

BODY IDEALS AND WEIGHT BIAS: DOES ETHNICITY MAKE A DIFFERENCE?

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The current study investigates whether there are there ethnic differences between Caucasian, African American, and Hispanic women in (a) weight bias, (b) body ideals, (c) social awareness and internalization of appearance standards and (d) physical activity in relation to these constructs. Participants included 130 Caucasian, 103 African American, and 52 Hispanic undergraduate female students. Participants completed a demographic survey, the Antifat Attitudes Test, the Figure Rating Scale, the Sociocultural Attitudes toward Appearance Questionnaire, and the Multiethnic Identity Measure questionnaire. No significant ethnic group differences in weight bias emerged. Differences were found for participants' perceptions of the culturally ideal female body shape, as well as awareness and internalization. No relationship was found between physical activity and weight bias, body ideals, and appearance standards. Future researchers should use health weight classifications, in addition to ethnicity, to examine weight bias, body ideals, and physical activity.

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## INTRODUCTION AND LITERATURE REVIEW

Obesity is prevalent in the United States (U.S. Department of Health and Human Services [USDHHS], 2005a). According to the USDHHS, individuals with a body mass index (BMI) of 18.5 – 24.9 are considered healthy, 25.0 – 29.9 are considered overweight, and 30 and above are considered obese (USDHHS, 2005a). BMI is defined as weight in kilograms divided by height in meters squared. Research has shown that higher BMI is associated with increased risk of health-related diseases (USDHHS, 2005a).

Between the years of 1988 and 2002, the percentage of U.S. adults classified as overweight and obese increased from 56% to 65% (USDHHS, 2005b). Not only has the total population become more overweight and obese, but minority populations are at an even greater risk for overweight and obesity, as well as obesity-related diseases and conditions (USDHHS, 2005a). Between the years of 1999 and 2003, the percentage of Caucasian, African American, and Hispanic U.S. female adults over the age of 20 and 44 classified as overweight or obese was 50.5%, 74.0% and 65.2%, respectively. In the state of Texas, 40.6% Caucasian, 69.7% African American, and 63.9% Hispanic females are classified as overweight or obese (USDHHS, 2005c).

Not only do obese people cope with numerous health problems, but they deal with psychological issues regarding their body image (Puhl & Brownell, 2001). Such issues may stem from the pervasiveness of negative stereotypes and stigma associated with their physical size. Given ethnic differences in the prevalence of overweight and obesity, the relationships between culture and ethnicity and issues regarding weight,

body image, and weight bias are of growing interest to researchers and health professionals (Heinberg, Thompson, & Stormer 1995).

### Body Weight, Body Shape, and Body Image

The health concerns associated with overweight and obesity, such as cardiovascular disease, diabetes, some cancers, and hypertension, are well documented (USDHHS, 2005a). The negative psychological and social consequences of appearing obese, such as bias and discrimination, are also important to consider. The female physique idealized in Western society, lean and toned, yet curvaceous, is unrealistic and unattainable for most women. Many women, recognizing the discrepancy between their bodies and the idealized physique, feel dissatisfied with their bodies and internalize feelings of body shame (Klaczynski, Goold, & Mudry, 2004; Poran, 2002; Spurgas, 2005). For example, Western standards of beauty are negatively associated with self-esteem and self-confidence (Spurgas, 2005). Lower levels of self-esteem and depression are related to body dissatisfaction and negative body image (Klaczynski et al., 2004; Miller et al., 2000; Stunkard, Faith, & Allison, 2003). For instance, youth who idealize ultrathinness and feel that their weight is uncontrollable suffer from low self-esteem (Klaczynski et al., 2004). Similarly, adolescents with high BMIs are more likely to suffer from major depression (20% of boys, 30% of girls) compared to adolescents with low BMI (Stunkard et al., 2003).

Body weight can strongly influence how women feel about themselves and their bodies. Cash, Counts, and Huffine (1990), for instance, found that formerly overweight individuals reported greater body dissatisfaction compared to women who had never been overweight. Further, Garner (1997), in a large survey of men and women, found

that almost 90% of women want to lose weight and are willing to trade years of their lives for reaching an “ideal” weight. In fact, 15% of the women surveyed reported that they would give up more than 5 years of their lives and 24% would give up more than 3 years of their lives if they could reach their goal weight (Garner, 1997). These results illustrate the deeply engrained value of women’s bodies in relation to their physiques and weight.

Women go to great lengths, such as extreme dieting and exercise, in attempting to achieve the ideal physique (Garner, 1997). The relationship between poor body image, body size, and disordered eating attitudes and behaviors has been well documented. Fitzgibbon et al. (1998) found that among women, depression and weight were related to binge eating, possibly resulting from the desire to achieve an ideal body. Similarly, women with larger bodies have greater body dissatisfaction and an increased risk of eating pathology compared to smaller bodied women (Gluck & Geliebter, 2002). Women also engage in extreme exercise in order to lose weight (specifically fat) and sculpt their bodies into the tone, lean ideal that is so engrained in Western society. For example, women frequently report appearance-related concerns, such as weight loss and/or control, as the most important reasons for engaging in exercise (Davis & Cowles, 1991; Davis, Fox, Brewer, & Ratusny, 1995; Frederick & Shaw, 1995; Imm & Pruitt, 1991). Some researchers have suggested that a certain level of body dissatisfaction may serve to motivate individuals to engage in healthy lifestyle behaviors, such as exercise (Heinberg, Thompson, & Matzon, 2001), yet there is little evidence to suggest that this is the case.



## Weight Bias

Many women internalize the cultural messages about the importance of being thin (Klaczynski et al., 2004) and the negative psychosocial consequences for women not meeting societal standards and ideals have been well documented. On a societal level, there are also numerous negative consequences of being viewed as fat. Weight bias, described as negative attitudes and beliefs about individuals who appear fat, is pervasive in Western society. In fact, weight bias is maybe one of the last socially acceptable biases (Puhl & Brownell, 2001). Whereas race and gender bias are now considered socially and legally unacceptable, weight bias is still viewed as tolerable. Overweight and obese individuals are stereotyped as lazy, sloppy, weak-willed, and unintelligent (Puhl & Brownell, 2001). In conveying the message that it is good to be thin and bad to be fat, Western society has created this accepted form of prejudice against obese people (Falkner, French, Jeffery, Neumark-Sztainer, Sherwood, & Morton, 1999; Kilbourne, 1994). Even young children demonstrate disdain for overweight and obese peers. Latner and Stunkard (2003), in replicating an earlier study, found that children indicated a preference for playing with a child on crutches, with an amputated hand, in a wheelchair, or with a facial disfigurement over playing with an obese child (Latner & Stunkard, 2003; Richardson, Goodman, Hastorf, & Dornbusch, 1961).

The pervasive nature of weight bias is astounding, especially because nearly 65% of the American population is considered overweight or obese (Wadden & Didie, 2003). Not only does weight bias lead to unjust stereotypes, but it can also result in discriminatory practices affecting the everyday lives of obese individuals. In situations such as the workplace, health care settings, and education, obese individuals suffer

from poor hiring practices by employers, poor health care services by doctors and nurses, and lower college acceptance.

### Weight-Based Discrimination

Individuals who appear fat face bias and discrimination in the workplace, health care settings, education, and public settings (Puhl & Brownell, 2001). In the workplace, for example, overweight employees are assumed to be less conscientious and self-disciplined, and are thought to be disagreeable and emotionally unstable (Puhl & Brownell, 2001). Puhl and Brownell (2001) concluded that hiring practices can be affected by a potential employee's weight, with overweight applicants being rated as less desirable. In addition, in some job settings, being overweight is considered detrimental to job performance. For example, physical educators reported that being 10 to 20 pounds overweight would be a handicap regardless of qualifications (Melville & Cardinal, 1997). Obese people also tend to earn less in wages than their thin counterparts.

Overweight and obese individuals face bias and discrimination in health care settings as well. Physicians and nurses indicate negative perceptions of and attitudes toward working with overweight and obese patients (Puhl & Brownell, 2001). For example, in one study, physicians rated their desire to work with an obese individual as similar to working with drug addicts, alcoholics and mentally ill patients (Puhl & Brownell, 2001). Moreover, nurses have reported being repulsed by obese patients (Bagley, Conklin, Isherwood, Pechiulis, & Watson, 1989). This is an important area for research because such attitudes can lead to insufficient medical care for obese patients or the lack of desire among obese individuals to seek medical assistance.

Educational settings are also environments in which overweight and obese individuals face the effects of negative attitudes and stereotypes. Obese college applicants are less likely to be accepted to schools, receive less financial aid from both schools and families, and in some instances have been kicked out of school due to their weight (Puhl & Brownell, 2001, 2003). Researchers have found that, in addition to such practices in educational settings, teachers take part in discriminatory practices as well (Neumark-Sztainer, Story, & Harris, 1999). For instance, teachers are likely to view obese students as untidy, more emotional, less likely to succeed, more likely to have family problems, and more undesirable as marriage partners than their average weight counterparts (Neumark-Sztainer et al., 1999). These teachers also felt that becoming obese was one of the worst things that could happen to someone. Furthermore, overweight and obese individuals face problems in public settings, such as restaurants, theaters, and airplanes. It is in such settings they deal with inadequate seating arrangements and seatbelt sizes (Puhl & Brownell, 2001). Social attitudes are that obese people take up more space than they deserve (O'Hara, 1996).

Due to weight bias and discrimination, obese individuals may fall into lower socioeconomic status by way of lower wages for the same jobs normal weight people perform and less formal education. They may receive lower quality health care and/or refuse to seek treatment due to their embarrassment (Puhl & Brownell, 2001). There are no federal laws to protect the obese population from discrimination. Currently, the only places where weight discrimination is illegal are Michigan, the District of Columbia, and Santa Cruz and San Francisco (Puhl & Brownell, 2001). The evidence is overwhelming;

individuals who appear to be fat are viewed negatively and discriminated against in a variety of settings.

#### Weight Causality and Control Attributions and Weight Bias

Weight bias is thought to stem from the belief that weight is under a person's control (Allison, Basile, & Yaker, 1991; Crandall & Schiffhauer, 1998). Attribution theory, therefore, is an important framework in understanding the pervasive nature of weight bias (Crandall, 1994). Attribution theory focuses on the causality and controllability of certain conditions. Under attribution theory, prejudice is justified because people believe the stigmatized trait is perceived to be under an individual's or group's control. In line with the tenants of Attribution theory, Crandall (1994) found that Protestant work ethic values were associated with weight bias. The Protestant work ethic places importance on hard work, self-determination, self-control, and the rejection of deviance. In his 1994 study, Crandall found a relationship between the rejection of fat people and the underlying ideological assumption that people get what they deserve, thus supporting the idea behind Protestant values. Allison et al. (1991) also found that participants who believed weight is under an individual's control had more negative attitudes toward obese persons, whereas the participants who believed weight is beyond the obese person's control had more positive attitudes toward obese individuals. In summary, obese individuals are discriminated against because many people believe that weight is under an individual's control. As a result, those who support attribution theory and the Protestant work ethic believe that obese individuals are lazy, lack self-determination and control, and therefore, deserve to be fat.

In addition to the influence of weight controllability beliefs, media exposure can influence body image, beliefs about weight control, and weight bias. Body perceptions can be altered by watching as little as 30 minutes of television (Myers & Biocca, 1992). Exposure to mass media, such as television or magazines, can lead women to internalize social beauty and weight ideals (Myers & Biocca, 1992). Myers and Biocca (1992) found that the body image of women was responsive to cues, primarily those showing the ideal body size. Exposure to these cues, especially through television, promotes a fluctuating or “elastic” body image, resulting in changes in moods and self-perception. The extent to which women believe in cultural standards of beauty and how much they internalize these beliefs or uphold such standards for themselves is of great concern because resulting behaviors may include eating disorders and depression.

Moreover, televised media reinforces biased attitudes toward fat individuals. On popular television programming, overweight characters are often the object of jokes, are less likely to be portrayed as leaders in romantic relationships, and are shown to have out-of-control eating behaviors (Greenberg, Easton, Hofshire, Lachlan, & Brownell, 2003). Both thin and obese people are bombarded by messages regarding weight, beauty, and body image on a daily basis through television, magazines, newspapers, and advertisements such as billboards. Further, this constant barrage of messages reinforcing weight bias may increase perceptions of the social consensus of weight bias (Puhl, Schwartz, & Brownell, 2005). That is, people may believe that weight biased attitudes and beliefs are commonly shared by others.

## Ethnic Differences in Body Image and Weight Attitudes

It is important to first note the distinction between race and ethnicity. According to the USDHHS (2005d), race is the “categorization of parts of a population based on physical appearance due to particular historical social and political forces. It is not genetically defined rather it is a socially constructed phenomenon.” On the other hand, USDHHS (2005d) defines ethnicity as a “sub-cultural group of a multicultural society, usually based on a common national or tribal heritage.” In the present study, participants were grouped by self-identified ethnic affiliation.

Ethnic differences in body image and body satisfaction have been found in numerous studies. Caucasian women typically report more negative body image compared to African American (Altabe, 1998). This cultural pattern is similar for size discrepancies, self-ratings, and body dissatisfaction as well (Altabe, 1998). When asked what body size women believe is more acceptable by others, white women tend to choose a smaller size than their African American peers (Cachelin, Rebeck, Chung, & Pelayo, 2002; DiGiacchino, Sargent, & Topping, 2001). African American women seem to be the least susceptible to poor body image, and tend to be more satisfied with their bodies, have higher self-esteem, and prefer greater body weights than either Hispanic or Caucasian women (Altabe, 1998; Blaine & Williams, 2004; Latner, Stunkard, & Wilson, 2005; Rubin, Fitts, & Becker, 2003). African American females are also more satisfied with their own body weight than Caucasian females (Rosen, Anthony, Booker, & Karen, 1991).

There is a paucity of research on body image among Hispanic women. It seems as though Hispanic women are particularly sensitive to consumerism and media

exposure (Poran, 2002). In other examples of studies to include Hispanic women, African American women reported more positive body image and body esteem than either Caucasian or Hispanic women (Miller et al., 2000; Altabe, 1998). On the other hand, Poran (2002) found that Hispanic women have lower body esteem than both Caucasian and African American women. Given increasing rates of overweight and obesity, and related health risks, among Hispanic women, gaining a better understanding of their own perceptions of their bodies and weight is worthwhile.

In terms of body image, the idealized female body portrayed in the media is often Caucasian, thus some researchers have suggested that women of color may not identify with or idealize Caucasian bodies (Duncan & Robinson, 2004; Spurgas, 2005). In mass media, for example, models typically epitomize a “White” ideal, which may be particularly oppressive for women of color (Rubin et al., 2003). Caucasian women’s bodies are the most prevalent body type portrayed in the media of any other race or ethnicity; even women of color resemble Caucasian women in their shape and size (Duncan & Robinson, 2004; Spurgas, 2005). Recently, some researchers have suggested the ethnic differences in body image and body satisfaction may be lessening. In a study done by Katz et al. (2004), African-American girls and their caregivers associated a thin body with being healthy. Both children and caregivers alike failed to recognize how obese they were, but still desired a smaller body size for various reasons, such as improved health and achieving the Western idealized body image. Furthermore, results from DiGiacchino et al. (2001) indicated that although perceptions of body size may differ among African American and Caucasian women, both groups preferred to be a smaller size.

According to Spurgas (2005), culture impacts the aesthetic value placed on certain beauty rituals and physical attributes, thereby affecting women's body image. African American and Hispanic women, compared to Caucasian women, are more likely to hold different standards of beauty (Poran, 2002). Both African American and Hispanic cultures may be more accepting of larger body sizes and contribute to a better body image by de-emphasizing concern for the Western ideal. Neither diet nor exercise is encouraged to achieve the Western ideal (Duncan & Robinson, 2004; Rubin et al., 2003). Rubin et al. (2003) found that African American and Hispanic females did not identify an ideal body size for their respective ethnicity. Women of these ethnic groups expressed appreciation and acceptance of diverse body types. In doing so, they endorsed a set of body ethics; beliefs about the body and how it is presented, which differed from Caucasian women. Hispanic women were more interested in their health rather than their particular size, and therefore were not interested in restricting their diet, compared to Caucasian women who are more likely to restrict their diet or have eating pathology (Gluck & Geliebter, 2002; Wildes, Emery, & Simons, 2001).

Further, Spurgas (2005) found that women not born in the United States were more comfortable with their bodies in their home countries. Acculturation into American society may have changed the traditional ways these women perceived themselves. Acculturation involves adopting the cultural norms of a host culture and the possible rejection of the original cultural norms (Padilla & Perez, 2003). For example, when comparing more acculturated to less acculturated Hispanic women, 75% of the less acculturated Hispanic women responded positively toward overweight women as opposed to smokers, whereas 74% of the more acculturated Hispanic women thought it



would be worse to be obese than to be a smoker (Johnsen, Spring, Pingitore, Sommerfeld, & MacKirnan, 2002). In other words, women who had not adopted American views of body ideals were still more tolerant and accepting of larger body sizes, whereas women who had been in the United States longer and had adopted more of the American views of body ideals were less tolerant and less accepting of larger body sizes. In support of these findings, Cachelin, Monreal, and Juarez (2006) also found that a stronger Anglo orientation was related to a preference for thin body shapes, whereas a stronger Mexican orientation was related to greater tolerance for larger body shapes.

Thus, previous research suggests that some ethnic differences in body ideals and beauty standards exist, yet research has not examined potential ethnic differences in weight bias. Furthermore, if there are ethnic differences in body ideals, and potentially weight bias, such attitudes may also be related to physical activity. Levels of physical activity are low among African American and Hispanic women and may be influenced by cultural factors. Duncan and Robinson (2004), for example, revealed that African American women were less likely to participate in physical activity due to low social support and misunderstanding by family members. The women interviewed indicated that they had been socialized early on that working out is a “guy thing.” The women suggested that college-educated African American women were more likely to exercise because exercise was more accessible and accepted. Rubin et al. (2003), in interviewing both Hispanic and African American women, found that the Hispanic women had begun to exercise for health reasons rather than the shape and size of their bodies. Family members, as well as some of the participants, had already been

diagnosed with weight-related diseases, such as diabetes and cancer, and exercise was their way of doing something good for themselves. Thus, body attitudes may be related to physical activity (or inactivity) for women of different ethnic groups.

### Study Purposes

Although much of the US population is overweight or obese and lives a sedentary lifestyle, weight bias is prevalent in the United States. Minority women, in particular Hispanic and African American women, are at increased risk of being overweight, obese, and physically inactive. Little is known about weight bias among these groups, thus the first purpose of the present study was to examine weight bias among Caucasian, Hispanic, and African American college women. Previous research suggests that differences in body ideals exist for women in different ethnic groups. Therefore, the second purpose of the study was to examine differences between Caucasian, African American, and Hispanic college women in cultural body ideals. The third purpose of this study was to examine ethnic group differences in social awareness and internalization of appearance standards. The fourth purpose was to explore self-reported physical activity in relationship to weight bias, cultural body ideals, awareness of appearance standards, and internalization of beauty standards among Caucasian, African American, and Hispanic college women.

## METHODOLOGY

### Participants

Proposed participants were to include 300 female undergraduate students, including 100 self-identified Caucasian females, 100 self-identified African American females, and 100 self-identified Hispanic females.<sup>1</sup> Participants actually included 285 female undergraduate college students ranging in age from 18 to 30 enrolled in a large public university in the southern United States. Before involvement in this study, participants were informed of their rights as volunteers (Appendix A). According to self-identified ethnicity, 130 (54.6%) women were Caucasian, 103 (36.1%) were African American, and 52 (18.2%) were Hispanic. Forty-five participants were in their 1<sup>st</sup> year of college, 86 in their 2<sup>nd</sup>, 68 in their 3<sup>rd</sup>, 59 in their 4<sup>th</sup>, 19 in their 5<sup>th</sup>, and 8 in their 6<sup>th</sup> year.

### Measures

As part of a larger study, participants completed a survey packet that included the following: a demographic and background questionnaire, the Antifat Attitudes Test (Lewis, Cash, Jacobi, & Bubb-Lewis, 1997), a modified Figure Rating Scale (FRS; modified from Stunkard, Sorenson, & Schlusinger, 1983), the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ; Cusumano & Thompson, 1997), and the Multiethnic Identity Measure (MEIM; Phinney, 1992).

*Demographic and background questionnaire.* Participants completed a questionnaire (Appendix B) regarding demographic characteristics, including self-reported age, height, weight, ethnicity, body and weight satisfaction, and weight locus of control. Participants rated their current level of physical activity by completing several items from the Youth Risk Behavioral Surveillance Survey (YRBSS; CDC, 2005e) and a

single item measure of physical activity (Jackson, Morrow, Bowles, FitzGerald, & Blair, in press).

*Antifat Attitudes Test.* The Antifat Attitudes Test (AFAT; Lewis et al., 1997) includes 47 items and measures negative attitudes toward obese people (contact author for survey packet). Items are rated on a 5-point Likert-type scale ranging from 1 (*definitely disagree*) to 5 (*definitely agree*). The AFAT yields a total composite score, as well as a score for each of three subscales including social/ character disparagement, physical/romantic unattractiveness, and weight blame/control (Lewis et al., 1997). The first subscale, social/character disparagement, contains 15 items and measures social disregard for individuals who are fat. Higher scores reflect social disregard for a fat person. The second subscale, physical/romantic unattractiveness, consists of 10 items and measures the unattractiveness of having a fat person as a romantic partner. The higher the score, the less desired a fat person is as a romantic partner by the participant. The third subscale, weight blame/control, contains 9 items and measures the extent to which participants believe a fat person is to blame for his/her weight. The higher one scores on this subscale, the more likely s/he is to believe that a fat individual lacks will power and therefore is responsible for his/her own weight. The final 13 items loaded on no factor or multiple factors. Higher composite scores reflect stronger negative attitudes toward individuals perceived as fat.

The AFAT has demonstrated adequate internal consistencies for the total test ( $\alpha = .95$ ), as well as the subscales (social/ character disparagement  $\alpha = .87$ , physical/romantic unattractiveness  $\alpha = .84$ , and weight blame/control  $\alpha = .85$  (Lewis et al., 1997). For the present study, the AFAT also demonstrated adequate internal

consistencies (total  $\alpha = .94$ , social/character disparagement  $\alpha = .86$ , physical/romantic unattractiveness  $\alpha = .78$ , and weight blame/control  $\alpha = .78$ ). In addition, acceptable reliabilities were found when AFAT scores were examined per ethnic group (see Appendix C, Table 1).

*Modified Figure Rating Scale.* Participants completed a modified version of the FRS (modified from Stunkard et al., 1983) (Appendix B). The modified FRS includes images of nine female silhouettes and nine male silhouettes ranging in size from (1) very thin to (9) very fat. Participants identified the silhouette that best describes the culturally ideal body shape for their racial group. The scoring was based upon the number of the figure chosen.

*Sociocultural Attitudes Towards Appearance Questionnaire.* The SATAQ adapted from Heinberg et al. (1995) includes 21 items and assesses awareness and internalization of socially sanctioned standards of appearance (contact author for survey packet). This questionnaire reveals body image and eating disturbance issues of the participant. Items are measured on a 5-point Likert-type scale, 1 (*completely disagree*) to 5 (*completely agree*). The SATAQ has demonstrated adequate internal consistencies for awareness ( $\alpha = .71$ ) and for internalization ( $\alpha = .88$ ). In the present study, for the total sample, both subscales demonstrated adequate internal consistency (awareness  $\alpha = .81$ , internalization  $\alpha = .89$ ). In addition, adequate internal consistencies were found for each ethnic group (see Appendix C, Table 1).

*Multiethnic Identity Measure.* The MEIM (Phinney, 1992) includes 12 items and measures affiliation with a self-identified ethnic group (contact author for survey packet). Items are rated on a 4-point Likert-type scale, 1 (*strongly agree*) to 4 (*strongly*

*disagree*). The MEIM includes two subscales: ethnic identity search and affirmation, belonging, and community. Participants also rated (a) the ethnic group they think other people classify them as and (b) how often they think about their ethnicity. The MEIM has demonstrated adequate internal consistency ( $\alpha = > .80$ ; Phinney, 1992). In the present study, for the total sample, the MEIM subscales demonstrated adequate internal consistency (ethnic identity search  $\alpha = .78$ , affirmation, belonging, community  $\alpha = .90$ ). In addition, adequate internal consistencies were found for each ethnic group (see Appendix C, Table 1).

### Procedure

Approval from the Institutional Review Board (IRB) at the University of North Texas for the use of human participants was granted prior to the start of this current investigation. Participants were recruited from (a) undergraduate kinesiology classes, and (b) undergraduate psychology classes. Participants recruited from kinesiology and psychology classes volunteered in exchange for course credit. Participants were informed of the general purpose of the research study and their rights as human participants. Participants received and read an informed consent letter (Appendix A), which they kept, prior to completion of the survey packet. Participants were asked to respond honestly. Survey completion took approximately 30 to 45 minutes.

### Planned Data Analysis

To describe the sample, descriptive statistics, such as means and standard deviations, for participants' age, AFAT subscale and total scale scores, SATAQ subscale scores, and MEIM scores were calculated. Frequencies were calculated for responses to the weight goals, weight evaluation, and physical activity items.

Specific data analyses were conducted to address each research question posed in this study. To address the first research question regarding racial differences in weight bias and body ideals, three separate multivariate analyses of covariances (MANCOVAs) were conducted. In the first analysis BMI and MEIM scores were entered as covariates, ethnic group was the independent variable, and scores on the three AFAT subscales (i.e., social and character disparagement, physical and romantic unattractiveness, and weight control and blame) were the dependent variables. In the second analysis BMI and MEIM scores were entered as covariates, ethnic group was the independent variable, and the culturally ideal body shapes for men and women selected on the modified FRS were the dependent variables. In the third analysis, BMI and MEIM scores were entered as covariates, ethnic group was the independent variable, and SATAQ subscales (i.e., awareness and internalization) were the dependent variables. To examine the second research question (i.e., are there ethnic differences in self-reported physical activity in relation to weight bias, body ideals, and internalization and awareness), correlations were calculated for each ethnic group. Variables of interest were the three subscales on the AFAT, scores on the modified FRS, SATAQ subscale scores, and self-reported physical activity.

## RESULTS

### Participant Characteristics

Participants ( $n = 285$ ) included female college students ( $M$  age = 20.70,  $SD = 2.14$ ). Each participant self-identified with one of three ethnic groups: Caucasian ( $n = 130$ ), African American ( $n = 103$ ), or Hispanic ( $n = 52$ ). Self-reported height ranged from 57.75 inches to 74.00 inches ( $M = 64.78$ ,  $SD = 2.69$ ) and self-reported weight ranged from 98 pounds to 294 pounds ( $M = 141.89$ ,  $SD = 27.84$ ). Participants had an average BMI of 23.55 ( $SD = 4.03$ ). No significant ethnic group differences were found in BMI (see Table 2 for participant characteristics and means and standard deviations on scale and subscale responses).

Participants responded to several questions regarding their current body and weight satisfaction. Overall, participants were somewhat dissatisfied with their weight ( $M = 2.58$ ,  $SD = .92$ ) and with their body shape ( $M = 2.60$ ,  $SD = .84$ ) with responses ranging from 1 (*very dissatisfied*) to 4 (*very satisfied*). On average, participants wanted to lose 12.34 pounds ( $SD = 19.48$ ). Most participants reported being “about the right weight” (48%) or “slightly overweight” (35%) and over half (65%) indicated that they wanted to lose weight (see Table 3). When asked about the controllability of weight, most participants reported that individuals have a great deal of control over their weight ( $M = 77.49$ ,  $SD = 16.76$ ), with responses ranging from 30% to 100% control.

### Purpose 1: Ethnic Differences in Weight Bias

To address the first purpose, a MANCOVA was conducted with BMI and MEIM scores as covariates, ethnic group as the independent variable, and the scores on the three AFAT subscales (i.e. social and character disparagement, physical and romantic



unattractiveness, and weight control and blame) as the dependent variables. No multivariate effect for ethnic group was found,  $F(6, 512) = 1.86, p = ns$ , (see Table 2 for group means and standard deviations).

#### Purpose 2: Ethnic Differences in Body Ideals

For the second purpose, a MANCOVA was calculated with BMI and MEIM scores as the covariates, ethnic group as the independent variable, and the culturally ideal body shapes for men and women, as selected on the Figure Rating Scale, as the dependent variables. A main effect was found for ethnic group, Wilks' Lambda = 0.723,  $F(4, 500) = 21.962, p < .001, \eta^2 = .149$ , power > .999. Follow-up univariate tests revealed no significant difference between ethnic groups on their rating of the ideal male body shape,  $F(2, 251) = .327, p = ns$ , (see Table 4a for distributions). However, there was a significant ethnic group difference in ratings of the ideal female body shape,  $F(2, 251) = 43.446, p < .001, \eta^2 = .257$ , power > .999, (see Table 5 for distributions). Caucasian women chose a significantly smaller ideal shape ( $M = 3.02, SD = .88$ ) compared to both African American women ( $M = 4.23, SD = .89$ ) and Hispanic women ( $M = 4.09, SD = 1.00$ ). No significant differences were found between Caucasian and Hispanic women and African American and Hispanic women.

#### Purpose 3: Ethnic Differences in Awareness and Internalization

To address the third study purpose, a MANCOVA was calculated; BMI and MEIM were covariates, ethnic group was the independent variable, and SATAQ subscale scores (i.e., awareness and internalization) were entered as the dependent variables. A main effect was found for ethnicity, Wilk's Lambda = .888,  $F(4, 526) = 8.081, p < .001, \eta^2 = .058$ , power > .999. Follow-up univariate tests indicated significant ethnic group

differences on both the awareness subscale,  $F(2, 264) = 5.968, p < .01, \eta^2 = .043$ , power  $> .800$ , and internalization subscale,  $F(2, 264) = 15.928, p < .001, \eta^2 = .108$ , power  $> .999$ . Caucasian women scored significantly higher on the awareness subscale ( $M = 40.66, SD = 4.72$ ) than African American women ( $M = 38.01, SD = 6.65$ ). No other group differences on the awareness subscale were significant. On the internalization subscale, African American women ( $M = 35.09, SD = 8.95$ ) scored significantly lower than Hispanic women ( $M = 39.08, SD = 8.36$ ) who scored significantly lower than Caucasian women ( $M = 41.92, SD = 7.93$ ).

#### Purpose 4: Physical Activity Correlations

For the fourth study purpose, participants were asked to identify their level of physical activity by checking one of five choices (see Table 6). Self-reported physical activity levels were not related to weight bias, body ideals, internalization, or awareness, for any of the ethnic groups (see Table 7).

## DISCUSSION

Overweight and obese individuals are discriminated against and stereotyped as lazy, sloppy, weak-willed, and unintelligent (Puhl & Brownell, 2001). Weight bias seems to be widely prevalent, yet research has not examined potential ethnic-related differences in weight bias. Some research has documented that Caucasian women typically have a negative body image, whereas African American women tend to have a more positive body image, and Hispanic women tend to lie somewhere in between (Altabe, 1998). Both African American and Hispanic cultures may be more accepting of larger body sizes and contribute to a better body image by promoting less concern for the Western ideal. The overall aim of this study was to examine ethnic differences in weight bias and body ideals. In addition, because the use of physical activity as a strategy for controlling weight and appearance has been well documented among women, this study also explored potential relationships between physical activity and weight bias and body ideals among three groups of women, Caucasian, African American, and Hispanic.

### Purpose 1: Ethnic Differences in Weight Bias

No significant ethnic group differences were found in weight bias, as measured by the social and character disparagement, physical and romantic unattractiveness, and weight control and blame subscales of the AFAT (Lewis et al., 1997). The lack of ethnic differences in weight bias among this sample of college women may be reflective of several factors. Regardless of self-identified ethnic group, the women in this study reported low to moderate levels of biased weight attitudes. Social desirability may have played a role in the women's responses to the items on the AFAT. The items are quite

direct, for example “Fat people are lazy” and “It’s disgusting to see fat people eat,” and participants may have felt uncomfortable responding honestly. Some researchers have suggested that measuring implicit attitudes is more effective in getting at deeply held beliefs (Teachman & Brownell, 2001). Implicit attitudes happen subconsciously and without intention, whereas explicit attitudes are outwardly shown (Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003).

It may also be the case that women from different ethnic groups do not differ in their beliefs about fat people. In fact, the results of the present study are in line with previous research which found few differences in weight bias between Caucasian and Hispanic youth (Greenleaf, Chambliss, Rhea, Martin, & Morrow, in press). Additional research is needed to replicate and extend this research in order to more fully understand the extent to which ethnicity plays a role in antifat attitudes. Qualitative research methodologies may be useful in pursuing this future research.

#### Purpose 2: Ethnic Differences in Body Ideals

Although no differences between ethnic groups were found in weight bias, differences were found for participants’ perceptions of the culturally ideal female body shape and women’s awareness and internalization of social attitudes toward physical appearance. In selecting the culturally ideal female body shape, Caucasian women chose the smallest figure, Hispanic chose the next smallest, and African American women chose the largest figure. The culturally ideal female body shape chosen by the Caucasian women in this study was significantly smaller than the figures chosen by both African American and Hispanic women. Consistent with the results of the present study, previous research has found that, when asked what body size women believe is

more acceptable by others, Caucasian women tend to choose a smaller size than their African American peers (Cachelin, Rebeck, Chung, & Pelayo, 2002; DiGiacchino, Sargent, & Topping, 2001). Additional research examining how these discrepancies, relative to ethnicity, might influence psychological and physical health and health-related behaviors is needed. For example, if African American women are more accepting of larger bodies, does that contribute to lower levels of self-reported physical activity or maintaining a positive energy balance?

Interestingly, no group differences were found in participants' selection of the culturally ideal male body shape. The participants of this study seem to believe that society holds much more flexible body ideal standards for the male body, as opposed to the female body. In fact, previous research has suggested that unlike women who idealize a smaller, thinner body, men desire a larger (and specifically, more muscular) body (Corson & Andersen, 2002; Grogan, 1999; Olivardia, 2002). In addition, throughout history, men have been valued more for their competence, accomplishments, and financial worth, than their physiques (Grogan, 1999).

### Purpose 3: Ethnic Differences in Awareness and Internalization

Several group differences emerged in the women's sociocultural attitudes toward appearance. In terms of awareness of sociocultural standards of beauty, Caucasian women in this sample reported significantly higher levels of awareness than African American women. In other words, the Caucasian women in this study were much more aware of American societal standards of the ideal body size and shape. Perhaps because Caucasian women's bodies are the most prevalent body type portrayed in the media of any other race or ethnicity (Duncan & Robinson, 2004; Spurgas, 2005),

Caucasian women are more likely to take notice of those idealized bodies. On the other hand, African American and Hispanic women are less likely to see women with idealized bodies in the media who are representative of their ethnicities.

Not only were there differences in awareness, there were also group differences in the extent to which women internalized social standards of beauty. Caucasian women in this study reported stronger internalization of social standards of beauty than Hispanic women, who reported stronger internalization than African American women. These findings support past research in that African American women seem to be the least susceptible to poor body image, and tend to be more satisfied with their bodies, have higher self-esteem, and even prefer greater body weights than either Hispanic or Caucasian women (Altabe, 1998; Blaine & Williams, 2004; Latner, Stunkard, & Wilson, 2005). Conversely, because Caucasian women prefer the smallest body size, they are more likely to experience body dissatisfaction and shame in the discrepancies between their actual body size and what they think is socially acceptable. This, in turn, can lead to depression and reduced self-esteem because they feel as though they do not meet society's standards (Klaczynski et al., 2004; Miller et al., 2000; Stunkard, Faith, & Allison, 2003).

#### Purpose 4: Physical Activity Correlations

The fourth purpose of this study was to explore physical activity in relationship to weight bias, cultural body ideals, and internalization and awareness of social appearance standards among three groups of women: Caucasian, African American, and Hispanic. Self-reported physical activity levels were not related to any of the constructs of interest. As previous research has suggested, among African American

and Hispanic women, physical activity may be largely influenced by health and well-being as opposed to the drive to achieve the ideal body size (Rubin et al., 2003). Thus, it seems as though there may be some relationships between cultural variables, body attitudes, and physical activity, yet this study failed to uncover such associations. Self-reported physical activity, in the form of a single-item measure, was used in this study. It is possible that a more sensitive measure of physical activity was needed. Furthermore, it may be that any cultural differences that might exist are difficult to detect with survey methodology. Qualitative methodologies might be useful in understanding the complexities of cultural differences. It is also likely that levels of physical activity are influenced by numerous other factors, such as motivation and perceived time demands, not included in this study.

#### Study Strengths and Limitations

There were several strengths of the current study. One strength of this study was the extension of previous weight bias research by examining differences among Caucasian, African American and Hispanic women. In addition, this study built on previous research by including perceived sociocultural body ideals and social awareness and internalization of appearance standards. Another strength of this study was that it explored self-reported physical activity in relation to weight bias, body ideals, and internalization and awareness, which is a relatively unexplored area.

The current study also had several limitations. One limitation was the sample. The participant sample is unrepresentative of the US population and the university population sampled in terms of ethnic make-up. The US female adult population consists of approximately 69% Caucasian, 13% African American, and 12% Hispanic

women (Census Bureau, 2000). The make up of the population at the university from which the sample was selected is 67% Caucasian, 11.4% African American, and 10.4% Hispanic. The sample for this study was 54.6% Caucasian, 36.1% African American, and 18.2% Hispanic.

In addition, the sample was restricted to college students between the ages of 18 and 30. Typically, college students have different access and privilege than the average population. Any fee-paying student at the University of North Texas has access to the Recreation Center. This Recreation Center provides state-of-the-art weight equipment as well as cardiovascular machines. Students are provided a wide array of sports opportunities and fitness classes as well.

Further, the BMI and weight classification of the women sampled in this study differed from the population. The average BMI for the participants of this study averaged 23.55, whereas the majority of females from the general U.S. population of the same age group have a BMI of 25 or more (USDHHS, 2005b). In addition, there was little variation in body weight, ideal weight, body satisfaction, and weight satisfaction between the women in the three ethnic groups in this study. Thus, in a number of ways the sample may not be representative of women in the United States.

Furthermore, this study relied on self-reported data. Typically, self-reported data can be confounded by the influence of social desirability. In other words, participants may give answers they think the researchers want to see as opposed to giving their true answers.



## Conclusions

Caucasian, African American, and Hispanic college women appear to be similar in their mild to moderate levels of explicit weight bias. Differences in culturally ideal female bodies and social awareness and internalization of beauty standards exist with Caucasian women idealizing the smallest bodies and having the strongest awareness and internalization of social appearance standards. These results, consistent with previous research, highlight the fact that cultural differences exist in terms of how women in different ethnic groups perceive attractive physiques. Physical activity does not appear to be related to weight bias attitudes, cultural body ideals, or awareness and internalization of appearance standards. The findings of this study may be extended by comparing women in different health weight classifications (i.e., normal, overweight, obese), in addition to comparing women in different ethnic groups, in order to more fully understand how physical activity involvement may be influenced by weight bias and body ideals.

## END NOTES

<sup>1</sup> Participants were recruited from undergraduate psychology and kinesiology classes over a period of three months. Many attempts were made to contact Hispanic student organizations and one community college, as well, in order to achieve the desired participant distribution. Unfortunately, communication was minimal and the desired outcome was not achieved.

Table 1

*Internal Consistencies for Survey Instruments*

	Total	Caucasian	African American	Hispanic
AFAT total	.94	.94	.93	.95
Social/Character Disparagement	.86	.87	.76	.88
Physical/Romantic Unattractiveness	.78	.74	.79	.80
Weight Control/Blame	.78	.74	.78	.79
SATAQ				
Awareness	.81	.77	.83	.81
Internalization	.89	.89	.85	.88
MEIM				
Ethnic Identity Search	.78	.65	.72	.78
Affirmation, Belonging, Community	.90	.87	.86	.91

Table 2

*Participant Characteristics*

	Total	Caucasian	African American	Hispanic
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age	20.70 (2.14)	21.57 (3.61)	20.82 (3.84)	20.51 (3.58)
BMI	23.55 (4.03)	22.97 (3.34)	24.21 (4.69)	23.72 (4.09)
Height	64.78 (2.69)	65.28 (2.69)	64.33 (2.76)	64.44 (2.42)
Weight	141.89 (27.84)	140.70 (25.28)	145.61 (35.03)	140.45 (25.78)
Ideal weight	128.94 (20.44)	128.51 (16.95)	130.71 (25.97)	126.79 (15.97)
Weight satisfaction	2.58 (0.91)	2.55 (0.93)	2.69 (0.90)	2.42 (0.91)
Body satisfaction	2.61 (0.84)	2.55 (0.83)	2.70 (0.84)	2.55 (0.89)
Social/character disparagement	1.72 (0.54)	1.81 (0.56)	1.54 (0.40)	1.83 (0.61)
Physical/romantic unattractiveness	2.69 (0.62)	2.82 (0.55)	2.48 (0.65)	2.75 (0.64)
Weight/control blame	2.80 (0.65)	2.93 (0.59)	2.55 (0.66)	2.95 (0.64)
Awareness	3.94 (0.58)	4.07 (0.47)	3.80 (0.66)	3.89 (0.58)
Internalization	3.54 (0.81)	3.81 (0.72)	3.19 (0.81)	3.55 (0.76)
FRS – Ideal Female Silhouette	3.63 (1.07)	3.02 (0.88)	4.23 (0.89)	4.09 (1.00)
FRS – Ideal Male Silhouette	4.33 (0.86)	4.22 (0.75)	4.45 (0.84)	4.41 (1.13)
Ethnic search	10.82 (2.98)	9.27 (2.46)	12.79 (2.56)	10.80 (2.66)
Ethnic belonging	20.11 (3.64)	18.76 (3.46)	21.98 (2.87)	19.85 (3.88)

Table 3

*Weight Evaluation and Weight Goals*

	% Total	% Caucasian	% African American	% Hispanic
<b>Weight evaluation</b>				
Slightly underweight	8.1	6.2	9.7	9.6
About the right weight	48.8	51.5	51.5	34.6
Slightly overweight	35.4	33.8	32.0	46.2
Very overweight	8.1	8.5	6.8	9.6
<b>Weight goal</b>				
Lose weight	64.9	73.1	57.3	59.6
Stay the same	20.0	15.4	21.4	28.8
Gain weight	6.0	0.8	11.7	7.7
Not trying to do anything	9.1	10.8	9.7	3.8

Table 4

*Male Figure Rating Scale Frequency Distributions*

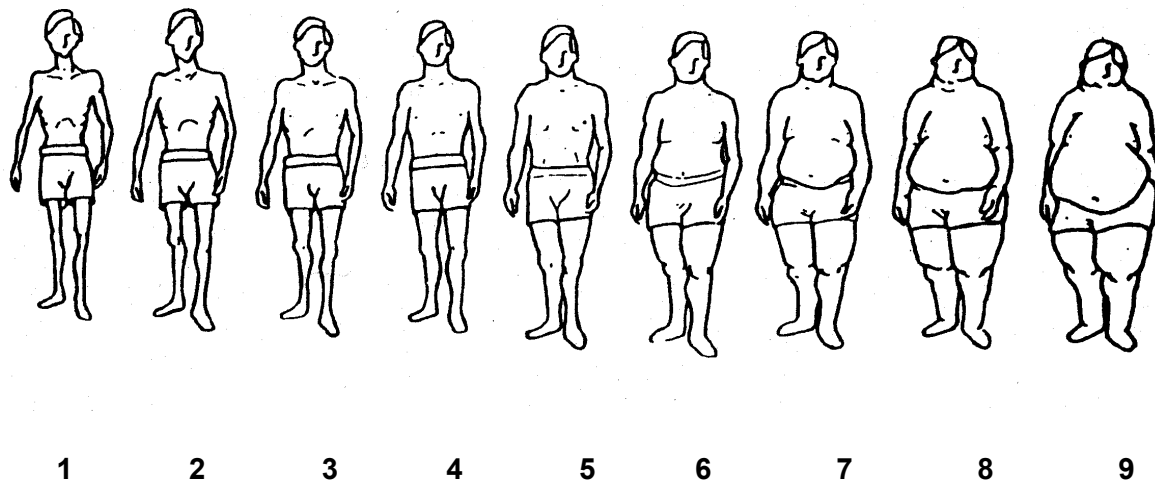


Figure	1	2	3	4	5	6	7	8	9
Caucasian	0	2	15	64	39	3	0	0	0
African American	0	0	9	38	40	2	1	1	0
Hispanic	0	1	10	11	17	4	2	0	0

Table 5

*Female Figure Rating Scale Frequency Distributions*

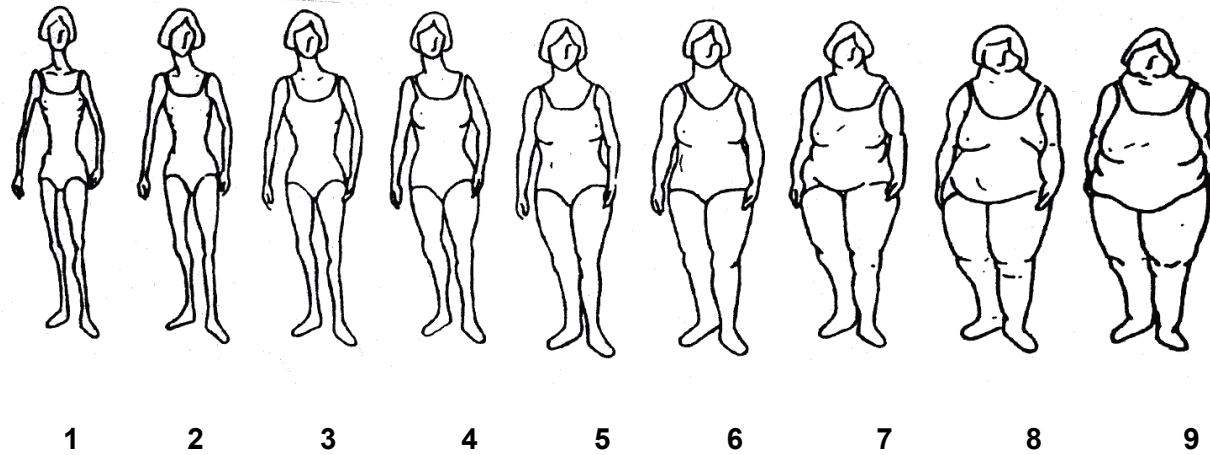


Figure	1	2	3	4	5	6	7	8	9
Caucasian	0	34	66	23	4	1	1	0	0
African American	0	1	19	49	22	7	1	0	0
Hispanic	0	1	10	31	6	2	2	0	0

Table 6

*Levels of Physical Activity*

	Total	% Caucasian	% African American	% Hispanic
1. I don't exercise/walk regularly now and I do not intend to start in the near future.	1.1	0.8	1.9	11.5
2. I don't exercise/walk regularly, but I have been thinking of starting.	17.5	11.5	28.2	0.0
3. I am doing moderate physical activity fewer than 5 times a week, or vigorous ones fewer than 3 times a week.	34.0	33.1	33.0	38.5
4. I have been doing moderate physical activities 5 or more times a week, or vigorous ones at least 3 times a week, for the last 1 to 6 months.	26.7	29.2	23.3	26.9
5. I have been doing moderate physical activities 5 or more times a week, or vigorous ones at least 3 times a week, for 7 months or longer.	20.0	25.4	11.7	23.1



Table 7

*Physical Activity Correlations*

	Caucasian	African American	Hispanic
AFAT total	-.04	-.02	-.11
Social/character disparagement	.00	.01	-.08
Physical/romantic unattractiveness	-.07	.04	-.09
Weight control/blame	-.06	-.03	-.20
SATAQ			
Awareness	.00	-.05	-.10
Internalization	.05	-.14	.05
FRS			
Culturally ideal female figure	-.07	-.01	.01
Culturally ideal male figure	.09	-.11	-.06

APPENDIX A  
CONSENT LETTER

UNIVERSITY OF NORTH TEXAS  
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS  
RESEARCH INFORMATION LETTER

Title of Study: “Body and Weight Attitudes”

Principal Investigator: Christy Greenleaf, Ph.D., Assistant Professor, Department of Kinesiology,  
Health Promotion and Recreation

**Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, discomforts of the study. It also describes your right to withdraw from the study at any time.**

**I will be participating in a study examining body and weight attitudes. I understand that my involvement will include completing a survey packet that will take approximately 25-40 minutes to complete. I understand that I may ask questions of the test administrator at any time. The answers I provide may help improve exercise and health professionals better understand college students' body and weight related attitudes.**

**I fully understand the purpose of this research and realize that there may be some personal risk or discomfort involved. I realize that I can contact UNT Counseling and Testing Services at 940-565-2741 to talk with a counselor if I am or become disturbed by thoughts prompted in complete the surveys. I understand that the general information collected may be used in scientific papers and presentations. I understand that I am a volunteer in this study and have the option to stop my participation at any time without penalty.**

**I have read (been read) an explanation and the risks and benefits of this study. I understand the nature of my participation in this study. I may withdraw at any time without penalty or loss of benefits to which I am entitled. If I have any questions or concerns related to my participation in this study, I should contact Dr. Christy Greenleaf at 940-565-3415. This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects 940-565-3940.**

**I understand my rights as a research subject, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being done.**

**By returning the questionnaire packet to the researcher, I am giving my consent to participate in this study. I will keep this letter as evidence that my rights as a voluntary participant were explained to me.**

APPENDIX B  
SURVEY QUESTIONNAIRE

## DEMOGRAPHIC SURVEY

1. Age _____	2. Gender (please circle)    Male    Female
3. Race (check one)	
_____ 1. Caucasian or White (not of Hispanic origin)	_____ 5. Native American
_____ 2. African American or Black (not of Hispanic origin)	_____ 6. Multiracial
_____ 3. Asian American	_____ 7. Other: _____
_____ 4. Hispanic	
5. Current year in college:    _____ 1 <sup>st</sup> _____ 2 <sup>nd</sup> _____ 3 <sup>rd</sup> _____ 4 <sup>th</sup> _____ 5 <sup>th</sup> _____ 6 <sup>th</sup>	
6. How tall are you <u>without</u> your shoes on?    Height: _____ feet    _____ inches	
7. How much do you weigh <u>without</u> your shoes on?    Weight: _____ pounds	
8. On a usual day, how many hours do you watch TV? (check one)	
_____ Less than 1 hour per day	_____ 4 hours per day
_____ 2 hours per day	_____ 5 or more hours per day
_____ 3 hours per day	_____ I do not watch TV on a usual day
9. On a usual day, how many hours do you play computer games, video games, or work on the computer outside of school?	
_____ Less than 1 hour per day	_____ 4 hours per day
_____ 2 hours per day	_____ 5 or more hours per day
_____ 3 hours per day	_____ I do not play computer or video games or work on the computer on a usual day
10. How satisfied are you with your current weight? (check one)	
_____ 1 Very Dissatisfied	_____ 2 Sort of Dissatisfied
_____ 3 Sort of Satisfied	_____ 4 Very Satisfied
11. How satisfied are you with how your body looks? (check one)	
_____ 1 Very Dissatisfied	_____ 2 Sort of Dissatisfied
_____ 3 Sort of Satisfied	_____ 4 Very Satisfied
12. How do you describe your weight? (check one)	
_____ Very underweight	_____ Slightly overweight
_____ Slightly underweight	_____ Very overweight
_____ About the right weight	



**On how many of the past 7 days did you...**

30. Exercise or participate in physical activity for **at least 20 minutes that made you sweat and breathe hard**, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities? (circle one)

0 days    1 day    2 days    3 days    4 days    5 days    6 days    7 days

31. Exercise or participate in physical activity for **at least 30 minutes** that did **not** make you sweat or breathe hard, such as fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors? (circle one)

0 days    1 day    2 days    3 days    4 days    5 days    6 days    7 days

32. Do exercises to **strengthen or tone your muscles**, such as push-ups, sit-ups, or weight lifting? (circle one)

0 days    1 day    2 days    3 days    4 days    5 days    6 days    7 days

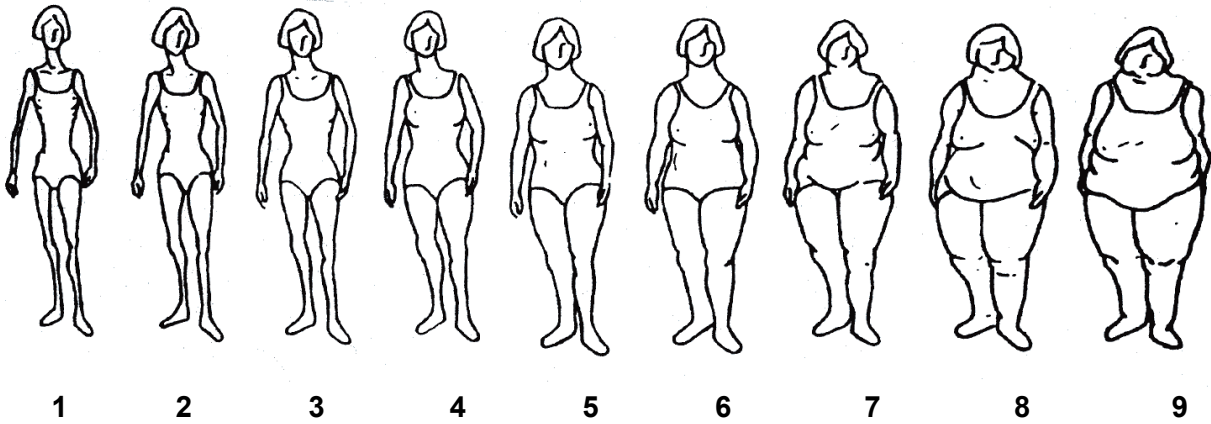
33. Please place a checkmark by the statement that best represents your current physical activity.

- 1. I don't exercise/walk regularly now and I do not intend to start in the near future.
- 2. I don't exercise/walk regularly, but I have been thinking of starting.
- 3. I am doing moderate physical activity fewer than 5 times a week, or vigorous ones fewer than 3 times a week.
- 4. I have been doing moderate physical activities 5 or more times a week, or vigorous ones at least 3 times a week, for the last 1 to 6 months.
- 5. I have been doing moderate physical activities 5 or more times a week, or vigorous ones at least 3 times a week, for 7 months or longer.

Vigorous physical activity includes activities like jogging, running, fast cycling, aerobics, swimming laps, singles tennis, and racquetball. Count any activity that makes you work as hard as jogging and lasts at least 20 minutes at a time. These types of activities usually increase your heart rate, make you sweat and make you feel out of breath (don't count weight lifting).

Moderate physical activity includes activities such as brisk walking, gardening, slow cycling, dancing, doubles tennis or hard work around the house. Count any activity that makes you work as hard as brisk walking in bouts of at least 8-10 minutes accumulating to at least 30 minutes a day.

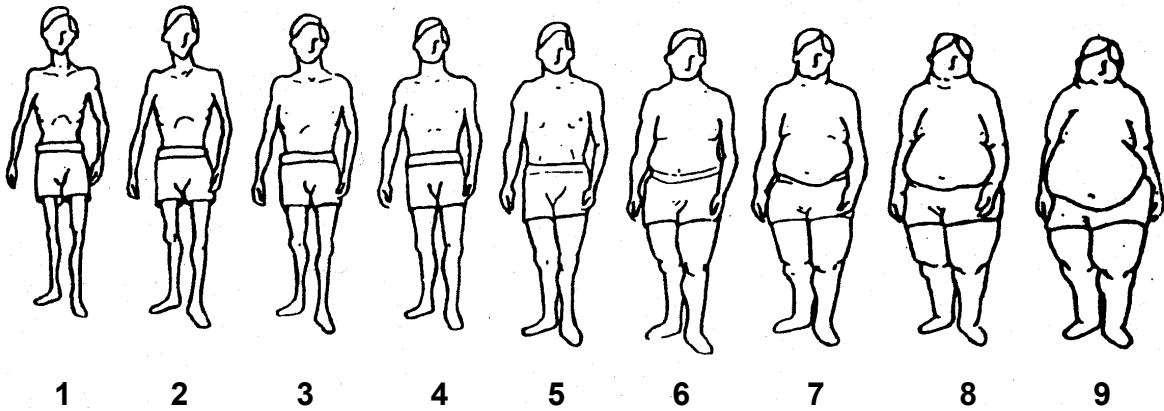
FRS



A. Which of the above figures is most similar to the culturally ideal body shape for women within your ethnic or racial group? \_\_\_\_\_

From Stunkard AJ, Sorenson T, Schulsinger F. Use of the Danish Adoption Register for the study of obesity and thinness. IN: SS Kety, LP Rowland, RL Sidman, SW Matthysse (Eds.) The Genetics of Neurological and Psychiatric Disorders. New York: Raven Press, 1983, pp. 115-120. Reproduced with permission.





A. Which of the above figures is most similar to the culturally ideal body shape for men within your ethnic or racial group? \_\_\_\_\_

From Stunkard AJ, Sorenson T, Schulsinger F. Use of the Danish Adoption Register for the study of obesity and thinness. IN: SS Kety, LP Rowland, RL Sidman, SW Matthysse (Eds.) The Genetics of Neurological and Psychiatric Disorders. New York: Raven Press, 1983, pp. 115-120. Reproduced with permission.

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