .001) of thin images in the media. Although White women exhibited higher scores on the body dissatisfaction, eating disorder and sociocultural
variables, they tended to display lower average scores on media exposure and significantly watched fewer hours of television weekly (t = -3.82, df = 241, p < .001).

**Table 2: Means for Media Exposure, Body Image & Sociocultural Variables by Ethnicity**

<table>
<thead>
<tr>
<th>Variable</th>
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<th>Non-White M</th>
<th>t</th>
<th>df</th>
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</tr>
<tr>
<td># of Magazines</td>
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<tr>
<td># of TV Programs</td>
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<td>4.33</td>
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<td>243</td>
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<tr>
<td>Magazine Hours per week</td>
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<td>1.87</td>
<td>-.723</td>
<td>242</td>
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<tr>
<td>TV Hours per week</td>
<td>10.73</td>
<td>16.98</td>
<td>-3.82***</td>
<td>241</td>
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<tr>
<td><strong>Body Image</strong></td>
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<tr>
<td>Body Dissatisfaction</td>
<td>1.38</td>
<td>.72</td>
<td>2.70**</td>
<td>243</td>
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<tr>
<td>Drive for Thinness</td>
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<td>22.27</td>
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<tr>
<td>Bulimia</td>
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<td>15.23</td>
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<td>224</td>
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<tr>
<td>EDI Risk (DT &amp; B)</td>
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<td>37.35</td>
<td>2.41*</td>
<td>216</td>
</tr>
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<td>Current Figure</td>
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<td>-.546</td>
<td>241</td>
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<td>Aspire Figure</td>
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<td>4.17</td>
<td>-3.72***</td>
<td>239</td>
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<tr>
<td>Attractive Same Sex</td>
<td>3.54</td>
<td>4.19</td>
<td>-2.99**</td>
<td>240</td>
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<td>Attractive Opposite Sex</td>
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<td><strong>Sociocultural</strong></td>
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<td>Pressures</td>
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<td>Internalization</td>
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<td>3.91***</td>
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<tr>
<td>BMI</td>
<td>22.76</td>
<td>23.36</td>
<td>-.906</td>
<td>243</td>
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*p < .05, ** p < .01, *** p < .001, † p = .001

**Media Use and Body Image**

Hypothesis 1a predicted that greater exposure to television would be positively related to body dissatisfaction, eating disturbance, pressures, internalization, and ethnicity and negatively related to BMI. A series of correlations using the Pearson correlation coefficient were conducted to examine the relationships between the media exposure, body image and sociocultural variables. The correlation coefficient Eta was used to assess relationships for the categorical variable ethnicity. The results shown in Table 3 reveal that in regard to television exposure, body dissatisfaction is not correlated with # of programs viewed (r = 0.05, p = .206) nor TV hours (r = -0.08, p = .105). Eating disorder risk is also not associated with # of programs viewed (r = 0.40, p = .276) and television hours (r = -0.65, p = .167). Thus, neither body dissatisfaction nor eating disorder risk is associated with television exposure (# of Programs Viewed & TV
Hours). Television exposure (TV Hours) is negatively related to pressures (r = -0.19, p = .001) and internalization (r = -0.17, p < .001). The more time women spend watching television, the less pressure they feel to conform and internalize the thin ideal. Of the demographic variables (ethnicity & BMI), only ethnicity is negatively associated with TV Hours (eta = 0.23, p <.001). The results reveal that non-White women report watching more television than White women (see Table 2 & 3). Based on these results, Hypothesis 1a is not supported. It was posited that increased television exposure would produce increased pressure and internalization which would lead to increased body dissatisfaction and eating disturbance. However, increased television viewing (TV Hours) leads to decreased levels of pressure and internalization and is not related to the body image variables (Body Dissatisfaction & EDI Risk).

The results in Table 3 further indicate an association between television exposure (number of Programs Viewed) and the same sex figure respondents thought would be most attractive to the opposite sex (Attractive Same Sex). The more programs women view the smaller the figure they perceive to be attractive to males (r = -0.11, p <.05). In addition, as women spend more time exposed to television, (TV Hours [r= 0.16, p < .01]) and (number of Programs Viewed [r = 0.32, p< .01]), they also exhibit an increase in the time they spend reading magazines (Magazine Hours).

Hypothesis 1b predicted that greater exposure to magazines would be positively related to body dissatisfaction, eating disturbance, pressures, internalization, and ethnicity and negatively related to BMI. Correlations shown in Table 3 indicate that body dissatisfaction is associated with magazine exposure, specifically magazine hours (r = 0.13, p <.05). Eating disorder risk is associated with number of magazines read (r = 0.16, p <.01) and magazine hours (r = 0.22, p <.01). Hence, the more time women spend reading magazines (Magazine Hours), the more dissatisfied they are with their bodies and the greater their risk of disordered eating. Exposure to magazines, specifically, the number of magazines read, is also associated with pressures (r = 0.14, p <.05) and internalization (r = 0.19, p <.01). The more magazines women reported reading, the greater pressure they feel to conform and internalize the sociocultural ideals of thinness portrayed in the media. The results further show that women with lower levels of body mass (BMI) reported reading more magazines (number of Magazines Read) in comparison to women with higher levels of body mass (r = -0.11, p <.05). Magazine exposure is not related to ethnicity. Based on these results, Hypothesis 1b is partially supported.
Table 3: Intercorrelations Among Variables: Media Use, Sociocultural, and Body Image

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<td>3. Magazine Hours</td>
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<td>7. Bulimia</td>
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<td>-.001</td>
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<td>.562*</td>
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<td>9. Current Figure</td>
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<td>.012</td>
<td>-.086</td>
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<td>.315**</td>
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<td>10. Aspire Figure</td>
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<td>-.303**</td>
<td>-.143*</td>
<td>-.038</td>
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<td>11. Attractive Same Sex</td>
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<td>-.117*</td>
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<td>.524**</td>
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<td>.099</td>
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<td>.494**</td>
<td>.358**</td>
<td>.496**</td>
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<td>.260***</td>
<td>.058</td>
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</table>

*p<0.05 (one-tailed); **p<0.01; ***p<0.001, †p = .001 Correlation stat for race = Eta; All other correlations stats = r

Variable Key: The numbers listed horizontally correspond to the variables listed vertically.
Magazine exposure, specifically magazine hours \((r = -0.12, p < .05)\) and number of magazines read \((r = -0.18, p < .01)\) is also negatively related to the figure women most aspire to obtain (Aspire Figure). Women who read a larger number of magazines and spend more time reading desire to have smaller bodies. The significance of the relationship of magazine exposure to body dissatisfaction and disordered eating may better be understood by further examining pressures and internalization. Women who experience high levels of pressure to conform to the thin images in magazines selected larger body sizes as representative of their current figure \((r = 0.16, p < .01)\). Increased pressure also leads to increased body dissatisfaction \((r = 0.29, p < .01)\) and eating disturbance \((r = 0.49, p < .01)\) in the females in this study. The correlations in Table 3 further show that women who internalize thin ideals from the media display greater levels of body dissatisfaction \((r = 0.25, p < .01)\) and risk of eating disorder \((r = 0.49, p < .01)\). Increased internalization is also related to the desire to attain a smaller figure \((r = -0.27, p < .01)\), selecting a smaller figure as most attractive to the opposite sex \((r = -0.18, p < .01)\), and selecting a smaller opposite sex figure as representative of what women find attractive in men \((r = -0.16, p < .01)\).

In summary, the results of Hypothesis 1a and 1b show that a different pattern emerges for the media variables (television and magazines) in relation to both the body image measures (body dissatisfaction and eating disorder) and the sociocultural mediators (pressures and internalization). For this sample, exposure to magazines is a more salient factor in understanding the relationship of media exposure to body image and eating disorder.

**Internalization and Pressures as Mediators**

To assess the mediating impact of pressures and internalization, a path analysis was conducted. Path analysis is an extension of multiple regression and is a less sophisticated version of structural equation modeling which allows the examination of predictors on multiple criterion variables (Norman & Streiner, 2003). Path analysis also allows you to examine whether a variable serves as an outcome and predictor simultaneously. Thus, path analysis relies heavily on diagrams allowing for the pictorial examination of the relationships among variables (Norman & Streiner, 2003). It is important to note that in path analysis the independent variables are called exogenous and the dependent variables are called endogenous. Exogenous variables only have paths leading away from them and endogenous variables have at least one path leading to them. In a path diagram, the straight arrows are paths leading from one variable to another (see
Figure 1). The curved (double-headed) arrows are correlations between the exogenous variables and are not generally the focus of path analysis. The circles with arrows are error or disturbance terms associated with each endogenous variable. The objective in conducting a path analysis is to test the difference between the observed data and a hypothesized model (see below). In other words, the researcher tests the fit of a hypothesized model to the data. It is important to note that obtaining a model that fits the data does not exclude the existence of other more closely fitting models. A close fitting model simply means “close enough” and does not allow a researcher to make an assertion of causality (Norman & Streiner, 2003).

**Hypothesized Model**

Based on previous research, the hypothesized model proposes that exposure to magazines will be directly related to perceived pressure from the media to conform to the thin ideal. Perceived pressure will then directly relate to internalization (acceptance) of the thin ideal which will be directly associated with body dissatisfaction and eating disturbance. In the path related to magazine exposure, it is hypothesized that internalization will be a salient factor directly relating to both body dissatisfaction and eating disturbance. It was also hypothesized that exposure to television will be directly related to perceived pressure to conform to the thin ideal. Perceived pressure will then be directly related to body dissatisfaction which will directly relate to eating disturbance. To further explain, in the path related to television exposure, perceived pressure is hypothesized to be indirectly related to eating disturbance.

Based on Stice’s (1994) and Tiggemann’s (2003) theoretical models, the following hypotheses are postulated. Goodness of fit to the sample data was judged by: (a) $X^2/df$ ratio of 2 or less, (b) Bentler Comparative Fit Index (CFI) of .90 or higher, (c) Tucker-Lewis Index (TLI) of .95 or higher, and (d) Root Mean Square of Error Approximation (RMSEA) of .05 or less (Garson, 2007). The overall model fit is $X^2(1, N=246) = .491, p = .484$. The resulting model fits the data very well. The fit indices are as follows: $X^2/df= .491$, CFI= 1.0, TLI= 1.0, RMSEA = .000. Table 4 displays the resulting path coefficients and their level of significance (standardized partial regression coefficients). The path coefficients are further plotted on Figure 1.

Hypothesis 2a predicted that media pressures would mediate the relationship of magazine exposure to body dissatisfaction and eating disturbance through internalization.
The path diagram depicts a significant direct effect of magazine exposure (AVGMAGHRS) on pressures (see Figure 1 & Table 4). There is also a significant direct effect from pressures to internalization as well as a direct effect between internalization and risk of eating disorder. Based on the findings of Stice’s (1994) and Tiggemann’s (2003) model, it was hypothesized that pressures would directly relate to internalization but would mediate or be indirectly related to body dissatisfaction and then eating disorder. Because the path directly linking internalization to body dissatisfaction is not significant, Hypothesis 2a is not supported.

The path leading from magazine exposure to pressure, internalization, and eating disorder shows that pressure is indirectly related to eating disorder through internalization. Pressure is also directly related to body dissatisfaction which is directly related to eating disorder. Although opposite the hypothesized direction, pressure is indirectly related to eating disorder through body dissatisfaction. The diagram further shows that pressure is directly related to eating disorder. Hence, a female who feels pressure to conform to the thin ideal may experience that pressure directly or indirectly prompting her to either internalize or accept the images as reality, be dissatisfied with her body and/or develop an eating disorder. The results further reveal that in addition to the indirect effect of magazine exposure (AVGMAGHRS) on eating disorder and

Table 4: Path Coefficients

<table>
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<tr>
<th>Path</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressures---TV Hours</td>
<td>-.241***</td>
</tr>
<tr>
<td>Pressures---Magazine Hours</td>
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<td>Internalization---Magazine Hours</td>
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<tr>
<td>Internalization---Pressures</td>
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<tr>
<td>Body Dissatisfaction---TV Hours</td>
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<td>Body Dissatisfaction---Pressures</td>
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<td>Body Dissatisfaction---Magazine Hours</td>
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<td>Body Dissatisfaction---Internalization</td>
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<td>EDI Risk---Magazine Hours</td>
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<td>EDI Risk---Body Dissatisfaction</td>
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<td>EDI Risk---Internalization</td>
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</table>

*p<0.05; **p<0.01; ***p<0.001
Figure 1: Path Diagram
body dissatisfaction through pressures, there is also a significant direct effect of magazine exposure on eating disorder and body dissatisfaction.

Hypothesis 2b predicted that media pressures would mediate the relationship of television exposure to eating disorder through body dissatisfaction. The direct effect of television exposure (AVGTVHRS) on pressures is negative. The more time women spend viewing television the less pressure they feel to conform to the thin ideal. In addition, the paths from television exposure (AVGTVHRS) to body dissatisfaction and eating disorder are not significant. As a result, Hypothesis 2b is not supported.

Hypothesis 2c predicted that internalization would mediate the relationship of magazine exposure to body dissatisfaction and eating disturbance. Stice (1994) and Tiggemann (2003) focused on the effects of internalization of media images on body dissatisfaction and disordered eating. In the current study, the direct effect of internalization on body dissatisfaction is not significant. Likewise, the direct effect of exposure to magazines (AVGMAGHRS) is not significant. As both the aforementioned paths are not significant, Hypothesis 2c is not supported.

Internalization mediates the relationship of magazine exposure (AVGMAGHRS) and pressures to eating disorder. In this path, the women’s perceived pressure to conform and internalization of the thin ideal portrayed in magazines led to an increased risk of disordered eating. To summarize, the paths in the model show that internalization is only directly related to eating disorder and is indirectly related to magazine exposure (AVGMAGHRS). However, pressure due to exposure to thin images in magazines (AVGMAGHRS) is directly related to internalization, body dissatisfaction, and eating disorder as well as indirectly related to eating disorder. Thus, pressures seems to be more salient than internalization as the results show internalization is not a necessary precursor to increased levels of body dissatisfaction or disordered eating in this sample.

**Body Mass as a Moderator**

Hypothesis 3a predicted that BMI would moderate the degree of internalization in the relationship of media exposure to body dissatisfaction and eating disturbance. Hierarchical regression was utilized to examine the moderating effects of body mass (BMI) on internalization in relation to media exposure, body dissatisfaction and eating disorder. In order for independent
variables to be useful in predicting dependent variables they must be correlated with the dependent variables. The results in Table 3 show that BMI (Body Mass Index) is not significantly correlated with internalization and; therefore, does not add to the prediction of internalization. Thus, there is no support found for BMI interacting with internalization in this sample and Hypothesis 3a is rejected.

The results further show that media pressure is a significant predictor of internalization, eating disorder, and body dissatisfaction (see Figure 1 & Table 3). Nevertheless, BMI is also not significantly related to pressures. Although BMI is not significantly related to the sociocultural variables, it is positively related to the body image variables. Therefore, a decision was made to examine the contribution of BMI to the prediction of body dissatisfaction and eating disorder exclusive of internalization. Body dissatisfaction and disordered eating were entered in turn as the dependent variables with time spent reading magazines entered in the first step of the hierarchical regression model followed by BMI. Because the television exposure variables (TV Hours & TV Programs Viewed) are not significantly correlated to body dissatisfaction or eating disorder, they also are not examined as they do not add to the prediction of body image. In the first step, time spent reading magazines (Magazine Hours) contributes to body dissatisfaction, accounting for 1.9% of the variance which is statistically significant (F change (1, 243) = 4.763, \( p < .05 \)). The entry of BMI significantly improves the prediction of body dissatisfaction, accounting for 18.4% of the variance (F change (1, 242) = 55.751, \( p < .001 \)). Similarly, time spent reading magazines contributes significantly to eating disorder, accounting for 5.2% of the variance (F change (1, 217) = 11.998, \( p = .001 \)). The entry of BMI significantly improves the prediction of eating disorder accounting for 7.5% of the variance (F change (1, 216) = 18.660, \( p < .001 \)).

The number of magazines read (number of Magazines Read) was also examined in relation to eating disorder and BMI. In the first step, eating disorder was entered as the dependent variable along with the number of magazines read. The results show that magazines read accounts for 2.6% of the variance (F change (1, 217) = 5.776, \( p < .05 \)). The entry of BMI improves the prediction of eating disorder by accounting for 8.9% of the variance (F change (1, 216) = 21.641, \( p < .001 \)). Although no support is found for Hypothesis 3a, these results show that weight moderates body dissatisfaction and eating disorder in relation to media exposure.
(number Magazines Read & Magazine Hours). Consequently, heavier females are more dissatisfied with their bodies and exhibit increased risk of developing eating disorders.

**Ethnicity as a Moderator**

Hypothesis 3b predicted that ethnicity would moderate the degree of internalization in the relationship of media exposure to body dissatisfaction and eating disturbance. Internalization is negatively related to time spent watching television (TV Hours) and positively related to the number of magazines read (number of Magazines Read; see Table 3). In a hierarchical regression entering race as the initial predictor, time spent watching television does not add to the prediction of internalization. It was determined that time spent watching television (TV Hours) is not essential to the prediction of internalization. Thus, ethnicity alone is a better predictor of internalization than the interaction of ethnicity and television exposure (TV Hours). Ethnicity alone accounts for 7.2% of variance in internalization ($F$ change $(1, 208) = 16.186, p < .001$) compared to 5.6% of the variance with (TV Hours) and ethnicity entered together ($F$ change $(1, 207) = 12.771, p < .001$). Internalization is also not correlated with the other television exposure variable (number of TV Programs Viewed). Therefore, a decision was made to examine the interaction of ethnicity to internalization using number of magazines read as the predictor media variable. Internalization was entered as the dependent variable with the number of magazines read entered in the first step followed by ethnicity. In the first step, number of magazines read contributes significantly to internalization, accounting for 3.8% of the variance ($F$ change $(1, 210) = 8.395, p < .01$). The entry of ethnicity significantly improves the predictability of internalization accounting for 6.7% of the variance ($F$ change $(1, 209) = 15.566, p < .001$). Because ethnicity only moderates internalization in relation to magazine exposure (number of magazines read), Hypothesis 3b is not supported.

In addition to internalization, ethnicity is also correlated with body dissatisfaction, eating disorder and pressures. In the examination of race, each of the aforementioned variables was entered into a regression equation as dependent variables along with the related media variables in the first step and race in the second step. Time spent reading magazines (Magazine Hours) contributes significantly to body dissatisfaction accounting for 2.1% of the variance ($F$ change $(1, 242) = 5.279, p < .05$). The addition of ethnicity improves the prediction of body dissatisfaction significantly accounting for 3.2% of the variance ($F$ change $(1, 241) = 8.235, p <
Although ethnicity is related to eating disorder (see Table 3), it does not add to the prediction of eating disorder in relation to magazine exposure (Magazine Hours & number of Magazines Read). Because ethnicity is not related to magazine exposure, time spent reading magazines (Magazine Hours), is a better predictor of eating disorder exclusive of ethnicity. Magazine Hours accounts for 5.6% of the variance in eating disorder (F change (1, 216) = 12.932, p < .001) compared to the number of magazines read accounting for 2.6% of variance (F change (1, 216) = 5.817, p < .05).

Pressure is negatively related to time spent watching television (TV Hours). It is important to note that only the sociocultural variables (pressure and internalization) are related to television exposure, specifically (TV Hours). In a hierarchical regression entering race as the initial predictor, time spent watching television does not add to the prediction of pressures. Similar to internalization, ethnicity alone is a better predictor of pressures than ethnicity and television exposure (TV Hours). Ethnicity alone accounts for 4.7% of variance in pressures (F change (1, 231) = 11.487, p = .001) compared to the interaction of (TV Hours) and ethnicity accounting for 3.1% of the variance (F change (1, 230) = 7.535, p = .007). Pressure is not related to the other television exposure variable (number of TV Programs Viewed). The number of magazines read (number of Magazines Read) significantly contributes to the prediction of pressures accounting for 2.1% of the variance (F change (1, 233) = 5.022, p < .05). With the addition of ethnicity to the regression model, the prediction of pressures increases to account for 4.6% of the variance (F change (1, 232) = 11.503, p = .001).
CHAPTER FIVE
DISCUSSION

This chapter will address the following: a summary of the results of the study and the implications, a discussion of the limitations of the study and suggestions for future research.

Overview of Anticipated Results

The purpose of this study was to explore the relationship of media exposure to body dissatisfaction and eating disturbance by examining the mediating effects of pressures and internalization as well as the moderating effects of ethnicity and weight. First, it was expected that the study would reveal a positive correlation between media exposure (television & magazines), body image (Body Dissatisfaction & Eating Disorder), the sociocultural factors (Pressures & Internalization) and ethnicity. Although watching television and reading magazines tends to be a sedentary task, it was thought that the relationship between media exposure and body mass would be negative as greater exposure to thin images would promote increased body dissatisfaction due to females experiencing increased pressure to conform and internalize the thin ideals portrayed by the media. Second, it was anticipated that a different pattern would emerge for the manner in which television exposure and magazine exposure relate to body dissatisfaction and eating disturbance. Specifically, based on the findings reported by Tiggemann (2003), it was hypothesized that magazine exposure would indirectly relate to body dissatisfaction and eating disorder as a result of females feeling pressured and internalizing the thin ideal. It was further hypothesized that television exposure would indirectly relate to body dissatisfaction and eating disorder as a result of females feeling pressure to attain the thin ideal. Finally, it was hypothesized that body mass and ethnicity would moderate the impact of internalization on body dissatisfaction and eating disorder. In other words, White females as well as females who exhibit higher body mass indices should more experience greater pressure to conform and internalize thin ideal images and exhibit higher degrees of body dissatisfaction.
Summary of Media Use

The results revealed that the females in this study spent an average of two hours reading magazines and 12 hours watching television weekly. On average, they read three magazines and watched four programs on a regular basis. According to projections from a communication industry forecast, in 2007 people will spend 65 days watching television, 41 days listening to radio and a little over a week on the Internet (U.S. Census Bureau’s Statistical Abstract of the United States, 2007). Media use for the females in the current sample falls below this projection as they are on target to watch approximately 26 days of television in 2007. A majority (82%) of the females also reported simultaneous use of two media on a regular basis. While reading magazines, the females most often view television programs. While watching television, they most often surf the internet. A study by the Kaiser Foundation reported, “Today’s young people frequently use two, three, or more media at the same time; they read while listening to music or watching TV; they engage in instant messaging while listening to the news, playing a computer game, and chatting on the phone” (Henry J. Kaiser Family Foundation, 2005, p.34). The results of this study show that the females are comfortable with the idea of media multi-tasking.

The type of magazine most frequently read by the participants was overwhelmingly beauty and fashion. Past research has indicated that fashion, sports, health and fitness and entertainment magazines depict the thin ideal (Botta, 2003; Tiggemann, 2003; Harrison & Cantor, 1997; Stice et al., 1994). The types of television programs most frequently viewed were prime-time soaps/serials, reality programs, and situation comedies, respectively. Vaughn and Fouts (2003) discussed the idea that television programming in general, including situation comedies tend to have an overrepresentation of thin characters. Other research has indicated that situation comedies, soaps, movies, sports and music videos depict the thin ideal (Tiggemann & Pickering, 1996; Tiggemann, 2003; Fouts & Burggraf, 1999, 2000, 2002; Stice et al., 1994; Bissel & Zhou, 2004). The overall patterns of media use for this sample suggest that the women would have been thoroughly exposed to the sociocultural ideal of thinness in the media.

Summary of Body Image & Sociocultural Variables

It was hypothesized that greater exposure to television would be positively related to body dissatisfaction, eating disturbance, pressures, internalization, and ethnicity and negatively to BMI. Mixed results have been reported in the literature regarding the relationships of these
variables. Tiggemann & Pickering (1996) found that amount of television watched did not correlate with body dissatisfaction or drive for thinness, but program type, specifically soaps, movies, and negatively sports correlated with body dissatisfaction and music videos correlated with drive for thinness. Harrison & Cantor (1997) found amount of television watched to positively correlate with body dissatisfaction. Stice et al., (1994) found that their combined measure of media exposure (television and magazines) did not correlate with internalization. The difference in findings is thought to be partially related to the manner in which media exposure is operationalized.

In this study, exposure to television and magazines were captured separately. Exposure to television was operationalized as the amount of time spent viewing as well as the number of programs watched on a regular basis. The number of television programs viewed is not correlated with any of the variables. In contrast, time spent viewing television is negatively correlated with the sociocultural variables (pressures and internalization). Thus, the more time women spend watching television, the less they feel pressure to conform and internalize the thin ideal. BMI is not associated with television exposure. However, ethnicity is associated with television exposure. Non-White women in the sample reported viewing more television than the White women. Furthermore, body dissatisfaction neither eating disorder risk (EDI Risk) is associated with either of the television exposure variables (number of TV Programs Viewed & TV Hours). As a result of the lack of relationships relevant to television exposure, hypothesis 1a is not supported. Perhaps this hypothesis is not supported because females view television primarily for entertainment and; therefore, do not process the images as information about or reflections of themselves. It is also possible that television exposure should be operationalized based on exposure to programs which predominately portray the thin ideal rather than in a more generalized manner. The implication of the findings related to television is that television exposure may not be integral to understanding the development of body dissatisfaction and eating disorders in females. Given that the females in this study experienced less pressure and internalization when spending more time viewing television, it may be important to understand the factors which protect females from experiencing pressure or acceptance of thin images portrayed in television. It is should be noted that the more television programs the females indicated viewing, the smaller the figure they perceived to be attractive to males. This finding implies that while the females in this study may not feel dissatisfied with their bodies or exhibit
tendencies of developing an eating disorder due to television exposure, they have been influenced to believe that males prefer women with thinner bodies. Therefore, while television exposure may not be a major factor in women viewing their bodies as objects or cultivating a beauty standard of thin females in society, it may shape their views of male preferences.

It was further hypothesized that greater exposure to magazines would be positively related to body dissatisfaction, eating disturbance, pressures, internalization, and ethnicity and negatively related to BMI. Past research has found magazine reading to correlate with drive for thinness. Specifically, magazine reading was positively related to anorexic and bulimic behaviors (Harrison & Cantor, 1997). Both magazine exposure variables (number of Magazines & Magazine Hours) are associated with body dissatisfaction and disordered eating. The more time women are exposed to magazines images, the more body dissatisfaction and risk of eating disorder they display. In addition, the number of magazines read is related to increased pressure to conform and internalize the thin images portrayed in magazines. Although magazine exposure is not related to ethnicity, women with lower levels of body mass indicate reading more magazines. Thus, hypothesis 1b is partially supported. Additionally, as pressure relates to magazine exposure (number of Magazines Read), women who exhibit increased pressure perceived themselves as heavier by selecting larger body sizes as representative of their current body size. Even though pressure is not correlated with BMI, the women still perceived themselves to be larger. This increase in pressure is also related to an increase in body dissatisfaction and eating disturbance in females of the current study. The results also revealed that females who read more magazines for a longer period of time desire smaller bodies.

Overall, the results show magazine exposure to be a more salient predictor in the assessment of body image, eating disorder and acceptance of the sociocultural ideal of thinness portrayed in the media. Harrison and Cantor (1997) propose that this relationship may exist because “women’s magazines provide the dieting instructions that may be left out or drowned out by television’s competing messages” (p. 45). In other words, while women may watch television for entertainment, they may primarily read magazines for the acquisition of information. The results infer that understanding the development of eating disorders and body dissatisfaction in females cannot be done apart from a consideration of exposure to magazines. The results further show that the effects linking magazine exposure to body image are different than the effects linking television exposure which implies that media effects should be analyzed.
separately in research which seeks to add to our understanding of body dissatisfaction and eating disorders in females.

The results of the path analysis examining the mediating role of media pressures and internalization were revealing. To the researcher’s knowledge, this is the first study to examine the mediating effect of pressures. In a substantive review of literature, Stice (1994) proposed a sociocultural model of bulimia along with probable mediators. Stice posited that perceived pressure from sources such as the media, family and peers would lead to internalization, body dissatisfaction, and ultimately bulimia nervosa. It was hypothesized that pressures would directly relate to internalization and indirectly relate to body dissatisfaction and then eating disorder. There is a direct effect of magazine exposure on pressures in the hypothesized direction. Pressure directly relates to internalization. And, internalization directly correlates to eating disorder. However, the path linking internalization to body dissatisfaction is not significant. As a result, Hypothesis 2a is not supported. Although in the opposite direction, pressure from magazine exposure (AVGMAGHRS) indirectly relates to eating disorder through body dissatisfaction. The path analysis further reveals that pressure from exposure to magazines is directly related to internalization, body dissatisfaction, and eating disorder.

The lack of relationship between internalization and body dissatisfaction in the path analysis may be due to the impact of pressure on body dissatisfaction and eating disorder. The results imply that pressure to conform to the thin ideal portrayed in magazines is more pertinent to the females in the current study. Thompson et al. (2004), in assessing the unique predictive nature of the SATAQ-3 subscales with the EDI-Drive for thinness subscale, found that the pressures subscale contributed 11% unique variance beyond that accounted for by internalization and information. The results of this study support the greater contribution of pressures compared to internalization in the development of body dissatisfaction and eating disorder. The path from pressure to internalization to eating disorder does not take into account body dissatisfaction. Likewise, the path from pressure to body dissatisfaction to eating disorder does not take into account internalization. Hence, the results further imply that body dissatisfaction and internalization are not necessary precursors in predicting eating disorder.

Tiggemann (2003) examined the mediating effect of internalization in relation to media exposure, body dissatisfaction, and eating disorder and found internalization to only mediate the effect of magazine exposure on body dissatisfaction and eating disorder. Therefore, it was
hypothesized that only pressures would mediate between television exposure, body dissatisfaction and eating disorder. The path analysis reveals that television exposure had a significant negative direct effect on pressures (see Figure 1 and Table 3). Specifically, the more women reported watching television, the less pressure they felt to conform to the thin ideal. As a result, Hypothesis 2b is not supported.

The path analysis displays magazine exposure, not television, as the pertinent media predictor of pressures, eating disorder, body dissatisfaction, and indirectly internalization. As the type of magazine most frequently read by the women in the study was beauty and fashion, this finding implies that if strides are to be made in improving body image in females, intervention and prevention programs should place emphasis on developing critical viewing and reading skills to help women process thinness promoting media images in magazines, instead of television, as constructions rather than reflections of reality.

It was hypothesized that internalization would be directly related to magazine exposure and body dissatisfaction as well as indirectly related to eating disorder. Because the paths leading directly from magazine exposure to internalization and internalization to body dissatisfaction are not significant, no support is found for Hypothesis 2c. Instead of the respondents exhibiting internalization as a direct effect of magazine exposure, they only exhibited internalization of magazine images indirectly through pressure. This finding implies that when pressure is considered it serves as an outcome of magazine exposure and a predictor of internalization. In this sense, pressure may be an important precursor to further understanding internalization of media images.

Hypothesis 3a predicted that BMI would moderate the degree of internalization in the relationship of media exposure to body dissatisfaction and eating disturbance. The present study may be the first that has examined the moderating effect of ethnicity. The adult ranges for BMI are as follows: Underweight (Below 18.5), Normal (18.5-24.9), Overweight (25.0-29.9), and Obese (30.0 and above). The average BMI for the females in this study was within the normal range and may have contributed to a non-significant relationship between BMI and internalization. Due to the lack of correlation between internalization and BMI, it was determined that BMI does not add to the prediction of internalization. Hence, no support was found for Hypothesis 3a. It is also interesting to note that BMI is also not related to pressures.
In a post hoc examination, the contribution of BMI to the prediction of body dissatisfaction and disordered eating was examined. BMI contributes significant variance to the prediction of body dissatisfaction and disordered eating. It has typically been theorized that heavier females exhibit greater body dissatisfaction and are then at greater risk of disordered eating (Stice, 1994; Tiggemann, 2003). The results of the current study are consistent with this expectation. The lack of a significant correlation between BMI and the sociocultural variables is interesting in that it implies that weight may not be a relevant factor in the prediction of internalization and pressures. In the current sample, most of the females are of normal BMI. An examination of BMI with a more diverse sample of females in terms of weight may yield different results in regard to internalization and pressure.

Hypothesis 3b predicted that ethnicity would moderate the degree of internalization in the relationship of media exposure to body dissatisfaction and eating disturbance. Much of the research examining the affect of ethnicity on body image has been psychological in nature. These studies have more often found that Black and Hispanic females are more satisfied with their bodies when compared to White females (Patel & Gray, 2001; Parnell et. al., 1996; Gluck & Geliebter, 2002; Pompper & Koenig, 2004). It is important to note that research has also found that the pressure to attain a thin body is greatest in females of high socioeconomic background. Therefore, reported differences in body image between Whites and non-Whites may confound the impact of ethnicity and socioeconomic status (Caldwell, Brownell, & Wilfley, 1997). The focus of the current study is to examine the moderating effects of body mass and ethnicity. Nevertheless, an attempt to collect income data in the current study yielded unreliable results. For the purposes of this study, ethnic categories were collapsed into White and non-White. The majority of the females in the sample are White.

Pressure and internalization are both negatively related to television exposure (TV Hours). In both cases, ethnicity is a better predictor of pressure and internalization than is television exposure. As a result, ethnicity was examined in regard to magazine exposure (number of magazines Read & Magazine Hours). The results reveal that ethnicity significantly contributed to the prediction of internalization in relation to the number of magazines read. In other words, White women who indicated reading more magazines exhibited higher scores on internalization than non-White women. Because ethnicity did not mediate internalization in relation to television exposure, Hypothesis 3b is not supported.
Although ethnicity is also significantly associated with body dissatisfaction, eating disorder and pressures, it only adds significant variance to the predication of body dissatisfaction and pressures. Thus, White women who spend more time reading magazines display increased body dissatisfaction. Likewise, White women who read more magazines experienced increased pressure to conform to the thin ideal. Based on these results, interventions should especially emphasize strategies that address the needs of young White women as they may be at increased risk of being pressured to accept or internalize the thin ideal as a standard of beauty. Past research has suggested that cultural acceptance of heavier bodies in some minority cultures may shield them from experiencing body dissatisfaction and eating disorder at the same rates as females in the majority culture (Poran, 2006). Non-White women in this study displayed higher Body Mass indices and selected larger figures as representative of their current body size compared to White women. In a society that is inundated with thin beauty images, it is plausible that minority women have developed methods for coping that protects their body image from being negatively impacted by the portrayals of the thin ideal.

Study Limitations

It is important to consider some of the limitations of the study. First, time spent viewing television programs was only significantly and positively correlated with race, while the number of television programs watched was not correlated with any of the body image, sociocultural mediating or moderating variables. Thus, the measure of media exposure may not have been explicit enough to capture the effects of the thin ideal. For example, it might have been more beneficial to have respondents report their specific viewing and reading of thin ideal programs and magazines, such as health and beauty and prime-time serials/soaps. Even with this limitation, the results revealed different patterns of effects for television and magazine exposure. Second, most of the females in this sample were within the normal weight range for BMI which may have contributed to a non-significant correlation of BMI with internalization. Third, the lack of reliability in the EDI-Body Dissatisfaction scale led to this scale being excluded from the analysis. Although researchers have used many combinations of the EDI scales (Bulimia, Drive for Thinness, & Body Dissatisfaction) in measuring eating disorder, the inclusion of the EDI-Body Dissatisfaction scale may have increased or strengthened the direct effects of the path analysis. Fourth, although there were 246 total respondents, only 61 were minority or non-
White. As larger samples more closely approximate the population, smaller samples reduce the generalizability of the results. Thus, the findings relevant to ethnicity could have occurred by chance and may be unrepresentative of the general population. A fifth limitation of the study lies in the use of a survey as the method of data collection. Respondents were asked to report sensitive information such as weight as well as dieting and eating habits. Although respondents were informed that the reported data would be kept anonymous and confidential, social pressures and cognitive biases may have influenced respondents to report inaccurate data. Additionally, as respondents could elect whether to participate, the nature of the study and the incentives made available to recruit respondents could have made participation more attractive to respondents who are not representative of the general population. Finally, a general rule is that correlations of .20 to .40 are considered of low degree and 0.0 to .20 are considered negligible. Although, correlations within these ranges reached significance, they should also be considered in light of their relative strength (see Table 2).

**Future Research**

As with Tiggemann (2003), different underlying processes for magazine and television exposure were revealed in the current study. Therefore, future research should continue to focus on operationalizing media exposure in a precise manner that separates the effects of exposure to the media of interest. The females in this study experienced less pressure and internalization when spending more time viewing television, it may be important to further explore the factors which protect females from experiencing pressure or acceptance of thin images portrayed in television. Future research should also focus on more diverse samples that are large enough to approximate the population. Thompson et al. (2004) suggests that samples should be diverse in age, gender, and ethnicity. This will help us better understand the effects of media exposure, body dissatisfaction, and eating disorder in minorities, males, and respondents who are not of college age. Non-White women in this study displayed higher Body Mass indices and selected larger figures as representative of their current body size compared to White women. Non-White women also exhibited less body dissatisfaction, eating disorder risk, pressures and internalization. Future research should focus on identifying the factors that promote positive body image in minorities who are exposed to the same thin media images as non-minorities. Future studies should also investigate body image in women of different racial groups who are of
the same socioeconomic background. This will add to our understanding of the actual impact of ethnicity and socioeconomic status in relation to body dissatisfaction and eating disorders. In addition, samples with a greater range of BMI may yield different results in reference to internalization as BMI in the current study was not significantly related and did not contribute to the prediction of internalization. Future research should focus on examining more diverse samples in BMI.

In summary, Stice (1994) identifies the following variables as possible moderators of media exposure and body image: self-esteem, identity confusion, weight, social learning, coping skills, and impulsivity, ethnicity, age. He further suggests the following variables as possible mediators: negative affect, restrained eating, and body dissatisfaction and internalization. As this is possibly the first study to examine the mediating effects of pressures and the moderating effects of ethnicity, future research should continue to explore the effects of pressures and ethnicity, as well as other variables that mediate and moderate the relationship of media exposure and body image.
APPENDIX A

EATING BEHAVIOR AND BODY IMAGE SURVEY
Please take a few minutes and complete the following survey about attitudes, feelings, and behaviors related to eating and body image. **There are no correct or incorrect answers. If you have concerns or difficulties in responding to any of the items, you may choose not to participate in the research study without penalty. You may choose to terminate completion of the survey at any point. Completion of the survey will be taken to mean you give your consent to participate in the study.**

Participation is voluntary, and all results are confidential to the extent allowed by the law. Completion of the survey should take 20 minutes or less. If you choose to participate, please answer all of the items. You will not be asked to identify yourself on the survey. Completion of the survey is implied consent for the researcher to use the data you have provided. You must be at least 18 years of age to participate.

If you have questions, please contact Kimberly Davis at Kimberly_Davis0211@yahoo.com or Dr. Barry Sapolsky in the Department of Communication at bsapolsk@mailer.fsu.edu. You may also contact the Florida State University Institutional Review Board at 850-644-8633.

**Thank you for your participation.**

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**Section 1:** For each item, decide if the item is true about you ALWAYS (A), USUSALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R), or NEVER (N). Indicate the response that corresponds to your rating.

1. I eat sweets and carbohydrates without feeling nervous.
   - Always
   - Usually
   - Often
   - Sometimes
   - Rarely
   - Never

2. I think that my stomach is too big.
   - Always
   - Usually
   - Often
   - Sometimes
   - Rarely
   - Never

3. If I gain a pound, I worry that I will keep gaining.
   - Always
   - Usually
   - Often
   - Sometimes
   - Rarely
   - Never
Section 2: Please read each of the following items and indicate the response that best reflects your level of agreement with each statement.

26. TV programs are an important source of information about fashion and being attractive.


27. I’ve felt pressure from TV or magazines to lose weight.


28. I would like my body to look like the people who are on TV.


29. I compare my body to the bodies of TV and movie stars.


30. TV commercials are an important source of information about fashion and “being attractive.”


31. I’ve felt pressure from TV or magazines to look pretty.

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

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

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

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

34. Music videos on TV are an important source of information about fashion and “being attractive.”

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

35. I’ve felt pressure from TV and magazines to be thin.

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

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

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

37. I compare my body to the bodies of people who appear in magazines.

   1  2  3  4  5
   Completely  Somewhat  Neither agree  Somewhat  Completely
   Disagree    Disagree   nor Disagree  Agree    Agree
38. Magazine articles are an important source of information about fashion and being attractive.

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39. I’ve felt pressure from TV or magazines to have a perfect body.

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40. I wish I looked like the models in music videos.

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<tr>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

41. I compare my appearance to the appearance of people in magazines.

<table>
<thead>
<tr>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
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<tr>
<td>4</td>
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<tr>
<td>5</td>
</tr>
</tbody>
</table>

42. Magazine advertisements are an important source of information about fashion and “being attractive.”

<table>
<thead>
<tr>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>4</td>
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<tr>
<td>5</td>
</tr>
</tbody>
</table>

43. I’ve felt pressure from TV or magazines to diet.

<table>
<thead>
<tr>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>
44. I wish I looked as athletic as the people in magazines.

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree

45. I compare my body to that of people in “good shape.”

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree

46. Pictures in magazines are an important source of information about fashion and “being attractive.”

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree

47. I’ve felt pressure from TV or magazines to exercise.

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree

48. I wish I looked as athletic as sports stars.

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree

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

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree

50. Movies are an important source of information about fashion and “being attractive.”

1. Completely Disagree  
2. Somewhat Disagree  
3. Neither agree nor Disagree  
4. Somewhat Agree  
5. Completely Agree
51. I’ve felt pressure from TV or magazines to change my appearance.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Somewhat Agree</td>
<td>Completely Agree</td>
</tr>
</tbody>
</table>

52. I try to look like the people on TV.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Somewhat Agree</td>
<td>Completely Agree</td>
</tr>
</tbody>
</table>

53. Movie stars are an important source of information about fashion and “being attractive.”

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Somewhat Agree</td>
<td>Completely Agree</td>
</tr>
</tbody>
</table>

54. Famous people are an important source of information about fashion and “being attractive.”

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Somewhat Agree</td>
<td>Completely Agree</td>
</tr>
</tbody>
</table>

55. I try to look like sports athletes.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Disagree</td>
<td>Somewhat Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Somewhat Agree</td>
<td>Completely Agree</td>
</tr>
</tbody>
</table>

Section 3: Please read each statement below and enter the corresponding estimate. Please use decimals to denote partial hours.

56. Estimate the average number of hours you spend looking at or reading any magazine weekly. ________ hours (If none, please enter zero.) (For example: 8 or 8.75)

57. Estimate the average number of hours you view television weekly. ________ hours (If none, please enter zero.) (For example: 8 or 8.75)
Section 4: Please select the responses that best represent your answer to the following questions.

58. Some people use more than one medium at the same time (for example, read a magazine while watching television or watching television while surfing the internet). How often do you typically use two media at the same time?
   - [ ] VERY OFTEN
   - [ ] OFTEN
   - [ ] OCCASIONALLY
   - [ ] RARELY
   - [ ] NEVER  (Skip to Q. # 61)

59. While watching television, which other media do you use? (Please check all that apply)
   - [ ] Magazines
   - [ ] Radio (Or other Audio sources such as I-POD, Etc.)
   - [ ] Internet
   - [ ] Video Games
   - [ ] I don’t use another medium while watching television

60. When reading or viewing magazines, which other media do you use? (Please check all that apply)
   - [ ] Television
   - [ ] Radio (Or other Audio sources such as I-POD, Etc.)
   - [ ] Internet
   - [ ] Video Games
   - [ ] I don’t use another medium while reading or viewing magazines

61. Which magazines do you read most often? Please list (enter) the names of the magazines you read on a regular basis. For each magazine you read, check whether you read:

   E=Every Issue    NE=Nearly Every Issue    S=Some Issues    F=A Few Issues

<table>
<thead>
<tr>
<th>Name of Magazine</th>
<th>How often do you read?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
<tr>
<td>2. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
<tr>
<td>3. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
<tr>
<td>4. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
<tr>
<td>5. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
<tr>
<td>6. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
<tr>
<td>7. ___________________________</td>
<td>___E ___NE ___S ___F</td>
</tr>
</tbody>
</table>
62. Which television programs do you watch most often? Please list (enter) the names of the shows you watch on a regular basis. For each show you list, check whether you watch:

**E=Every Show**  **NE=Nearly Every Show**  **O=As Often as I can**  **S=Sometimes**

Name of TV Show (For example: CSI)  
How often do you watch?

1. ______________________________  ___E      ___NE      ___O      ___S
2. ______________________________  ___E      ___NE      ___O      ___S
3. ______________________________  ___E      ___NE      ___O      ___S
4. ______________________________  ___E      ___NE      ___O      ___S
5. ______________________________  ___E      ___NE      ___O      ___S
6. ______________________________  ___E      ___NE      ___O      ___S
7. ______________________________  ___E      ___NE      ___O      ___S

**Section 4: Contour Drawings**

Based on the contour drawings below, please answer questions 63-66. Indicate the number that corresponds with the drawing that represents your response.
63. Indicate the figure that best represents or approximates your current figure.

   1   2   3   4   5   6   7   8   9

64. Indicate the figure you would aspire to look like.

   1   2   3   4   5   6   7   8   9

65. Indicate the (same sex) figure you think would be most attractive to the opposite gender.

   1   2   3   4   5   6   7   8   9

66. Indicate the opposite sex gender figure you find most attractive.

   1   2   3   4   5   6   7   8   9

Section 5: Demographics

67. Please indicate your current height. (For example: 5 ft.10 inches = 5.10)

68. Please indicate your current weight. (For example: 225)

69. What is your gender?
   
   Male

   Female

70. In what year were you born? (For example: 19 ___ ___)

71. Please select your marital status.

   Single

   Divorced/Widowed

   Separated

   Married
72. Which category best reflects your ethnic background.

- American Indian/Alaska Native
- Asian
- Black/African American
- Native Hawaiian/Other Pacific Islander
- White/Caucasian
- Other Race________________________

73. Are you Hispanic/Latino? Yes No

74. Select the range that represents your current level of income.

- Less than $5,000
- $5,000 - $9,999
- $10,000 - $14,999
- $15,000 - $24,999
- $25,000 - $34,999
- $35,000 - $44,999
- $45,000 - $59,999
- $60,000 - $74,999
- $75,000 - $99,999
- $100,000 or higher

75. What is your current classification in college?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate
- Not applicable
76. Which category best represents your highest level of education earned.

- Less than High School Diploma
- Vocational Certificate
- High School Diploma/GED
- 2-year College Degree
- 4-year College Degree
- Specialist Degree
- Masters/Doctoral Degree
<table>
<thead>
<tr>
<th></th>
<th>19-21</th>
<th>22-29</th>
<th>31-35</th>
<th>50-59</th>
<th>Row N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>1 (50%)</td>
<td>1 (50%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>2</td>
</tr>
<tr>
<td>Black/African American</td>
<td>11 (28.9%)</td>
<td>20 (52.6%)</td>
<td>6 (15.8%)</td>
<td>1 (2.6%)</td>
<td>38</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>104 (56.5%)</td>
<td>76 (41.3%)</td>
<td>2 (1.1%)</td>
<td>2 (1.1%)</td>
<td>184</td>
</tr>
<tr>
<td>Other</td>
<td>13 (61.9%)</td>
<td>8 (38.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>21</td>
</tr>
<tr>
<td>Column N</td>
<td>129</td>
<td>105</td>
<td>8</td>
<td>3</td>
<td>245</td>
</tr>
</tbody>
</table>

Eta = .310, p = .000
<table>
<thead>
<tr>
<th></th>
<th>19-21</th>
<th>22-29</th>
<th>31-35</th>
<th>50-59</th>
<th>Row N</th>
</tr>
</thead>
<tbody>
<tr>
<td>92-135 lbs</td>
<td>85 (59.9%)</td>
<td>54 (38.0%)</td>
<td>2 (1.4%)</td>
<td>1 (.7%)</td>
<td>142</td>
</tr>
<tr>
<td>136-160 lbs</td>
<td>30 (47.6%)</td>
<td>29 (46.0%)</td>
<td>2 (3.2%)</td>
<td>2 (3.2%)</td>
<td>63</td>
</tr>
<tr>
<td>161-195 lbs</td>
<td>12 (40.0%)</td>
<td>17 (56.7%)</td>
<td>0 (0%)</td>
<td>1 (3.3%)</td>
<td>30</td>
</tr>
<tr>
<td>205-230 lbs</td>
<td>2 (25.0%)</td>
<td>4 (3.4%)</td>
<td>2 (25.0%)</td>
<td>0 (0%)</td>
<td>8</td>
</tr>
<tr>
<td>235-280 lbs</td>
<td>0 (0%)</td>
<td>1 (1.3%)</td>
<td>2 (66.7%)</td>
<td>0 (0%)</td>
<td>3</td>
</tr>
<tr>
<td>Column N</td>
<td>129</td>
<td>105</td>
<td>8</td>
<td>4</td>
<td>246</td>
</tr>
</tbody>
</table>

R = 2.60, p = .000
APPENDIX C

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL
Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 5/24/2006

To:  
Kimberly Davis  
5636 Nature Lane  
Tallahassee, FL 32303

Dept.: COMMUNICATION

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research  
Sociocultural Influences on Body Dissatisfaction and Eating Dysfunction among African American and Caucasian Females: An Examination of Females

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(b) 7 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If the project has not been completed by 5/23/2007 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Dr. Barry Sapolsky  
HSC No. 2006.0459
APPENDIX D

LICENSE AGREEMENT
LICENSE AGREEMENT

THIS AGREEMENT, made this November 6, 2006, by and between Psychological Assessment Resources, Inc., a Florida Corporation, with its principal offices located at 16204 North Florida Avenue, Lutz, Florida 33549, hereinafter referred to as PAR, and Kimberly A. Davis, with her principal offices located at Florida State University, 5636 Nature Lane, Tallahassee, FL 32303, hereinafter referred to as Licensee.

1) RECITALS

PAR has developed and holds all copyrights and distribution rights to certain psychological tests and related materials as listed in Schedule A, hereinafter called "Test". The Test consists of PAR's items, scoring keys, scales, profiles, standard-score conversion tables, norms tables, interpretive information, and related materials created, prepared, devised, and combined by PAR for the administration, scoring, reporting, and analysis of the Test, and includes the words, symbols, numbers, and letters used to represent the Test. Licensee desires to develop automated procedures for the secure and encrypted administration of the Test through Licensee's secure internet assessment website. The access to Licensee's website will be by invitation only in connection with Licensee's research study titled, Relationship of Magazine Exposure and Male Preferences to Female Body Dissatisfaction and to subjects for this research purpose only (the "Limited Purpose(s)"). Unless permitted to do so by a separate license agreement, Licensee only has the right to use the Test for the Limited Purpose described above.
In consideration of the mutual covenants and promises expressed herein and other good and valuable considerations, it is agreed as follows:

2) LICENSE

PAR hereby grants to Licensee, subject to the terms of this Agreement, a non-transferable, non-exclusive license to place the Test on Licensee's Website for the Limited Purpose described in Section 1 above. Licensee agrees to hold secure and treat as proprietary all information transferred to it from PAR. Licensee shall carefully control the use of the Test for the Limited Purpose described in this Agreement. Licensee's use of the Test will be under the supervision or in consultation with a qualified psychologist or other qualified individual and consistent with the then current edition of the Standards for Educational and Psychological Testing published by the American Psychological Association.

3) TERMS AND TERMINATION

The initial term of this Agreement shall extend from November 7, 2006 through January 31, 2007, and may be extended only by mutual agreement of the parties. Notwithstanding any other provision of this Agreement, this Agreement may be terminated if any of the following events occur:

(a) Termination is mutually agreed to by the parties.

(b) Licensee defaults in the performance of any of its duties hereunder.

On the effective date of expiration or termination of this Agreement pursuant to subsections (a) and (b) above, all rights in this Agreement revert to PAR. Computer software programs written by or for Licensee remain the property of Licensee. Licensee warrants that upon expiration or termination of this Agreement under subsections (a) and (b) above, and except as set forth in any separate license agreement relating thereto, all portions of the Test licensed hereunder shall be removed from Licensee's Website. Failure to cease all uses of the Test shall constitute copyright infringement.
4) **TERMINATION RIGHTS**

In the event of termination pursuant to paragraph 3 above for any reason, PAR shall not be liable to Licensee for compensation, reimbursement or damages for any purpose, on account of any expenditures, investments, leases or commitments made or for any other reason whatsoever based upon or growing out of this Agreement.

5) **CONDITIONS OF USE**

PAR shall have the right to review, test, and approve that portion of Licensee's Website which includes the Test. Following PAR's approval of that portion of Licensee's Website containing the Test, the manner in which the Test appears on such Website shall not be changed in any material way without prior approval of PAR.

The computer programs developed by Licensee and used in any phase of administration and scoring of the Test shall be fully tested by Licensee and shall be encrypted and reasonably protected from access, intrusion and changes by persons who are not authorized agents of Licensee. In addition to the foregoing, Licensee shall exert all reasonable commercial efforts to prevent the Programs, and any accompanying code for the administration of the Test from being accessed, viewed or copied by others. Licensee warrants the accuracy of such scoring and reporting.

6) **Proprietary Rights**

PAR is the owner of all right, title and interest in the Test. Licensee shall acquire no right or interest in the Test, by virtue of this Agreement or by virtue of the use of the Test, except the right to use the Test in accordance with the provisions of this Agreement. Licensee shall not modify or revise the Test in any manner without written approval by PAR. All uses of the Test by Licensee shall inure to the benefit of PAR. Licensee agrees not to challenge or otherwise interfere with the validity of the Test or PAR's ownership of them.
7) **ROYALTIES**

Licensee agrees to pay PAR a royalty fee for use of the Test and copyrighted materials contained therein, at the rate of $0.52 per each test administration of the Test. Licensee will also provide PAR with an itemized accounting of all administrations of each Test administered by Licensee during the term of this agreement. Licensee shall pay to PAR One Hundred Fifty-Six Dollars ($156.00) as an initial license fee ($0.52 per administration for 300 administrations), which is due and payable upon the signing of this License Agreement. Licensee shall also pay PAR $0.52 per each test administered for any tests administered above 300 by February 15, 2007.

8) **ACCOUNTING**

Licensee shall develop secure computerized accounting methods acceptable to PAR. Such accounting methods must include an electronic counting mechanism which will accurately record the number of administrations of each Test used. Licensee will keep accurate financial records of all transactions relating to the use of the Test, and PAR shall have the right to examine the software and records of Licensee pertaining to the use of the Test. Licensee will make such software and records accessible to PAR or its nominee during normal working hours upon not less than five (5) business days' prior written notice. Licensee shall retain such software and records for at least one year from the date this Agreement expires or the effective termination date.

The Website shall contain the following copyright notice:

"Adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549, from the Eating Disorder Inventory-3 by David M. Garner, PhD, Copyright 1984, 1991, 2004, by Psychological Assessment Resources, Inc. (PAR). Further reproduction is prohibited without permission of PAR."

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9) **INDEMNITY**

Licensee agrees to indemnify PAR and hold PAR harmless against any claim or demand or against any recovery in any suit (including taxes of any kind, reasonable attorney's fees, litigation costs, and other related expenses) that may be:

(a) brought by or against PAR, arising or alleged to have arisen out of the use of the Test by Licensee;

(b) sustained or incurred by PAR, arising or alleged to have arisen in any way from the breach of any of Licensee's obligations hereunder; or

(c) incurred by PAR in any litigation to enforce this Agreement, including litigation against Licensee.

10) **ASSIGNMENT**

Licensee shall not assign this Agreement or any license, power, privilege, right, or immunity, or delegate any duty, responsibility, or obligation hereunder, without the prior written consent of PAR. Any assignment by PAR of its rights in the Test shall be made subject to this Agreement.

11) **GOVERNING LAW**

This Agreement shall be construed according to the laws of the State of Florida of the United States of America. Venue for any legal action relative to this Agreement shall be in the appropriate state court in Hillsborough County, Florida, or in the United States District Court for the Middle District of Florida, Tampa division. Licensee agrees that, in any action relating to this Agreement, the Circuit Court in Hillsborough County, Florida or the United States District Court for the Middle District of Florida, Tampa Division, has personal jurisdiction over Licensee, and that Licensee waives any argument it may otherwise have against the exercise of those courts' personal jurisdiction over Licensee.

12) **SEVERABILITY**

If any provision of this Agreement shall, to any extent, be invalid and unenforceable such provision
shall be deemed not to be part of this Agreement, and the parties agree to remain bound by all remaining provisions.

13) EQUITABLE RELIEF

Licensee acknowledges that irreparable damage would result from unauthorized use of the Test and further agrees that PAR would have no adequate remedy at law to redress such a breach. Therefore, Licensee agrees that, in the event of such a breach, specific performance and/or injunctive relief, without the necessity of a bond, shall be awarded by a Court of competent jurisdiction.

14) ENTIRE AGREEMENT OF THE PARTIES

This instrument embodies the whole Agreement of the parties. There are no promises, terms, conditions, or obligations for the Test licensed hereunder other than those contained herein; and this Agreement shall supersede all previous communications, representations, or agreements, either written or verbal, between the parties hereto, with the exception of any prior agreements that have not previously been terminated by written consent of both parties or by one party if the terms of the agreement allow. This Agreement may be changed only by an agreement in writing signed by both parties.

15) NOTICES AND MODIFICATIONS

Any notice required or permitted to be given under this Agreement shall be sufficient if in writing and if sent by certified or registered mail postage prepaid to the addresses first herein above written or to such addresses as either party may from time to time amend in writing. No letter, telegram, or communication passing between the parties hereto covering any matter during this contract, or periods thereafter, shall be deemed a part of this Agreement unless it is distinctly stated in such letter, telegram, or communication that it is to constitute a part of this Agreement and is to be attached as a right to this Agreement and is signed by both parties hereto.
16) **SUCCESSORS AND ASSIGNS**

Subject to the limitations on assignments as provided in Section 13, this Agreement shall be binding on the successors and assigns of the parties hereto.

17) **PARAGRAPH HEADINGS**

The paragraph headings contained in this Agreement are inserted only for convenience and they are not to be construed as part of this Agreement.

18) **AUTHORIZATION AND REPRESENTATION**

Each party represents to the others that it has been authorized to execute and deliver this Agreement through the persons signing on its behalf.

IN WITNESS WHEREOF, the parties have executed this Agreement in duplicate on the date first herein above written.

PSYCHOLOGICAL ASSESSMENT RESOURCES, INC.

WITNESS: [Signature]

By: [Signature]

R. BOB SMITH III, PH.D.

Title: CHAIRMAN AND CEO

KIMBERLY A. DAVIS

WITNESS: [Signature]

By: [Signature]

Title: Doctoral Candidate

SIGNATURE OF PROFESSOR REQUIRED:

I hereby agree to supervise this student's use of these materials. I also certify that I am qualified to use and interpret the results of these tests as recommended in the Standards for Educational and Psychological Testing, and I assume full responsibility for the proper use of all materials used per this Agreement.

BY: [Signature]
Printed Name: BARRY S. SAPOLSKY

SCHEDULE A

The Test licensed to Licensee pursuant to the above license consist of PAR's items, scoring keys, scales, profiles, standard-score conversion tables, norms tables, and related materials created, prepared, devised, and combined by PAR for the administration, scoring, reporting, and analysis of the Test, and include the words, symbols, numbers, and letters used to represent the Test. However, PAR and Licensee acknowledge and agree that Licensee may use only the PAR items and scoring information for the Test as appropriate for the Limited Purpose. The Test referred to in the body of this Agreement is defined as follows:

1) Eating Disorder Inventory-3 (EDI-3)
   Item Booklet
   Answer Sheet

25 Items in the Drive for Thinness, Bulimia and Body Dissatisfaction Scales Only

Permission is also granted for you to reproduce up to a total of 3 sample items from the EDI-3 for use in the appendix of your dissertation.


BIOGRAPHICAL SKETCH

Kimberly Ann Davis earned a Bachelor of Arts degree at Mercer University in Communication and Political Science in 1993. She earned a Master of Science degree in Communication at Florida State University in 1997. Ms. Davis is currently a candidate for the Doctor of Philosophy degree at Florida State University in the Department of Communication. Ms. Davis has worked with Mercer University and the Florida Agricultural Mechanical University in Admissions. She has held several positions with the state of Florida and is currently the Director of Dropout Prevention with the Florida Department of Education.