

## APPROVAL SHEET

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| 14. ABSTRACT<br><b>Research suggests that body dissatisfaction can develop by first-grade and girls tend to be less satisfied with their bodies compared to boys. However, no studies have examined the effects of race and gender and parental factors on body image among firstgraders. Fifty-eight child/parent dyads participated in the current study. Children were given a silhouette measure to assess body image. The FRS, EDI, White/Black Racial Identity Scales, and AAAS were administered to parents. There was no main effect for race on child body ideal, <math>F(1,53) = .43</math>, <math>p = .52</math>, and body satisfaction, <math>F(1,53) = 2.20</math>, <math>p = .14</math>. No main effect emerged for gender on child body ideal, <math>F(1,53) = 1.86</math>, <math>p = .18</math>, or body satisfaction, <math>F(1,53) = .37</math>, <math>p = .55</math>. Only a few significant correlations emerged between child body image and parental factors. Other factors such as mass media and peer group may be more salient in influencing body image among young children.</b> |                                    |                                     |                                          |                                          |                                 |
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## ABSTRACT

Title of Thesis: “My Body, My Weight: Body Perception Among African American and Caucasian First-Graders and Their Parents”

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Associate Professor

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Research suggests that body dissatisfaction can develop by first-grade and girls tend to be less satisfied with their bodies compared to boys. However, no studies have examined the effects of race and gender and parental factors on body image among first-graders. Fifty-eight child/parent dyads participated in the current study. Children were given a silhouette measure to assess body image. The FRS, EDI, White/Black Racial Identity Scales, and AAAS were administered to parents. There was no main effect for race on child body ideal,  $F(1,53) = .43, p = .52$ , and body satisfaction,  $F(1,53) = 2.20, p = .14$ . No main effect emerged for gender on child body ideal,  $F(1,53) = 1.86, p = .18$ , or body satisfaction,  $F(1,53) = .37, p = .55$ . Only a few significant correlations emerged between child body image and parental factors. Other factors such as mass media and peer group may be more salient in influencing body image among young children.

**MY BODY, MY WEIGHT: BODY PERCEPTION AMONG AFICAN AMERICAN  
AND CAUCASIAN FIRST-GRADERS AND THEIR PARENTS**

by

Dawnavan Scott Davis

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## INTRODUCTION

### Body Image and Adult Obesity

Despite increased prevalence of overweight and obesity among the adult African American community, particularly females, this population has less body image disturbance, and disordered and restrained eating than their Caucasian counterparts. Several explanations for these findings have been suggested. First, thinness is not a prerequisite for beauty or attractiveness for African American women in the same way as it is for Caucasian women (Ofosu, Lafreniere & Senn, 1998). Second, the health impact of overweight and obesity may not be realized to the same extent as in other racial groups. In fact, certain subgroups of African Americans still consider overweight and obesity as a sign of good health (Ofosu, Lafreniere & Senn, 1998). These factors may influence parental perception of child's ideal and healthy body size. Third, the observed disparity in body satisfaction and eating pathology may be explained by characteristics unique to this racial group such as cultural norms and ideals that may prevent the adoption of certain pathological perceptions of body image, eating, the definition of health, and what constitutes healthy behaviors.

African Americans appear to have rejected the ideals adopted by the Caucasian American culture regarding body image, eating practices, physical activity, and health perceptions. The African American community's definition of health, particularly as it relates to body image and the adoption of larger body ideals may influence the level of dietary concern. Moreover, a relationship between greater body satisfaction, larger body ideals and less restrictive eating patterns may place African Americans at greater risk for obesity. There may be a critical link between body image and eating behavior such that

one's body image may serve as a predictor of certain eating behaviors that promote obesity in the African American community. Given that little is known about the relationship between body image and obesity among African American children, it is essential to determine whether their views about their bodies facilitate the occurrence of obesity and its negative health outcomes in adolescence and adulthood.

### Childhood Obesity and Body Image

Initial analyses from the third National Health and Nutrition Survey (NHANES III) showed that over the past 20 years the prevalence of overweight and obesity among children ages 6 to 11 has dramatically increased, and continues to rise (NHANES III, 1988-94). More recent data from NHANES IV indicates that 30.3% of children ages six to 11 are overweight (15.3%) or obese (15.0%), representing nearly nine million youth. These statistics reflect a combined 10% percent increase in overweight and obesity since initial NHANES III analysis (National Center of Health Statistics [NCHS], 2002). Furthermore, data from NHANES IV suggests a disproportionate number of African American children are affected by overweight and obesity relative to their Caucasian counterparts, 28.3% versus 19.6%, respectively (NCHS, 2002).

Adult obesity and its potential health complications have their antecedents in childhood. Thirty percent of overweight children and 75% of obese adolescents go on to be obese adults (National Heart, Lung, and Blood Institute [NHLBI], 1998). Overweight adults are at higher risk for numerous health problems including hypertension, coronary heart disease, non-insulin dependent diabetes, and some cancers (Troiano, Flegal, Kuczmarski, Campbell & Johnson, 1995). In general, obesity-related physical complications are less frequent in obese children than obese adults, however in recent

years there has been an increase in the incidence of type II diabetes (ADA, 2002), hypertension (AHA, 2001) and other medical conditions as a result increased weight among our U.S. children. Additionally, there are potential negative psychological outcomes that may be associated with childhood obesity such as depression, low self-esteem, or rejection from peers (Strauss, Smith, Frame & Forehand, 1985). Moreover, obesity may result in the development of a negative body image in children, regardless of ethnicity (Vander Wal & Thelen, 2000), which can potentially lead to disordered eating and negatively affect the quality of life for the child (Dietz, 1998). Unfortunately, epidemiological data does not currently exist regarding the prevalence or incidence of body image pathology and its association with weight status among young children.

Body image is a critical factor that may be related to obesity and overweight. Body image is a psychological phenomenon that affects all age, racial, gender, and social groups, and may potentially be a major issue for children. One's body image is defined as the mental picture of one's body – the collection of conscious and unconscious perceptions, attitudes, and feelings about the body (Page & Page, 1993), which can promote either a positive or negative concept of one's physical appearance and attractiveness (Lawrence & Thelen, 1995). The perception of our body is a multidimensional variable, comprised of an individualistic as well as a collective component. Body image is an individual characteristic in that it is a personal formulation of body perception, and involves a personal evaluation of whether a particular body type is desirable or undesirable. However, this perception of whether a body is "ideal" is, to some extent, based on what others have defined as such. The body image one formulates typically has some level of societal influence, and is a comparison to what is perceived as

desirable in one's social and cultural context. For children, parental views and beliefs regarding body size may serve as a critical factor in the body image formulated by the child (Hill, Weaver, & Blundell, 1990; Smolak, Levine & Schermer, 1999; Striegel-Moore & Kearney-Cooke, 1994). Researchers have found that African Americans and Caucasians adults and adolescents differ significantly on ideal body shape, with Whites tending to have a thinner ideal body size than their black counterparts (Altabe, 1998; Becker, Yanek, Koffman, & Bonner, 1999; Jackson & McGill, 1996; Neal-Walden, 1996).

One possible explanation for these body image differences may involve cultural views and belief systems (Greenberg & LaPorte, 1996; Jackson & McGill, 1996; Oforu, Lafreniere & Senn, 1998). The culture and beliefs one identifies with and adopts may be a predictor of views held regarding body type preference. Specifically, the particular belief systems held may have an influence on what is defined as physically attractive. The observed differences in the definition of beauty and the positive or negative attributes assigned to various body sizes has resulted in African American and Caucasian adults and adolescents falling on opposite ends of the body image continuum, with Caucasians adopting a thin body ideal and African Americans a relatively larger body ideal. These disparities in body ideal may potentially influence health perceptions and behaviors practiced. Dissimilarity in belief systems may account for the differences in body image among African and Caucasian Americans. In general, the literature suggests that excess weight has not been linked to negative body image in African American adults and adolescents (O'Barr, 1994; Oforu, Lafreniere, & Senn, 1998).



The next step in understanding whether differences in body image exist in the pediatric population across race is to delineate to what degree one's culture affects the formulation of body ideals. Culture is defined as "a narrow set of guidelines (both explicit and implicit) that individuals inherit as members of a particular society, and tells them how to view the world, how to experience it emotionally, and how to behave in it in relation to other people, to supernatural forces or gods, and to the natural environment" (Helman, 1990; p.10). This may provide valuable insight about the link between cultural influences and health behaviors and outcomes.

How children's body image is influenced, as a result of parental racial identification and culture has not been investigated. Moreover, it has not been determined whether young African American children adopt the cultural views of the African American culture regarding weight perception and body image. Do the general views of the African American culture regarding weight perception and body image that generally lead to a more positive body image, decreased prevalence of eating disorders, and greater body satisfaction despite increased prevalence of obesity (Greenberg & LaPorte, 1996) extrapolate to the African American pediatric population? Parental degree of acculturation or the extent to (and the process through) which ethnic-cultural minorities participate in the cultural traditions, values, beliefs, assumptions, and practices of dominant white society (Landrine & Klonoff, 1994) may be a contributing and mediating factor affecting body image in children. The research literature provides conflicting results with regards to ideal body size preferences adopted by the pediatric African American population (Kemper, Sargent, Drane, Valois, & Hussey, 1994; Lawrence & Thelen, 1995; Neff, Sargent, McKeown, Jackson, & Valois, 1997; and

Thompson, Corwin, & Sargent, 1997). It can be postulated that the degree of racial identity will serve as a predictor of degree of body image pathology in parents and children.

### Importance of Body Image

The relationship between weight and body image among the African American pediatric population is not fully understood. A critical evaluation of influence of factors such as race and weight on body image is essential given this population is disproportionately affected by obesity and overweight. For health programs to be effective, medical and health professionals must understand the belief system of the target group regarding ideal body size. Body image preferences may serve as inhibitory or reinforcing factors in combating obesity among American children. Specifically, African American children's body image may influence their definition of overweight, the degree of perceived health risk associated with being overweight, and perceived benefits attributed to familial compliance with weight control interventions.

Equally important to determine is the role of parental race, body image, and eating behavior in the development and maintenance of body ideals among young children. The body image preferences acquired by children may present a variety of challenges in the prevention of adult obesity and obesity-related complications for the health professional. The challenges associated with combating childhood obesity must be overcome in order to have a healthier pediatric population.

### Body Image Among African American Adults

Racial discrepancies with regards to ideal body type have been reported in the literature. It has been found that African American and Caucasian adults differ with

regard to ideal body shape. Gore (1997) attempted to identify the factors involved in the formulation of body preferences and ideals among African American women, investigating the cultural, social, and individual variables influencing African American women's perceptions regarding weight. This study examined cultural variables: body image, standards of perceived physical attractiveness and perceived body size of self and others; social variables: perceived social support, occupation, income, and education; individual variables: age, body mass index (BMI), and actual weight as potential predictors of weight perception. African American women collectively had their own norms for weight, and were most influenced by cultural, social, and personal factors (Hill, Weaver, & Blundell, 1990; Smolak, Levine & Schermer, 1999; Striegel-Moore & Kearney-Cooke, 1994). Caucasian women were influenced by these same variables, but their perceptions of attractiveness were different. These findings suggest different belief systems in the African American and Caucasian populations regarding body perception, weight management and control, and dietary and exercise behaviors.

Becker, Yanek, Koffman, & Bonner (1999) investigated how African American and White men and women from similar low income communities perceived their body mass relative to other individuals in the population. They examined whether ethnic and gender differences existed in ideal body image sizes for the same and opposite sex. The Figure Rating Scale (Stunkard, Sorenson, & Schlusinger, 1983) was administered to both men and women to assess their current self, ideal self, and their estimation of ideals for the opposite sex. Results of this study indicated that all ethnic and gender groups showed a significant correlation between body mass index and selected body image size such that participants were good estimators of their current body size. Results also indicated that

African American women had a significantly greater ideal body image size compared to White women. Multiple regression analysis showed that independent of SES and comorbidity, current perceived body size for self, ideal body size for self, and ideal body size for the opposite sex were all significantly greater in African Americans than in Caucasians. Becker et al. (1999) concluded that strategies to ameliorate overweight and its attendant diseases might require a shift in social norms, particularly among African American women. These results imply a need for ethnic-specific interventions that focus on the cultural values and norms held by the individuals involved. Restructuring the norms regarding body size preference may be a critical component to combating obesity, particularly for African Americans.

Wilfley, Schreiber, Pike, Striegel-Moore, Wright, & Robin (1996) extended the examination of racial disparity regarding body image by examining differences in eating disorder symptomatology in a community-based sample of middle-aged adult black and white women ( $M = 46.9$  years old). Researchers investigated predictors of body image dissatisfaction in these two racial groups. Participants completed the Eating Disorder Inventory (Garner, Olmsted & Polivy, 1983) and measures of social pressures about thinness and negative attitudes about overweight. White women had significantly greater rates of body dissatisfaction than Black women, after controlling for degree of overweight. Wilfley et al. (1996) concluded that body dissatisfaction differences among White and Black women need to be taken into account when determining predictors of disordered eating behaviors or lack thereof. This provides some support to the hypothesis that body image may be a predisposing factor for certain eating practices, patterns that can facilitate in the acquisition and retention of disordered eating behavior.

Both of the above studies focused on racial differences in body image in community-based populations, Neal-Walden (1996) took the next step to ascertain whether this phenomenon existed across other populations. The investigator examined weight and body image perceptions among female African American and White military and civilian Texas residents. The Body Image Assessment Scale and the Image Marketing Procedure were given to study participants. Racial differences were found in both body image and weight, with African American women being more satisfied with their body and weight. Specifically, the results indicated that African Americans had less dietary restraint and lower scores on body image measures, signifying a greater degree of body satisfaction than their White counterparts. African Americans also had fewer discrepancies in their body perceptions, engaged in fewer body image avoidance behaviors, and had less dissatisfaction with their body image than Caucasian subjects. Thus, race was found to contribute significantly to body image dissatisfaction. Neal-Walden (1996) concluded that body image dissatisfaction was influenced by cultural differences in belief systems about weight, eating, and body attractiveness. It appears that the racial differences in ideal body size generalize to other populations (e.g., military).

Ofosu, Lafreniere, & Senn (1998) attempted to refine the investigation of observed differences in ideal body size by examining the effects of race, ethnicity, class, and culture on black women's body image perceptions, to determine within-group variability. Black women living in Canada, the United States and Africa were surveyed to assess Black women's experiences with weight and eating, and the historical and current social context influencing body image perceptions. There was, across Black

samples, a general preference for a fuller and shapelier figure among African American participants relative to the thinner White American body ideal. A larger body size was also associated with higher social status, better health, and beauty for Black women regardless of residential location, and social context. The cultural and social structures act as a buffer against body image disturbances, and the result is greater body satisfaction and a more positive body image. These researchers concluded that the observed differences among Black and White Americans in ideal body type may be the result of cultural views and pressures, and what a particular body size conveys to an individual's peer group. Similarly, O'Barr (1994) suggested African American and White women have significantly different perspectives on body size, with higher weight connoting power for African Americans.

It is important not to conclude that race alone provides total protection against body image pathology for African Americans. Equally important, is the consideration of the extent to which African American women adopt these cultural ideals and ascribe to the general standards formulated regarding body size. The degree of acculturation into "mainstream" culture may negate the buffer effects inherent in traditional African American beliefs and culture.

#### Male Preference by Ethnicity

One possible reinforcer of larger body size ideals for African American females centers around the beliefs and preferences held by men within the culture. The African American male's perception of attractiveness and a desirable body type may influence the adoption of such ideals by African American women. Greenberg and LaPorte (1996) examined differential body size preferences among African American and Euro

American men. Participants were asked to rank, in order of attractiveness, a series of silhouettes of women of varying sizes. Euro-American men chose significantly thinner ideal figures, and reported wishing their girlfriends would lose weight significantly more often than African American men. Differential body preferences may translate into a greater pressure within the Euro American community for women to be thin than in the African American community. A culture's definition of physical attractiveness is a critical factor in shaping the thoughts, beliefs, and attitudes adopted and internalized by individuals within that cultural group. Whether it is to have a thinner or larger body size, there is some degree of pressure to conform to cultural norms, although generally such conformity for African Americans promotes greater body satisfaction and less preoccupation with weight status. Nevertheless, in both situations, disordered eating behaviors may result.

The above findings were replicated by Jackson and McGill (1996). African American males and females associated obesity with less unfavorable characteristics in the opposite sex than White participants. These researchers studied body type preferences and body characteristics associated with body attractiveness, and personal characteristics associated with unattractive body types among African and Anglo American adult men and women. African American males preferred larger body types for females, and associated more favorable and fewer unfavorable characteristics with obese females, while Anglo American males preferred smaller body types in females. African American females associated fewer unfavorable characteristics with obese males, supporting the hypothesis that differential definitions of physical attractiveness across racial groups results in between-group discrepancy in body size ideals. A larger body

standard within the African American community perpetuates a level of tolerance and acceptance of obesity. Researchers concluded that differences between the races in body characteristics associated with attractiveness suggest race-specific prototypes of body attractiveness that correspond to physical differences between the races.

In summary, the literature provides support for the racial differences regarding the body image among African American and Caucasian adults. In general, African Americans prefer a larger ideal body size, and have a more positive body image than Caucasians. The critical factors influencing such differences are race, body preference of relevant others, which is defined by the cultural norms and belief systems and the degree of identification, internalization, and adoption of these body ideals. Acculturation into “mainstream” culture can challenge traditional views held regarding body image in the African American community and promote body size preferences typically reflected in White American culture.

### **PURPOSE**

Based on the conflicting information in the literature and the problem of childhood obesity, particularly among African American youth, it was important to determine whether African American children adopt a belief system similar to the African American or Euro American culture regarding ideal body size and to what extent parental values, ideals, and beliefs were related to children’s body perceptions. Racial differences in body image have been firmly established among adults. Moreover, the literature has determined that body dissatisfaction can develop as early as first-grade (Davison et al. 2000; Chrisler et al, 1997; Smolak & Levine, 1994). However, no studies have examined the effects of race on body image among this population. A thorough



investigation was needed to determine whether a significant difference exists between three body image indices: perceived current body size, ideal body size, and body satisfaction among first-graders of different racial descent and how much of the variance among African American and Caucasian children could be explained by parental racial identity, degree of acculturation, body image, and eating behavior.

### **SPECIFIC AIMS AND HYPOTHESIS**

The purposes of this project were to compare African American and Caucasian first-graders' current body size, ideal body size, and body satisfaction and to examine the relationship between parent/caregiver attitudes and beliefs and children's body image.

There were two specific aims of this project:

**Specific Aim One:** To determine whether ideal body size and body satisfaction differed by race.

***Hypothesis One: Body Ideals and Satisfaction.*** It was expected that African American children would have greater body satisfaction as compared to Caucasian children. Consistent with the general belief system of the African American culture, African American children were expected to report a relatively larger ideal body size and greater body satisfaction, whereas their Caucasian counterparts were expected to adopt a thinner Euro American ideal body size and report less satisfaction with their bodies, consistent with Euro American culture. This racial difference in satisfaction would be evidenced by less of a difference between perceived current body size and ideal body size in African American children relative to Caucasian children. Although a child's BMI may influence ideal body size and degree of body satisfaction, it was hypothesized that independent of BMI, the above pattern of racial differences for ideal body size and body

satisfaction would emerge. It was further predicted that greater that a greater proportion of African American children would be satisfied with their bodies than Caucasian children and that a greater proportion of Caucasian children would report wanting to be smaller than African American children.

**Specific Aim Two:** To determine the relationship between parental beliefs and values and children's ideal body size and body satisfaction.

***Hypothesis Two: Acculturation and Racial Identity.*** It was expected that increased racial identity among Caucasian and African American parents would result in a differential degree of body satisfaction among Caucasian and African American children. Body satisfaction among African American children was expected to be inversely related to parental acculturation such that as degree of acculturation increased, child's body satisfaction would decrease and vice versa. As African American parents' views migrate toward "mainstream" perceptions and ideals, the child would report less body satisfaction. Moreover, it was expected that a positive correlation would exist between parental degree of racial identity and body satisfaction among African Americans such that as parental racial identity increased, child's body satisfaction would increase and vice versa. An inverse relationship would be observed among Caucasians such that as racial identity increased, child's body satisfaction would decrease and vice versa.

***Hypothesis Three: Parental Perception of Ideal Body Size and Satisfaction for Child and Self.*** It was expected that parental perception of ideal body size for child would be positively related to child's ideal body size for self among both African Americans and Caucasians. It was predicted that for each parent/child dyad, parent and

child perceptions of ideal body size would not be significantly different; thus, they would be significantly correlated. Overall, African American parents were expected to ascribe to a larger ideal body size for their children than Caucasian parents. Moreover, relative to Caucasian parents, African American parents were expected to be more satisfied with their own bodies, as evidenced in a smaller difference between perceived and ideal body size, and to choose a larger ideal body size. It was further predicted that greater that a greater proportion of African American mothers would be satisfied with their bodies and their children's body size than Caucasian mothers. It was also expected that a greater proportion of Caucasian mothers would report wanting a smaller body size for themselves and their children compared to African American mothers.

***Hypothesis Four: Parental Eating Behaviors.*** It was predicted that parental eating pathology would be inversely related to child body satisfaction and child ideal body size among African Americans and Caucasians, such that as parental eating disturbance increased, child body satisfaction and ideal body size would both decrease, and vice versa. Significant negative correlations would exist between degree of parental eating pathology and child's degree of body satisfaction and ideal body size for both groups. Overall, it was expected that African American parents would be less likely to engage in food restrictive behaviors than Caucasian parents as measured by the EDI, TFEQ-R and DEBQ; thus, more body satisfaction would be observed among African American children compared to Caucasian children. It was expected that mothers' eating pathology would be inversely related to mothers' body satisfaction and mothers' ideal body size for self and their children both African Americans and Caucasians mothers,

such that as mothers' eating disturbance increased, mother's body satisfaction and ideal body size for self and their children would both decrease, and vice versa.

## **METHODS**

### **Participants**

Sixty-one first-grade children and their parents attending YMCA centers in the Washington metropolitan area participated in the study. Participation was solicited by mailed letters to the director of the various centers. An introductory presentation about the study was given by the principal investigator to interested centers. Children and parents of all ethnicities were invited to participate. Children with developmental disabilities and non-English speaking children were excluded from the study. Children with developmental disabilities were excluded to ensure comprehension of the study material, and non-English speaking families were excluded due to language proficiency/communication barrier issues. Once families were determined to be eligible and agreed to participate, by returning the permission slip to center director (see Appendix K), a 45-minute interview was scheduled with the parent and child at their particular YMCA location. At the time of the interview, informed consent was obtained from the parent. Participants were told that the study's purpose was to examine factors influencing body image in young children. Upon completion of the interview, parents were compensated \$10, and each child was given a T-shirt and Certificate of Participation.

### **Measures**

Each parent/child dyad was interviewed, and parents were given questionnaires to complete at the time of the interview. These questionnaires were chosen to examine

body image in children as it related to parental body image, eating behavior, and degree of acculturation and racial identity.

*Demographic information.* Each parent participant was asked to report ethnicity/race, age, gender, and geographic location of residence (see Appendix A).

*Anthropomorphic measures.* Weight in pounds was measured on a balance beam scale at the time of interview for each participant. Height, to the nearest \_ inch was obtained for each participant. Body Mass Index (BMI) in  $\text{kg/m}^2$  was calculated from weight and height measures for both parent and child. Weight, height, and BMI measurements were recorded on the Demographic Information Sheet (see Appendix A).

#### Investigator-Administered Body Image Measures

*Child Silhouette Scale.* In order to assess perceived current and ideal body size, each child was given a Silhouette Scale developed by Collins (1991; see Appendix B1). Collins (1991) created gender-specific scales that consist of seven preadolescent body figures ranging from very thin (scored 1) to obese (scored 7). The scale consists of four items. Each child was asked to say which body figure best represented their current body size, which represented the way he or she would prefer to look, which should a same-sex child their age look like, and which should an opposite-sex child their age look like. The child's degree of body satisfaction was obtained by subtracting the child's ideal body size score from their current body size score. This discrepancy score is an index of the degree of body satisfaction with zero scores suggesting body satisfaction (i.e. perceived current body size equals ideal body size), negative scores suggesting body dissatisfaction in the negative direction (i.e. perceived current body size is greater than ideal body size) and positive scores reflecting body dissatisfaction in the positive direction (i.e. perceived

current body size is lesser than ideal body size). Collectively, the child's self-evaluation of their perceived current body size, ideal body size, and subsequent degree of body satisfaction are typically referred to as "body image." Wood, Becker, & Thompson (1993) found the Child Silhouette Scale to be a reliable instrument for the use with children with test-retest reliability of .70 for current self, and .63 for ideal self.

*Silhouette Scale-Parent Form.* To assess parental perception of child's current and ideal body size, each parent was given the Silhouette Scale-Parent Form (Collins, 1991; see Appendix B2). Parents were asked to identify which body figure currently looked most like their child (perceived current body size), what body size they would like their child to look like (ideal body size), which body size looks most like a same sex child their child's age should look, and which figure best represents an opposite sex child their child's age. A discrepancy score was calculated to determine parental degree of satisfaction with child's body size. Mean ideal body size scores between Caucasian and African American parents were calculated and compared.

*Figure Rating Scale.* In order to assess parent/caregiver's perceived current and ideal body size, the Figure Rating Scale (FRS; Stunkard, Sorenson & Schlusinger, 1983) was administered to adult study participants (see Appendix F). The Figure Rating Scale is a figural instrument, which consists of nine schematic body drawings ranging in size from very thin to obese with height held constant. The FRS was developed based on the obesity literature as a tool to assess overall body satisfaction; thus, its silhouettes provide a greater range in figural body sizes. The adult participant was asked to select which figure looked most like them currently and which figure looked like they would prefer to look. The FRS measures the discrepancy between perceived current and ideal body size.

The difference scores calculated were an index of the degree of body satisfaction for parents. Likewise, an adults' perception of current body size, ideal body size, and body satisfaction is labeled as "body image." The FRS has demonstrated adequate test-retest reliability over a 2-week period with reliability coefficients ranging from .71 to .89 (Stunkard, Sorenson & Schlusinger, 1983).

#### Racial Identity/Acculturation Self-Report Measures

*African American Acculturation Scale-Revised.* The African American Acculturation Scale-Revised (AAAS-R; Landrine & Klonoff, 2000) was used to measure degree of parental/caregiver acculturation among African American participants. The AAAS-R (Appendix C) is a 47-item survey that assesses eight dimensions of African American culture and the extent to which individuals participate in traditional African American cultural traditions, beliefs, and values. The AAAS-R has eight subscales, which include assessment on the following constructs: religious beliefs and practices, preferences for things African American, interracial attitudes, family practices, health beliefs and practices, cultural superstitions, racial segregation, and family values. Each subscale consists of responses on a 7-point Likert scale from 1 to 7. Scores on the AAAS-R can range from 47 to 329 ( $M = 188.00$ ), with a higher score denoting less acculturation and greater identification with traditional African American beliefs, values, and practices. Data from the 520 African American adults for which the scale was standardized yielded a mean of 220.46 ( $SD = 40.88$ ), with scores ranging from 103-329. The scale has been found to be a valid and reliable measure with alpha coefficients ranging from .71 to .90 (Landrine & Klonoff, 1994 [see Introductory Letter, Appendix O]).

*Black Racial Identity Attitudes Scale.* The degree of racial identity was assessed among African American parents by completion of the Black Racial Identity Attitude Scale (RIAS-B; Helms & Parham, 1990). The RIAS-B (Appendix D) assesses the degree to which an individual identifies with practices, values, and beliefs of African American heritage. The scale consists of 50 items and responses are on a 5-point Likert scale from 1 to 5. Scores can range from 0 to 250 with a higher score denoting greater acceptance of one's Blackness. The RIAS-B consists of five subscales, which correspond to each stage of racial development for African Americans: Pre-encounter (i.e., internalization of traditional White beliefs), Encounter (i.e., disorientation and confusion about one's own Black identity), Immersion (i.e., psychological withdraw into Black society and culture), Emersion (i.e., joy and contentment in Black environments) and Internalization (i.e., positive and realistic commitment to Black culture).

*White Racial Identity Attitudes Scale.* Caucasian parents were asked to complete the White Racial Identity Attitude Scale (WRIAS; Helms, & Carter, 1990). The WRIAS (Appendix E) assesses the degree to which an individual identifies with practices, values, and beliefs of Caucasian culture. This scale also consists of 50 items with responses on a 5-point Likert scale from 1 to 5. Total White racial identity score can range from 0 to 250 with higher scores indicating greater acceptance of traditional White ideas. The WRIAS consists of five subscales, which include assessment of each stage of Caucasian racial development: Contact (i.e., lack of awareness of significance of White culture), Disintegration (i.e., confusion and self-disorientation about one's "Whiteness", Reintegration (i.e., endorsement of White superiority and Black inferiority), Pseudo-independence (i.e., intellectual acceptance of one's White culture) and Autonomy (i.e.,



positive non-racist White orientation). For both the RIAS-B and WRIAS, the higher the score on each subscale, the more one identifies with that particular stage of racial development (see Introductory Letter, Appendix O).

### Eating Behavior Self-Report Measures

*Eating Disorder Inventory.* Parents were asked to complete the Eating Disorder Inventory (EDI) in order to assess parent/caregiver degree of eating pathology and disturbance (Garner, Olmsted, & Polivy, 1983; see Appendix H). The EDI is a 64-item self-report survey designed to assess psychological and behavioral traits commonly observed in eating disorders. Items of the EDI are presented in a 6-point forced choice format with responses ranging from “never” to “always.” The EDI consists of eight subscales. Three of the subscales were designed to assess attitudes and behaviors toward weight, body shape, and eating: drive for thinness, bulimia, and body dissatisfaction. For the purposes of this investigation, only these three subscales were used because they are most consistently correlated with eating disordered behaviors (Garner et al., 1983). The five remaining subscales measure general psychological characteristics of individuals with an eating disorder. These include ineffectiveness, perfection, interpersonal distrust, internal awareness, and maturity fears (Garner et al., 1983). The higher the score on a particular subscale, the more pathology present. All subscales of the EDI have high internal consistency with Cronbach’s alphas above .80 (Garner et al., 1983). Others have found the EDI to be an internally consistent measure with stable factor structure (Raciti & Norcross, 1987).

*Three Factor Eating Questionnaire-Restraint Scale.* Parents were asked to complete the Three Factor Eating Questionnaire-Restraint Scale (TFEQ-R; Stunkard &

Messick, 1985) to assess dietary restraint behavior (Appendix I). The TFEQ-R is a 20-item self-report survey comprised of 11 True/False questions, and nine questions on a 4-point type scale (1 to 4), with a higher total score indicating more restraint behavior. The TFEQ Restraint Scale has high internal consistency with a Cronbach's alpha of .90 (Stunkard & Messick, 1985).

*Dutch Eating Behavior Questionnaire.* The Dutch Eating Habits Questionnaire (DEBQ; Van Strien, Frijters, Bergers & Defares, 1986) was given to adult participants to assess eating patterns and habits (see Appendix G). The DEBQ is a 33-item survey, which has three subscales to measure restrained, emotional, and external eating behaviors. Responses are on a 5-point type scale (1 to 5) with a higher subscale score indicating greater eating disturbance within that particular domain. All three scales have high internal consistency and high factorial validity with Cronbach alphas ranging from .80 to .95 (Strien et al., 1986).

### Procedure

To conduct the study within the YMCA organization, approval from the YMCA Washington DC corporate office was obtained. The principal investigator held an in-service seminar with center directors to introduce the study and discuss the recruitment letter, which described the overall purpose of the study, study time commitment, and the benefits of participation (see Appendix J). One week after the in-service meeting, follow-up phone calls were made to the directors of 14 YMCA centers in the Washington metropolitan area to address any further questions or concerns regarding their center's participation in recruitment. Once centers expressed interest in the study, the parents of first-graders were identified by the director, through enrollment records. Families

meeting study criteria were given permission slips by center directors, which briefly described the study, notified the parents of the center's involvement, and requested parent contact information and signature (see Appendix K). Slips were returned to directors and/or teachers. Parents expressing interest in involvement in the study were contacted by phone by the principal investigator to schedule a 45-minute interview at their particular YMCA location. Each parent/child pair was called 24-hours prior to their scheduled interview as a reminder.

Upon arrival to interview, each dyad was given an identification number from 01 to 61. The principal investigator went over the study Consent Form with the parent and child (see Appendix L). The principal investigator answered any questions the parent or child had regarding participation, and parental written informed consent was obtained. Assent was not obtained from the child because of the age of the target group being studied. Weight and height were taken for both parent and child. Parents were then asked to complete a Demographic Sheet (see Appendix A).

The principal investigator administered the Collins' Silhouette Scale to each child, which took approximately 15 minutes. While the child was interviewing with the principal investigator, the parent was asked to complete the Racial Identity Scale, African American Acculturation Scale (if applicable), Dutch Eating Habits Questionnaire, Eating Disorder Inventory, and the TFEQ-R Restraint Scale. After completing the questionnaires, the principal investigator administered the Figure Rating Scale and the Collins' Silhouette Scale Parent Form to the parent. This part of the assessment lasted about 10 minutes. The total interview time was approximately 45 minutes. Upon completion of the assessment, each child received a "Certificate of Participation" (see

Appendix M) and a T-shirt. The participating parent was compensated \$10.00 for completion of the surveys. Families were invited to attend a free health education seminar entitled “ Fun and Healthy Eating” held at the National Capital YMCA location (see Appendix N). In addition, a synopsis of group study results was mailed at the termination of the project to parents who requested such information.

We were well-positioned to implement this child research protocol and to address any pediatric issues with the assistance of Mark Stephens, M.D. in the Department of Family Medicine, who agreed to serve as a consultant for this study. Dr. Stephens provided his expertise in the initial development of this research protocol in several areas such as recruitment, participant involvement, and participant age parameters.

#### Risks/Benefits

There were no known risks associated with participation in this study. Information provided at the Healthy Eating and Activity seminar may have increased participants’ knowledge about eating and physical activity, while promoting healthier lifestyles for parents and their children.

### **ANALYTICAL STRATEGIES**

#### Analyses of Child Data

*Demographic and Anthropometric Information.* To characterize the sample of child participants, height, weight, BMI, age, and gender were analyzed. Because child height, weight, and BMI tend to be highly correlated, a 2 x 2 (Race x Gender) MANOVA was conducted to determine the effects of race and gender on height, weight, and BMI when considered together. A 2 x 2 (Race x Gender) ANOVA was performed to examine group differences for age by ethnicity and gender.

*Body Image.* To test Hypothesis One, a (Race x Gender) MANCOVA was conducted to compare mean current body size, ideal body size, and body satisfaction between African American and Caucasian children, controlling for child BMI.

Chi-Square analyses were conducted to compare the proportion of African American and Caucasian children who fell into the different groupings based on body satisfaction (i.e., satisfied, wanted to be smaller, or wanted to be larger). A post data collection decision was made to determine whether differences existed between children who were satisfied with their bodies and those who wanted to be smaller or larger, controlling for child BMI. A decision to analyze of the effects of gender on child body image occurred post data collection efforts, given that racial differences did not produce differential effects as hypothesized and that an equal proportion of girls and boys participated in the study. Based on correlations between dependent variables (i.e. current body size, ideal body size, and body satisfaction), differences between race and gender groups on these variables were examined using a 2 x 2 (Race x Gender) MANCOVA, controlling for child BMI, instead of an ANCOVA model. Given that BMI and weight may influence a child's ideal body size and degree of body satisfaction, the dependent variables were examined covarying the effects of child BMI. Effect sizes for main effects and the interaction on child body image data were reported and interpreted using Cohen's small, medium, and large effect size estimates (i.e. .01, .06, and .15, respectively).

#### Analyses of Parent Data

*Demographic and Anthropomorphic Information.* To characterize the sample of parent participants, height, weight, BMI, gender, age, educational level, and county of residence were analyzed. Fathers ( $n=7$ ) were included in the demographic and

anthropomorphic analyses. To determine whether African American and Caucasian parents differed on any continuous demographic or anthropometric factor by race and gender, a 2 x 2 (Race x Gender) MANOVA and follow-up 2 x 2 (Race x Gender) ANOVAs were conducted. The effects of race and gender on height, weight, and parent BMI were analyzed using a 2 x 2 (Race x Gender) MANOVA. Because there was a significant positive correlation between parent age and years of education, a 2 X 2 (Race x Gender) MANOVA was conducted to investigate the effects of race and gender on age and years of education.

Because of the small number of fathers participating in the study ( $n= 7$ ), data obtained from this group were excluded from parental racial identity, body image, and eating behavior analyses. Furthermore, given the lack of variability in mothers' responses on racial identity, body image, and eating behavior variables and the limited sample size, Pearson's  $r$  correlations were conducted instead of multiple regression analyses to examine the relationships between parental factors and child body image indices.

*Racial Identity and Acculturation.* To test Hypothesis Two, Pearson's  $r$  correlations were conducted to determine the relationships between mothers' racial identity and acculturation and child and parent body image factors and demographic variables, separately for African American and Caucasian mothers.

*Body Image.* To test Hypothesis Three, Chi-Square analyses were conducted to compare the proportion of African American and Caucasian mothers who were satisfied, wanted to be smaller and wanted to be larger when appraising their own bodies and their child's body size. Multivariate analyses were conducted to compare African American

and Caucasian mothers on current body size, ideal body size, and body satisfaction for their children and themselves.

*Mothers' Body Image for Self.* Given that much of the literature yields consistent findings regarding differential body ideals and body satisfaction among adults by race, these factors were examined in the present study. A post data collection decision was made to determine whether differences on body satisfaction for self existed between mothers who were satisfied with their bodies with those who wanted to be smaller or larger, controlling for mother BMI. Because the present data suggested that mothers' perceived current body size, ideal body size, and body satisfaction for self were significantly correlated and BMI had influence body image factors, a two-way (Race: African American and Caucasian) MANCOVA was performed, controlling for mother BMI.

*Parent Body Image for Child.* A post data collection decision was made to determine whether differences existed on body satisfaction for their children between mothers who were satisfied with their bodies with those who wanted to be smaller or larger, controlling for mother BMI. Because correlational data suggested that there was a relationship between mothers' perceived current body size, ideal body size, and body satisfaction for their child, a two-way (Race: African American and Caucasian) MANCOVA was conducted controlling for child's BMI. Pearson's  $r$  correlations were conducted to examine the relationship between child and parent current body size, ideal body size, and body satisfaction by race.

*Parental Eating Behavior.* To test Hypothesis Four, a two-way (Race: African American and Caucasian) MANCOVA was employed, controlling for the effect of

mothers' BMI, to examine the effects of race on mothers' eating behavior (i.e., bulimic behaviors, restrictive eating patterns, and global eating pathology). Pearson's  $r$  correlations were performed to examine the relationship between mothers' eating behavior and child body image factors and mothers' body image factors for self and their child.

## RESULTS

Sixty-one families participated in the study. However, based on the study aims to compare body image among African American and Caucasian children and parents, data from one Asian family and two Biracial families were excluded from all analyses. Thus, 58 children were included in the analyses of child data, and 51 child/mother dyads were included in the analyses of the relationships between parental factors and child body image indices.

### Child Information

*Demographics and Anthropometric Measures.* Demographic and anthropometric information for child participants by ethnicity are presented in Table 1. Fifty-eight African American and Caucasian children participated in the current study. Thirty-two children were African-American (55.2%) and 26 were Caucasian (44.8%) with a mean age of 6.17 ( $SD = .38$ ). Male children made up 48.3% of the sample ( $n = 28$ ), while 51.7% of the sample was female ( $n = 30$ ). When analyzing the proportion of girls and boys in the study sample, a nonsignificant chi-square was obtained,  $\chi^2(1, n = 58) = .069, p = .79$ .

No significant Race x Gender interaction emerged,  $F(3,52) = 1.10, p = .36$ . There was no main effect for race,  $F(3,52) = 1.42, p = .25$ . There was a main effect for gender such that boys tended to be taller, heavier, and have a higher BMI than girl participants,  $F(3,52) = 5.76, p < .05$ . Follow-up 2 X 2 (Race x Gender) univariate ANOVAs found no



main effect for race on BMI,  $F(1,54)=.01, p=.92$ . A main effect for gender on BMI emerged such that boys tended to have a larger BMI than girls,  $F(1,54)=4.08, p<.05$ . However, as shown in Figure 1, gender differences were largely accounted for by Caucasian girls having a smaller BMI compared to the other child participants. Based on the international cut-offs for defining overweight and obesity in children (Cole, Bellizzi, Flegal, & Dietz, 2000), 42.9% ( $n=12$ ) of the boys and 23.3% ( $n=7$ ) of the girls were overweight, while 3.6% ( $n=1$ ) of boys in the sample were obese. By race, 26.9% ( $n=7$ ) and 3.8% ( $n=1$ ) of Caucasian children were overweight or obese, respectively. In contrast, 37.5% ( $n=12$ ) of African American children were overweight. No African American children were obese.

For other continuous anthropometric measures, follow-up analyses found no Race x Gender interactions for height,  $F(1,54)=1.25, p=.27$  or weight,  $F(1,54)=.02, p=.88$ . Likewise, no main effect for race on weight was found,  $F(1,54)=2.11, p=.15$ . However, there was a trend for a main effect for race on height such that African American children tended to be taller than their Caucasian counterparts,  $F(1,54)=3.66, p=.06$ . A main effect for gender on height,  $F(1,54)=7.30, p<.01$ , and weight,  $F(1,54)=13.32, p<.01$  were found such that boys tended to be taller and heavier compared to girl participants.

There was a significant Race x Gender for age,  $F(1,54)=4.13, p<.05$ , such that African American boys tended to be younger than Caucasian boys, but African American girls tended to be older than Caucasian females. There were no main effects for gender,  $F(1,54)=.10, p=.76$ , or race,  $F(1,54)=.03, p=.87$ . Follow-up independent t-tests found no significant difference between African American and Caucasian girls,  $t(28)=-1.59, p=.11$ , or boys,  $t(26)=1.24, p=.23$ , on age. Because all of the children were first-graders,

the age range was particularly small (6.11 to 6.30 years). Therefore, the meaningfulness of the significant Race x Gender interaction for age is likely not important in the interpretation of these data.

### Parent Information

*Demographics.* Table 2 presents the demographic and anthropometric information for parent participants by race. Fifty-eight African American ( $n=32$ ) and Caucasian ( $n=26$ ) parents participated in the study, 51 (87.9%) mothers and 7 (12.1%) fathers.

Results indicated that a trend for a Race x Gender interaction existed for the three dependent measures collectively,  $F(3,52)= 2.54, p=.07$ . A main effect emerged for parent race,  $F(3,52)= 3.33, p<.05$ , and parent gender,  $F(3,52)= 15.72, p<.01$ .

Follow-up univariate analyses concluded that no significant Race x Gender interactions existed for height,  $F(1,54)= .04, p=.84$ , weight  $F(1,54)= .004, p=.95$ , or BMI,  $F(1,54)= .05, p=.82$ . A significant main effect for race was found for weight,  $F(1,54)= 7.93, p<.01$ , such that Caucasian parents weighed significantly less than African American parents. There was a main effect on race for parent BMI such that African American parents tended to have larger BMIs,  $F(1,54)= 6.00, p<.05$ . No main effect for race on height emerged,  $F(1,54)= .77, p=.39$ .

Not surprisingly, there was a main effect for gender on parent height,  $F(1,54)= 45.95, p<.01$ , with fathers being taller than mothers. Additionally, there was a main effect for gender on weight,  $F(1,54)= 4.87, p<.05$ , such that fathers tended to be heavier than mothers. No main effect for gender emerged on parent BMI,  $F(1,54)= .10, p=.76$ .

Overall, parents' mean BMI was 28.84 ( $SD= 7.78$ ), which by the NHLBI (1998) guidelines, indicated that on average parents were overweight. For Caucasians, 26.9% ( $n=7$ ) were overweight, whereas 11.5% ( $n=3$ ) were obese. Twenty-eight percent of African Americans were overweight ( $n=9$ ) and 50.0% ( $n=16$ ) were obese.

There was a significant positive correlation between parent age and years of education,  $r= .40$ ,  $p< .05$ . There was no Race x Gender interaction,  $F(2,53)= .39$ ,  $p= .68$ , or main effect for race,  $F(2,53)= 2.28$ ,  $p= .11$ , or main effect of gender on age and years of education,  $F(2,53)= 2.39$ ,  $p= .10$ . Parents mean age was 34.74 ( $SD= 6.72$ ) years with 14.59 ( $SD= 2.28$ ) mean years of education.

A significant Chi-square was obtained for gender,  $\chi^2(1, N=58)= 33.38$ ,  $p< .01$  such that more mothers than fathers participated in the study. County of residence also differed by ethnicity such that African American parents tended to live in Prince George's county and the District of Columbia, whereas Caucasian parents tended to live in Montgomery county  $\chi^2(3, N=58)= 37.60$ ,  $p< .01$ .

### **Hypothesis One: Does Child Body Satisfaction Differ by Gender and/or Race?**

*Descriptive Data.* Descriptive data are presented in Tables 3, 3a and 3b. Overall when looking at discrepancy scores as an index of body satisfaction among child participants, 12.1% ( $n=7$ ) were satisfied with their bodies, whereas 62.1% ( $n=36$ ) of the children wanted to be smaller than their current perceived body size, and 25.8% ( $n= 15$ ) indicated wanting to be larger than their perceived current body size.

Regarding race, 26.9% ( $n=18$ ) Caucasian children and 56.3% ( $n=18$ ) African American children wanted to be smaller than their perceived current body size. Fifteen percent of Caucasian children ( $n=4$ ) and 34.4% ( $n=11$ ) of African American children

wanted to be larger than their perceived current body size, whereas only 11.5% ( $n=4$ ) of Caucasian and 9.4% ( $n=3$ ) of African American children were satisfied with their body (see Table 3). There was no difference in the proportion of Caucasian and African American children wanting to be the same, smaller, or larger than their perceived current body size,  $\chi^2(2, n=51)=2.82, p=.24$ . No differences emerged between the three groups (i.e. children desiring to be smaller, larger, or stay the same body size) for BMI,  $F(2,58)=1.57, p=.22$ , or for weight,  $F(2,58)=.93, p=.40$ .

When African American children were analyzed separately, no differences between children who wanted the same body size, smaller body size, or a larger body size were found on BMI,  $F(2,29)=1.01, p=.38$ . For weight, there was a difference between children who wanted the same body size, smaller body size, or a larger body size,  $F(2,29)=3.88, p<.05$ . Children who wanted to stay the same body size (i.e., were satisfied with their bodies) tended to weigh more than children who wanted to have a smaller or larger body size. Overall, for African American children, those who weighed the least tended to want to be larger, whereas those who weighed the most and had the highest BMIs wanted to stay the same body size.

However, when Caucasian children were analyzed separately, different findings emerged. Overall, Caucasian children who wanted to be smaller tended to be the children with the highest BMIs and weighed the most. Caucasian children who wanted to stay the same were those with the lowest BMIs and weight. When looking at group differences between Caucasian children who wanted to stay the same, those who wanted to have a larger body size, and those who wanted to have a smaller body size, there was no difference on BMI,  $F(2,23)=2.29, p=.12$ . There was a trend for a difference between

these groups on weight such that children who wanted a smaller body size tended to weigh more than children who wanted to stay the same body size or have a larger body size,  $F(2,23)= 3.18, p=.06$ .

The international BMI cutoffs for defining overweight and obesity in children (Cole, Bellizzi, Flegal, & Dietz, 2000) were used to examine differences in the proportion of children wanting to be smaller, larger, or stay the same. As previously outlined, a BMI score  $< 17 \text{ kg/m}^2$  is considered normal; a BMI score 17 to  $20 \text{ kg/m}^2$  is overweight, while a BMI above  $20 \text{ kg/m}^2$  is considered obese. Based on these cutoffs, 38 of the children were of normal weight, while 20 were overweight or obese. A 2 (normal weight; overweight/obese) X 3 (satisfied, wanted to be smaller, or wanted to be larger) Chi-square was performed to analyze differences in the proportions of who fell into these six categories. Overall, of the children who were normal weight, 57.5% ( $n=23$ ) wanted to be smaller and 26.4% ( $n= 10$ ) wanted a larger body size. Only 13.2% ( $n=5$ ) were satisfied with their body. Of the children who were overweight or obese, 65.0% ( $n= 13$ ) wanted smaller body size and 20.0% ( $n=4$ ) wanted to be larger, whereas 15.0% ( $n=3$ ) wanted to be the same body size (see Table 3b). There was no difference between children with normal BMIs and those with elevated BMIs and the proportion of children wanting to stay the same, be smaller, or have a larger body size,  $\chi^2(2, n= 58)= .67, p= .72$ .

There was a trend for a positive relationship between child's BMI score and child's current perceived body size such that as child's BMI increased child's perceived current body size tended to increase,  $r= .27, p= .06$ . A significant positive association was found between child's weight and child's current perceived body size such that as

child's weight increased child's perceived current body size increased,  $r = .31, p < .05$ . Child BMI,  $r = -.06, p = .67$ , and weight,  $r = .04, p = .78$ , were not related to child ideal body size. There was a trend for an inverse relationship between child's BMI and child's body satisfaction such that as child's BMI increased, child's body satisfaction for self tended to be more negative, denoting a desire to be smaller,  $r = -.25, p = .07$ . Correlational analyses determined that increased BMI was related to a larger perceived current body size,  $r = .47, p < .05$ , and a thinner ideal,  $r = -.59, p < .01$ , for Caucasian children; however, these relationships were not found among African American children (see Table 4 and 5).

Among African Americans, 20 (62.5%) children were of normal weight, whereas 12 (37.5%) were overweight. Among the children with a normal BMI score, 12 wanted a smaller body size (60.0%) and seven wanted to be larger (35.0%), whereas only one child (5.0%) was satisfied with his or her body despite being of normal weight. There was no difference between African American children of normal weight and those overweight on body satisfaction,  $\chi^2(2, N = 58) = 1.23, p = .54$ . For Caucasian children, 18 (69.2%) were normal weight and 8 (30.8%) were overweight or obese. Of the Caucasian children of normal weight, 11 (61.1%) wanted to be smaller, 4 (22.2%) wanted to be larger, and only 3 (16.7%) were satisfied with their body size. Among the overweight and obese Caucasian children, 7 (87.5%) desired a smaller body size, whereas 1 (12.5%) wanted to stay the same body size. There was no difference between Caucasian children of normal weight and those overweight and obese on body satisfaction,  $\chi^2(2, N = 58) = 2.40, p = .30$ . Likewise, no difference existed between the proportion of African American and Caucasian children of normal weight wanting to have a smaller body size,  $\chi^2(2, N = 58) = .18, p = .67$ .

*Race and Gender Effects on Child Body Image.* Mean perceived current body size, ideal body size, and body satisfaction scores for child participants by race and gender are presented in Tables 6 and 7. After controlling for child BMI, there was no Race x Gender interaction,  $F(2,52)=.51, p=.61$ , or main effect for race,  $F(2,52)=1.21, p=.31$ , or gender,  $F(2,52)=1.02, p=.37$ , when child's perceived current body size, ideal body size, and body satisfaction were considered together.

*Child Perceived Current and Ideal Body Size.* Follow-up 2 x 2 (Race x Gender) univariate ANCOVAs found no Race x Gender interaction on perceived current body size,  $F(1,53)=.19, p=.66$ , or ideal body size for self,  $F(1,53)=.98, p=.33$ . Although not significant, Figure 2 suggests that African American boys had a larger ideal body size compared to their Caucasian counterparts; however, African American girls had a smaller ideal body size compared to Caucasian girls. There were no main effects for race on current perceived body size,  $F(1,53)=1.57, p=.22$ , or on ideal body size,  $F(1,53)=.43, p=.52$ . There were no main effects for gender on perceived current body size,  $F(1,53)=.56, p=.46$ , or on child ideal body size,  $F(1,53)=1.86, p=.18$ .

*Child Body Satisfaction.* When follow-up 2 x 2 (Race x Gender) univariate ANCOVAs were conducted, no Race x Gender interaction emerged,  $F(1,53)=.27, p=.61$ . There were no main effects for race,  $F(1,53)=2.20, p=.14$ , or for gender,  $F(1,53)=.37, p=.55$ . Caucasian children tended to be less satisfied with their bodies and wanted to be thinner as indicated by a larger negative mean discrepancy score compared to African American children. Table 8 summarizes race and gender differences on child body image variables. Overall, children in this study tended to want to be thinner, regardless of race

or gender, as indicated by the mean negative discrepancy scores observed among African American and Caucasian boys and girls.

### **Hypothesis Two: Does Parental Acculturation and Racial Identity Relate to Child and Parent Body Image?**

Racial identity and acculturation data are presented in Tables 9 through 12. Table 9 presents correlations between African American mothers' acculturation and demographic variables for both child and parent. In the present study, 32 African American mothers completed the AAAS-R, with a total mean score of 207.16 ( $SD=32.78$ , Range = 125 – 258).

*African Americans and Acculturation.* Pearson's  $r$  correlations yielded significant relationships between acculturation and mothers' weight,  $r=-.57, p<.01$ , and BMI,  $r=-.56, p<.01$ , such that as acculturation increased, African American mothers' weight and BMI tended to decrease. A positive correlation existed between parent age and acculturation such that older African American mothers tended to be less acculturated,  $r=.39, p<.05$ . For African American child participants, there was a relationship between mothers' acculturation and child BMI such that as mothers' acculturation increased, child BMI decreased,  $r=-.37, p<.05$ .

*Parent Acculturation and Child Body Image.* Correlational data for African American parental acculturation and body image for child and parent are presented in Table 10. When looking at the relationship between mothers' acculturation and child body image measures, no significant correlation emerged for current body size,  $r=-.13, p=.50$ , ideal body size,  $r=-.09, p=.63$ , or body satisfaction,  $r=.03, p=.85$ .

*Parent Acculturation and Parent Body Image for Child.* Degree of African American mothers' acculturation was not significantly related to mothers' perceived



current body size,  $r = -.27$ ,  $p = .16$ , ideal body size,  $r = .00$ ,  $p = .99$ , or body satisfaction,  $r = .28$ ,  $p = .14$ , for their child.

Analyses of the relationships between the acculturation subscales and African American child and parent body image factors are presented in Table 10. For African American mothers, the subscale of preference for African American things was positively related to body satisfaction for their child. As preference increased, body satisfaction increased, meaning that mothers tended to want their children to be bigger,  $r = .43$ ,  $p < .05$ . There was also a trend for a positive correlation between preference and mothers' ideal body size for child,  $r = .34$ ,  $p = .07$ . Mothers who preferred African American things tended to have a larger body ideal for their child.

*Parent Acculturation and Parent Body Image for Self.* African American mothers' acculturation was not significantly related to mothers' perceived ideal body size,  $r = -.29$ ,  $p = .12$ , or body satisfaction,  $r = .13$ ,  $p = .52$ , for self. However, there was a trend for a negative correlation between acculturation and mothers' perceived current body size such that as acculturation decreased, mothers' perceived body size for self increased,  $r = -.32$ ,  $p = .09$ .

*Acculturation Subscales and Parent/Child Body Image.* The preference for African American things subscale was also correlated with African American mothers' body image indices for self. As preference increased, African American mothers' perceived current body size for self,  $r = -.45$ ,  $p < .05$ , and ideal body size for self,  $r = -.38$ ,  $p < .05$ , tended to decrease. African American mothers' perceived themselves as smaller and wanted to have a smaller body even when preferring black activities. No other acculturation subscales were correlated with either parent or child body image indices

(see Table 10). However, there was some evidence that ascribing to African American ideals, values, and beliefs may still lead to comparable thinner body ideals traditionally seen among Caucasian populations.

Correlations between African American child and parent demographic variables with acculturation subscales are also presented in Table 9. Pearson's  $r$  correlations found no significant relationships between African American mothers' degree of adoption of traditional religious beliefs, family practices or values and child age, weight, or BMI. An inverse relationship existed between mothers' adoption of African American superstitions and health practices and child BMI,  $r = -.53, p < .05$ , and,  $r = -.39, p < .05$ , respectively.

For African American mothers, as preference for African American things,  $r = -.53, p < .05$ , and support of racial segregation,  $r = -.40, p < .05$  increased, mothers' BMI decreased. Inverse relationships were also found between mothers' weight and traditional African American health practices,  $r = -.39, p < .05$ , preference of African American things,  $r = -.42, p < .05$ , as well as traditional views of segregation,  $r = -.49, p < .05$ .

*Eating Behavior By Acculturation for African American Parents.* Pearson's correlations for eating behavior and African American mothers' acculturation are presented in Table 11. There were no significant correlations between acculturation and any eating behavior measure.

*Racial Identity and Body Image in Caucasians.* Correlations between racial identity and body image are presented in Table 12. Caucasian mothers' mean score was 151.41 ( $SD = 8.51$ ) and participants fell in either the Autonomy (54.5%,  $n = 12$ ), Pseudo-independent (36.4%,  $n = 8$ ) or Contact (9.1%,  $n = 2$ ) stages of racial identity, with a

majority reporting a more advanced development of White racial identity and a greater acceptance of White culture.

Correlations were found between White racial identity and mothers' perceived current body size for their child ( $r = -.61, p < .01$ ) and body satisfaction for child,  $r = .58, p < .05$ , such that as White racial identity increased mothers' perceived current body size for their child decreased, whereas body satisfaction for their child increased. The Contact stage of White racial identity was correlated with mothers' body satisfaction such that increased confusion of White identity tended to be associated with decreased body satisfaction among mothers,  $r = -.46, p < .05$ . There was a trend for a relationship between confusion of white identity and perceived current body size for mothers,  $r = .37, p = .09$ . With increased confusion of White racial identity, Caucasian mothers tended to perceive their current body size as larger. As intellectual acceptance of Whiteness increased (i.e., Pseudo-independent stage), mothers' body satisfaction for their child increased,  $r = .49, p < .05$ , and perceived current body size for child decreased,  $r = -.51, p < .05$ . The Autonomy stage was significantly correlated with child's perceived current body size such that as complete acceptance of White culture increased, child's perceived current body size for self decreased,  $r = -.54, p < .05$  (see Table 12).

*Racial Identity and Body Image in African Americans.* The majority of African American mothers were in the Internalization phase of racial identity (62.1%,  $n=18$ ), whereas 27.6% of African Americans were in the Emersion phase ( $n=8$ ), and the remaining 10 percent were in either in the Encounter ( $n=2$ ) or Immersion ( $n=1$ ) stages. This indicated that a majority of African American mothers had an increased level of joy, contentment, and commitment to their own racial group. African American mothers'

mean total Black racial identity score was 137.72 ( $SD= 14.93$ ). Pearson's correlations found that Black racial identity total score was not significantly related to any demographic or body image factor, but was significantly correlated with total acculturation score such that as black racial identity increased, acculturation score increased (i.e. increased adoption of traditional African American values and beliefs),  $r=.39, p< .05$ .

Correlations between Black racial identity stages and body image indices are presented in Table 12. There were no significant correlations between mothers' racial identity and body image factors for parent or child participants. The Encounter stage was not correlated with any body image indices for parent or child. The Immersion stage, the psychological withdrawal into Black society and culture was significantly related to increased mothers' satisfaction for child,  $r=.41, p< .05$ . There were trends for negative relationships between immersion and mothers' perceived current body size for self,  $r=-.34, p=.07$  such that increased withdrawal of Black culture tended to be associated with mothers' perceiving their current body size as smaller. The Emersion stage was not related to any child or mother body image variable. The last stage of Black racial identity, Internalization, was not correlated with any body image factors for mothers or children (see Table 12).

### **Hypothesis Three: Is Parent Body Image Related to Child Body Image?**

*Mothers' Body Satisfaction for Self.* Descriptive data for mothers' body image indices are presented in Tables 13, 14, & 14a. Overall, the majority of mothers desired to have a smaller body size (78.4%,  $n=40$ ). By race, a similar proportion of African American and Caucasian mothers wanted to be smaller, 79.3% ( $n=23$ ) and 77.3% ( $n=17$ ),

respectively. Likewise, 13.8% ( $n=4$ ) of African American mothers and 22.7% ( $n=5$ ) of Caucasian mothers wanted their bodies to stay the same size. Two African American mothers (6.9%) wanted a larger body size, whereas none of the Caucasian mothers desired a larger body size. There was not a significant difference in the proportion of African and Caucasian mothers wanting to be smaller, larger, or stay the same body size,  $\chi^2(2, n= 51)= 2.09, p= .35$ .

Body satisfaction for self among African American and Caucasian mothers was analyzed within the context of their BMI (i.e. normal or elevated). Not surprisingly, a greater percentage of Caucasian mothers, despite having a normal BMI wanted to be smaller as compared to African American mothers, 40.9% ( $n=9$ ) versus 6.9 ( $n=2$ ), respectively. Only one African American mother was overweight and desired to have a larger body size, whereas all the Caucasian mothers who were overweight desired to be smaller ( $n=8$ ; see Tables 14 & 14a).

Correlational analyses determined relationships between mothers' BMI and perceived current body size,  $r= .73, p< .01$ , ideal body size,  $r= .44, p< .01$ , and body satisfaction,  $r= -.55, p< .01$ , for self. Mothers' weight was also related to mothers' perceived current body size,  $r= .69, p< .01$ , ideal body size,  $r= .38, p< .01$ , and body satisfaction,  $r= -.50, p< .01$ , for self. As mothers' BMI and weight increased, mothers' perceived current body size and ideal body size for self increased, whereas satisfaction score became more negative signifying a desire to be thinner.

*Mothers' Body Satisfaction for Child.* Table 15 reports descriptive data for mothers' body satisfaction for their child. A majority of the mothers were satisfied with their child's body size, with 70.6% ( $n=36$ ) of mothers reporting that they wanted their

child to stay the same body size. By race, 58.6% ( $n=17$ ) of African American and 86.4% ( $n=19$ ) of Caucasian mothers wanted their child to be same body size. Interestingly, 34.5% ( $n=10$ ) of African American mothers wanted their child to have a larger body size, whereas only 13.6% ( $n=3$ ) of Caucasian mothers desired a larger body size for their child. Two (6.9%) African American mothers wanted their child to have a smaller body size, whereas none of the Caucasian mothers wanted their child to be smaller. There was a trend for a significant difference in the proportion of African American and Caucasian parents who wanted their child to be either smaller, larger, or the same body size,  $\chi^2(2, n=51)=5.01, p=.08$ .

When taking child's BMI into account in the analyses of mothers' body satisfaction of their child, interesting findings emerged. Seven (31.8%) Caucasian mothers and 7 (24.1%) African American mothers wanted their child to stay the same, even when their child was overweight. Nearly 21% ( $n=6$ ) of African American mothers wanted their normal weight child to be larger, whereas only 13.6% ( $n=3$ ) of Caucasian mothers wanted their normal weight child to be larger. Only one African American mother wanted their normal weight child to be smaller (see Tables 16 & 16a).

*Racial Differences in Mothers' Body Image.* The MANCOVA, controlling for mother BMI, revealed no main effect for mothers' race on parental body image indices for self,  $F(2,47)=.81, p=.45$ .

A follow-up univariate ANCOVA determined there was no main effect on parent race on mothers' current perceived body size,  $F(1,48)=.70, p=.41$ , ideal body size,  $F(1,48)=.51, p=.48$ , or body satisfaction,  $F(1,48)=1.64, p=.21$ , for self. Independent of race, mothers' BMI had a significant effect on mothers' body image factors,  $F(2,47)=$

24.12,  $p < .01$ , such that increased BMI increased perceived current body size and decreased body satisfaction.

*Parent Body Image for Child.* MANCOVA, controlling for child BMI, revealed no main effect for parent on race,  $F(2,47) = .66$ ,  $p = .52$ . Follow-up univariate analyses determined that there were no main effects for parent race on mothers' perceived current body size,  $F(2,47) = 1.31$ ,  $p = .26$ , ideal body size,  $F(2,47) = .13$ ,  $p = .72$ , or body satisfaction,  $F(2,47) = .89$ ,  $p = .35$ , for their child. Table 17 presents mean scores, p-values, power, and effect sizes for mothers' body image for self and their child.

*The Relationship between Child/Parent BMI and Body Image.* Correlational data for BMI and body image indices are presented in Table 18.

*Parent and Child BMI and Weight.* There was a correlation between child's weight and mothers' weight such that as mothers' weight increased so did children's weight,  $r = .31$ ,  $p < .05$ . There was a trend for a positive relationship between parent BMI and child BMI,  $r = .24$ ,  $p = .08$ .

*Parent and Child Perceived Current Body Size.* There was a positive relationship between child perceived current body size and mothers' perceived body size for their child such that child's perceived body size increased, mothers' perceived current body size for their child tended to increase,  $r = .31$ ,  $p = .01$  (see Table 18). No association was found between child perceived current body size for self and mothers' perceived body size for self,  $r = .09$ ,  $p = .55$ . Moreover, there was no relationship found between mothers' perceived current body size for self and mothers' perceived current body size for their child,  $r = .02$ ,  $p = .88$ . Among Caucasian mothers, child BMI was related to mothers' perceived current body size such that as child's BMI increased, parent's perception of

child's body size increased,  $r = .45, p < .05$ . This relationship was not found among African Americans,  $r = .22, p = .24$  (see Tables 4 & 5, respectively).

*Parent and Child Ideal Body Size.* Table 18 presents correlations between mother and child ideal body size. There was no relationship between child's ideal body size for self and mothers' ideal body size for self,  $r = -.19, p = .18$ . No relationship existed between mothers' ideal body size for self and mothers' ideal body size for their child,  $r = .14, p = .35$ . Likewise, there was no association found for child's ideal body size for self and mothers' ideal body size for their child,  $r = .20, p = .16$ . Tables 4 and 5 present these correlational data by race. Similar relationships were found between child ideal body size for self and mothers' ideal body sizes for self.

*Parent and Child Body Satisfaction.* No relationship existed for child's body satisfaction for self and mothers' body satisfaction for self,  $r = .14, p = .35$ , or mothers' satisfaction for self and mothers' body satisfaction for their child,  $r = -.02, p = .91$ . There was a relationship between child's body satisfaction for self and mothers' body satisfaction for their child such that mothers' body satisfaction for their child increased, child's body satisfaction tended to increase as well,  $r = .33, p < .05$  ( see Table 18). Within each race, no significant relationships existed between child and mother body satisfaction (see Tables 4 and 5).

#### **Hypothesis Four: Do Parental Eating Behaviors Correlate with Child Body Image?**

Self-reported eating behaviors for mothers by race and their correlations with child and parent body image indices are presented in Tables 19 and 20, respectively.

*Parental Race and Parental Eating Pathology.* After controlling for mother BMI, a main effect for parent race was found on eating behavior indices (i.e., EDI total score and subscales, TFEQ-R, DEBQ and DEBQ-R),  $F(7,42) = 3.32, p < .01$ . Caucasian



mothers engaged in more disordered eating behaviors compared to African American mothers.

When follow-up univariate ANCOVAs were conducted, a main effect for mothers' race was found for EDI total,  $F(1,48)= 8.13, p<.01$ , drive for thinness,  $F(1,48)= 3.92, p= .05$ , body dissatisfaction subscale,  $F(1,48)= 5.58, p< .05$ , or restrained eating,  $F(1,48)= 4.07, p< .05$  and  $F(1,48)= 9.75, p< .01$  as measured by the TFEQ- R and DEBQ-R, respectively. However, there was no main effect for parent race on bulimic behavior,  $F(1,48)= 2.32, p= .13$ . Not surprisingly, Caucasian mothers reported more pathological eating behaviors and restrained eating, a greater drive for thinness, and less body satisfaction than their African American counterparts (see Table 19).

*Demographics and Eating Behaviors.* There was no correlation between mothers' BMI and disordered eating,  $r= .19, p= .19$ , but there was a trend for a relationship between mothers' eating pathology and child BMI,  $r= .25, p= .07$ . Child's BMI tended to be higher as mothers' eating pathology increased. Mothers' BMI was only correlated with mothers' bulimic behaviors,  $r= .50, p< .01$  (see Table 20).

*Parental Eating Behavior and Child Body Image.* Contrary to the hypothesis, mothers' eating pathology, as measured by the EDI, was not correlated with child's perceived current body size for self,  $r= -.09, p= .51$ , ideal body size,  $r= .01, p= .92$ , or body satisfaction,  $r= -.06, p= .68$ . The EDI subscales (drive for thinness, bulimic behavior, and body satisfaction) were not correlated with child's perceived current body size, ideal body size, and body satisfaction (see Table 20). Mothers' restraint eating, as measured by the TFEQ-R, was not correlated with child's perceived current body size,

$r = .08, p = .59$ , ideal body size,  $r = -.17, p = .23$ , or body satisfaction,  $r = -.19, p = .18$ . The predictions that parental eating pathology would be inversely related to child's ideal body size and to child's body satisfaction were not supported.

*Parental Eating Behavior and Parent Body Image for their Child.* Mothers' eating pathology, as measured by the EDI, was not correlated with mothers' perceived current body size for their child,  $r = .06, p = .68$ , ideal body size for their child,  $r = .01, p = .93$ , or body satisfaction for their child,  $r = -.06, p = .70$ . The EDI subscales (drive for thinness, bulimic behavior, and body dissatisfaction) were not correlated with mothers' perceived current body size, ideal body size, or body satisfaction for their child (see Table 20). Mothers' restraint eating, as measured by the TFEQ-R, was not correlated with parents' perceived current body size,  $r = .01, p = .96$ , ideal body size,  $r = -.21, p = .14$ , or body satisfaction,  $r = -.18, p = .21$ , for their child.

*Parental Eating Behavior and Parent Body Image.* Mothers' eating pathology, as measured by the EDI, was not correlated with mothers' perceived current body size,  $r = .20, p = .16$ , or ideal body size,  $r = -.09, p = .53$ , for self. However, EDI total score was correlated with mothers' body satisfaction for self,  $r = -.30, p < .05$ , such that as mothers' body satisfaction decreased, disordered eating increased. In addition, mothers who perceived themselves as bigger were more likely to engage in bulimic behaviors,  $r = .48, p < .01$ . Mothers' ideal body size for self was not correlated with the mothers' body satisfaction,  $r = -.22, p = .13$ , drive for thinness,  $r = -.13, p = .36$ , or bulimic behavior,  $r = .22, p = .12$ . Body satisfaction among mothers was related to mothers' scores on the drive for thinness,  $r = -.35, p < .05$ , bulimic behaviors,  $r = -.38, p < .01$ , and body satisfaction,  $r = -.28, p < .05$ , subscales. As mothers' satisfaction scores became more negative (i.e.,

mothers wanted to be thinner), drive for thinness, engagement of bulimic behaviors, and body dissatisfaction subscale scores increased.

Restraint eating, as measured by the TFEQ-R was correlated with mothers' perceived current body size for self,  $r = .28, p < .05$ . Restraint eating as measured by the TEEQ-R,  $r = -.33, p < .05$ , and DEBQ-R,  $r = -.31, p < .05$  was also correlated with mothers' ideal body size for self. As mothers' ideal body size for self decreased, restrained eating tended to increase. Body satisfaction for self among mothers was related to restrained eating behavior as measured by the TFEQ-R,  $r = -.54, p < .01$ , and DEBQ-R,  $r = -.43, p < .01$ , such that as mothers' body satisfaction scores became more negative (i.e mothers wanted to be thinner), restrained eating tended to increase.

## **DISCUSSION**

### **Body Image Among African American and Caucasian Children**

Results from the present study suggest that African American and Caucasian 1<sup>st</sup>-graders did not differ in perceived current body size, ideal body size, or degree of body satisfaction. Moreover, the results suggest that African American children were ascribing to thin body ideals and were as dissatisfied with their bodies as Caucasian children. Several sociocultural factors may provide an explanation for these findings.

The influence of the YMCA and its focus on health and fitness may have played a role. Affiliation with the YMCA organization may create an environment that places increased pressure on children to be thin and to ascribe to thinner body ideals, given the preponderance of direct and indirect health-related messages inherent within this organization. The consequence of being in such an environment may be that these children, regardless of race or gender, internalize both the explicit and implicit messages

underlining the YMCA's culture, which may promote the development and maintenance of an mentality that "thin is in" and that thin is attractive, desirable, or healthy. The identification of thinner body ideals and elevated body dissatisfaction among these young children could be the manifestation of the YMCA's inherent emphasis on weight and one's body.

Children adopting thinner body preferences and manifesting less satisfaction with their bodies may be further reinforced by society's pressure to be thin, with its pervasive message that thin is pretty, and fat is ugly. Such pressure may indeed supercede traditional racial differences regarding body ideals and body satisfaction. Future research should examine the "meaning" of thinness among children of different ethnic groups and how such meanings translate into body satisfaction in this population.

As previously mentioned, it is possible that children, as well as adults, internalize society's pressure to be thin and desire such body types. The appreciation of the role of the media in manifesting and perpetuating these body ideals also needs to be considered (Cusumano & Thompson, 2000). Traditionally, African American personalities in the media have had more shapely and curvaceous body types, which may aid in the adoption and reinforcement of larger body ideals and generally resulted in less body dissatisfaction among the African American community. Historically, all body types, especially larger body sizes, were celebrated and embraced by African American culture, possibly leading to body acceptance independent of one's shape and weight.

However, African American body types in the media have dramatically changed in the last decade. With thinner African American celebrities such as Halle Berry, Naomi Campbell, and Tyra Banks being prominent in media and their bodies representing

beauty and defining attractiveness, a shift might be occurring in what body ideals are preferred and internalized by African American adults and children. Young African American girls may begin to compare their bodies with these thinner media personalities, which may foster greater body dissatisfaction, weight concerns, and facilitate adoption of thinner body ideals. This trend may result in a broader range of ideal body sizes preferred by African American women and children. Moreover, if thinner body ideals begin to be internalized by young African American children, there may be an emergence of body image disturbances, weight preoccupation, and eating disorders, traditionally not seen in this population. The general adoption of larger body ideals and decreased body dissatisfaction may be less of a reality for African Americans children compared to past generations, given the differences in body types in the media. Thus, this population may now be less protected against eating pathology and at greater risk for overweight and obesity. It is possible that the initial beliefs surrounding the African American culture and its norms regarding body preferences and dissatisfaction may not be as clear-cut as previously proposed. Consequently, this may mean that to be of African American descent may no longer serve as a protective factor in reducing body image disturbance even among young children.

Additionally, there has been some literature examining the effects of children's toys on body image and weight concerns (Brownell & Napolitano, 1994; Nichter & Nichter, 1991). Increased exposure to toys such as Barbie dolls among both African American and Caucasian girls may further reinforce definitions of attractiveness, which include thinner body types, and result in pressure to emulate such ideals. The influence of Black Barbie and her inherent reinforcement of traditional Euro-American views of

attractiveness, centered around body, weight, and shape, may influence African American children's beliefs and value system regarding beauty ideals and attractiveness. This formulation may result in African American children ascribing to body ideals similar to Caucasian children, given that toys such as Barbie are perpetuating thinner body preferences in both groups.

Another factor that may account for African American and Caucasian children displaying comparable levels of body dissatisfaction and similar body ideals in the current study may involve peer and social pressure to be thin. There is evidence that social comparison occurs as early as 1<sup>st</sup>-grade, probably explaining why even very young children are acutely aware of who among their peers is overweight, and whether they themselves are overweight (Ruble, 1983). The social comparison among young children with regard to weight and body shape may be compounded by children's awareness of the negative valence associated with being overweight or with being perceived as overweight by one's peer group in various environments (e.g. school, home, or the YMCA). Furthermore, it has been shown that girls tend to believe that to have a thinner body translates to social acceptance and peer approval (Oliver & Thelen, 1996). This belief system, consequently, may lead to increased weight concerns and preoccupation. The phenomenon of weight and body type social comparison may transcend cultural beliefs of body ideals at this age. Avoidance of peer teasing and fear of social isolation may be more salient and powerful reinforcers, and possibly supercede any culture beliefs regarding body preferences and ideals. One could speculate that at the age of 6 (i.e. first-grade), African American children experience comparable pressure to conform to peer ideals regarding their body and weight and have not yet completely identified and

internalized traditional cultural views and definitions of attractiveness. As a result, the majority culture's views of beauty, through social learning paradigms, have also trickled down to African American children, given the power of peer acceptance and inclusion.

At this point, it is important to discuss the effects of integration of the African American community with the majority culture. The mere opportunity to engage and interact with different cultures may have several consequences. First, it is possible that the definition of peer group has dramatically changed for African Americans. With increased affluence and integration among African Americans families into the mainstream, there may be differences in what groups are labeled as the "peer group." Racial distinctions may no longer be sufficient in the demarcation of peer group status. As the definition of the peer group changes, so may the values, beliefs, and ideals of the African American culture.

Secondly, it is possible that the African American children in this study, had more opportunities at school, the YMCA, or at home to interact with persons of the Caucasian culture as compared to African American children from different geographic locations or a different age cohort. This geographic area provides a unique opportunity to interact with many different cultures, possibly creating an environment that facilitates the integration of ideals based on the views of multiple cultures. Increased engagement with the mainstream population may influence body ideals and acceptance. As the peer group begins to change for African American children and families, their views of attractiveness and beauty may change as well.

### Parental Factors and Child Body Image

Children may also learn elements of body image from their parents. The younger the child, the more parental ideals, values, and beliefs shape the child's behaviors. Additionally, parental influence tends to be the primary contributor of behavior in younger children (Smolak & Levine, 2001). Therefore, this study attempted to delineate the degree to which parental factors influenced child body image.

*Parent and Child Body Image.* Regarding parent body image and its influence on child body image, the data suggested that both African American and Caucasian parents, in general, ascribed to thinner body ideals and were dissatisfied with their bodies, possibly due to some of the factors mentioned above. Moreover, there were no differences between mothers and fathers on most body image indices. However, fathers selected a larger ideal body size compared to mothers, despite having smaller BMIs. This could be the result of societal influence and pressure for women to be thin and attractive, whereas it is more socially acceptable for men to be larger, denoting strength and power. Significant correlations did not emerge between child and parent body image, although parent and child BMI were related. This provides some evidence for the role of behavioral, biological, and sociocultural factors on the contribution of parent weight on the family system, specifically with regard to the child's weight.

Parental body image appeared to be more significantly related to other factors including parent's BMI, years of education, and age, with increased weight, education, and decreased age leading to more dissatisfaction and thinner body ideals. However, it is important to acknowledge that children may still pick up the overt and covert cues of body attractiveness and desirability provided by their parents. It has been well



documented that mothers or fathers who disapprove of their child's weight or body make their child more sensitive to cues regarding body ideals and dissatisfaction (Hill, Weaver, & Blundell, 1990; Smolak, Levine & Schermer, 1999; Striegel-Moore & Kearney-Cooke, 1994). This phenomenon is more likely to occur between mothers and daughters, given societal gender-specific body ideals and greater pressure on women to be thin (Thelen & Cormier, 1995). The present study determined that parents were generally satisfied with their child's body size. It is possible that with increasing age, these children will begin to receive greater pressure from their parents to conform to society's standards and to their own body preference, given the known stigma associated with being overweight. Increased pressure to conform to certain body ideals with increasing age was observed in a longitudinal study conducted by Striegel-Moore & Kearney-Cooke, 1994.

Parental modeling of weight concerns may also contribute to body esteem issues in children as young as 5 years old (Davison et al, 2000). When parents remark negatively about their own bodies, the child may begin to identify with and internalize negative body ideals. Parents' preoccupation with body size and weight and accompanying food restrictive behaviors may be learned by children through indirect and direct exposure to parents' negative thoughts, emotions, and behaviors associated with weight control and body attractiveness. The present data suggest that African American mothers were as dissatisfied with their bodies as their Caucasian counterparts and wanted to be thinner than their current body size. It is important to note, however, that a majority of the African American parents were obese (50%). Therefore, some degree of the body dissatisfaction would be warranted. Yet, despite only 11.5% of Caucasian parents being obese, Caucasian parents were just as dissatisfied with their bodies as

African American parents, providing some evidence that there is increased pressure to be thin among Caucasians, even among normal weight Caucasian adults, given their cultural definitions of beauty and attractiveness. A child's body image may be a reflection of the body ideals and definitions of body attractiveness held by parents. Furthermore, parents may create and sustain a "culture" of weight and body consciousness for themselves that is internalized by the child and is further reinforced by body ideals and preferences gained from the child's peer group, the media, and, in this case, the YMCA.

*Racial Identity and Acculturation.* Overall, significant relationships were not found between parental racial identity and parent or child body image indices. An interesting finding emerged such that as Caucasian parents became more accepting of their "Whiteness," ideal body size for self decreased. It is possible that definitions of ideal body size and shape are pervasive components of Caucasian culture that increased Whiteness inherently increases the adoption of thinner body ideals and preferences. Part of the evolution of culture acceptance for Caucasians may involve the integration of thoughts and beliefs that body appearance is a fundamental part one's self-worth and an essential element of personal attractiveness and beauty.

On the other hand, for African Americans, definitions of attractiveness may not entirely focus on the body shape and size, but likely involve a more comprehensive definition, including factors such as overall personal presentation and professional competency and success. However, in this study, increased racial identity among African American was not associated with decreased body image or eating pathology. Moreover, racial identity was not related to most of the child body image indices. Nevertheless, as African American parents' racial identity increased, parent ideal body size for child

increased suggesting that greater acceptance of “Blackness” regulates parents’ preference of what body sizes are acceptable and desirable for their children. Embracing of the Black culture may involve understanding and celebration of different body types among their children.

With regard to acculturation, negative correlations emerged between parent BMI, body image indices, and acculturation. These findings support speculation that degree of acculturation may serve as a moderator between culture and body ideals and body weight among African Americans. It is possible that definitions of body ideals and body preferences may be significantly influenced by the degree to which the individual identifies with African American beliefs, values, and ideas. Particularly interesting, decreased parental acculturation was associated with a decrease in child BMI, current perceived body size, and ideal body size. It appears that being of African American descent and ascribing to African American traditions may no longer protect one against the process of adopting body ideals traditionally seen among Euro-Americans. This phenomenon may partly explain the lack of differential findings among African American and Caucasian children and parents regarding body image. It is probable that the continuous, dynamic nature of the definition of African American culture may not be adequately captured or assessed by available measures. The behaviors historically displayed by African Americans may no longer exemplify what “traditional” African American culture represents. One result may be that the belief systems among African American adults regarding body preferences and attractiveness may be in constant evolution, with similar changes in body ideals being experienced by African American youth.

*Eating Behaviors.* In the current investigation, parental eating behaviors were more closely associated with their own body image than their child's body image. Eating pathology tended to increase with increasing weight and perceived current body size across both races and genders. Parents were more likely to desire to be thinner, engage in food compensatory and restrictive behaviors, and be dissatisfied with their bodies, when they viewed themselves as deviating from the definitions of beauty that they have adopted and internalized as acceptable. As African American parents begin to adopt a broader range of ideal body sizes, specifically, thinner body ideals, disordered eating behaviors and weight and body size preoccupation may become more prevalent within the African American community. Increased adoption of thinner body ideals may develop as part of the evolving definition of attractiveness within the African American population. Although, African Americans may still endorse a multi-factorial definition of beauty, the body attractiveness element of that definition may become more salient for African Americans as this population becomes more affluent and has increased exposure to various cultures and their accompanying ideals.

It appears that parents' eating behaviors, as a consequence of body image pathology, does not trickle down to the child. The parent may understand that the negative evaluation of their weight and body is self-regulated, and therefore attempt to protect the child from such pathology. However, with increasing age, the child may begin to pick up on parental eating behaviors and the motivations underlining such practices, thereby influencing the child's eating behavior and body image. Initially, the child may interpret certain parental eating behaviors as "healthy," but with increasing

maturity and insight may begin to view eating as a primary mechanism to control weight, have a more beautiful body, and gain self-acceptance and approval from others.

This study determined that parental factors such as parent body image, racial identity and acculturation, and eating practices had minimal influence of children's body image. It is possible that 1<sup>st</sup>-graders have not yet fully assimilated to their culture and the family system where most behaviors develop and persist. The result may be that children at this young age, independent of race or gender, are less affected by parental influences or cues regarding body ideals, but are more attentive to peer group and media definitions of beauty and attractiveness.

### **LIMITATIONS**

The findings of this study should be considered in the context of some of the study limitations. First, this study was underpowered. Gpower, the statistical power program utilized, determined that 95 African American and 95 Caucasian children, equally distributed by gender, would be needed to find true racial and/or gender differences. It is possible that with sufficient power, Race x Gender interactions and gender and race main effects on body image in children may have been identified. However based on Cohen's effect size criteria, the present study's effect sizes regarding racial differences on body image ranged from .008 to .040 indicating, at most, a small effect of race on body image in these children. Likewise, effect sizes for gender differences on body image yielded similar results, with effect sizes ranging from .007 to .034. Inspection of the effect sizes provide some evidence that, independent of the sample size issue, true gender or race differences may not exist within this specific population.

The second limitation involved the proportion of mothers ( $n= 51$ ) versus fathers ( $n= 7$ ) who participated in the study. To date, there is inconclusive evidence of the effects mothers and fathers may have on children's body image, and the role each parent plays in the development and maintenance of views of attractiveness. However, there is a consistent body of literature to show the differential occurrence of eating and body image pathology in adults by gender (APA, 1994). Such variability may result in differences in children's body image; however, with an unequal representation of mothers and fathers, these comparisons could not be analyzed.

The next study limitation involved the data collection methodology. In this investigation, a convenience sample, obtained from YMCA centers, was used. It is possible that the YMCA and its focus on health, fitness, and physical activity may have biased participants' responses. This was illustrated by the fact that a majority of the children in the study (61%), despite, on average, being of normal weight, wanted to be thinner. Moreover, 93% of the parents tended to want to be thinner. The culture of the YMCA may create an environment whereby its families are more aware of issues surrounding weight and body image compared to the general population. A more thorough investigation of racial and gender differences in child body image would have obtained data from a random sample of 1<sup>st</sup> graders and their parents in a more neutral environment such as schools or churches. This would result in a more representative sample; thus, improving the study's external validity and generalizability.

Another weakness of the current study was the fact that only one measure was used to assess child body image, the Child Silhouette Scale (Collins, 1991). In order to be confident that the construct of child body image was accurately assessed, more

measures should have been administered. However, one of the shortcomings of this area of research lies in the insufficient number of figural and non-figural questionnaires available to assess body image among this preadolescent population. Body image in children is typically assessed by the administration of figural stimuli, which only measures the perceptual component of body image neglecting the attitudinal and emotional components of body image. Nevertheless, research in this area often labels the responses gained from such figural measures as “body image.” The development of more comprehensive measures that assess all the components of body image is pivotal given the empirical evidence indicating that the incidence of body image disturbances is increasing among younger children.

### **FUTURE STUDIES**

Given the present study’s results, several future studies may provide a more thorough understanding of body image among young children. Future investigations should attempt to delineate and operationalize the meaning of attractiveness and beauty across ethnicity and cultures in both adults and children. Currently, no studies have attempted to define attractiveness across ethnicity. Furthermore, research in this area tends to make broad conclusions about the apparent differences in body dissatisfaction and body ideals among African American and Caucasian adults without investigating the specific component of attractiveness that may play a role in racial differences in body image. Clear definitions of beauty and attractiveness across various ethnic groups will allow for more sophisticated analyses of body image disturbances among parents and their children.

Although the present study did not find race or gender differences in children's body image, it is critical to determine what other variables may play a role. Future studies should examine the effects of peer groups and the media on body image among young children. Such factors may be most predictive of body image at this age. Longitudinal investigations should determine what factors are most salient for children with regard to body ideals and dissatisfaction at various stages of development. Parental racial identity, parent body image, and parental eating behavior did not appear to be significantly related to child body image in this study. However, follow-up studies should examine the effects of these variables and other parental factors such as socioeconomic status, family dynamics (e.g. number and gender of older siblings, parental attention, familial physical activity), and residential location on child body image indices. Such relationships could inform possible educational and therapeutic interventions.

The present study suggested that decreased assimilation to the beliefs, values, and ideals of mainstream culture and the endorsement of traditional African American values does not necessarily translate into decreased body image pathology and dissatisfaction. Studies should be conducted to determine what African American culture means to African American adults and what the experience of endorsement of their culture involves. Obtaining this information may assist in understanding the relationship between cultural identity, acculturation, and body image among African Americans. Moreover, definitive answers to these types of question will enable future research to examine how cultural identity contributes to and influences body image in younger children.



## **CONCLUSIONS**

The current investigation examined differences between African American and Caucasian 1<sup>st</sup>-grade boys and girls in perceived current body size, ideal body size, and body dissatisfaction. In general, race and/or gender did not produce differential effects on these dependent variables. In addition, the effects of several parental factors (e.g. racial identity and acculturation, body image, and eating behavior) on child body image were explored. It was determined that child body image was not significantly correlated with parent factors. However, conclusions of the present study are limited by methodological flaws. Future studies that address some of the weakness of the current study should be conducted to better determine whether true racial and gender differences exist among young children and what factors are most predictive of body image in this population. Moreover, follow-up investigations should involve further delineation of the role of parental factors on child body image, given empirical support from other studies suggesting that parental behavior is particularly salient in the development and maintenance of a child's thoughts, beliefs, and behaviors at this age.

Appendix A  
Demographics

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

ID#: \_\_\_\_\_

**Child Information:**

Sex: \_\_\_\_\_ M \_\_\_\_\_ F

Age: \_\_\_\_\_ Birth date: \_\_\_\_\_ Child's Birth Weight: \_\_\_\_\_

Was your child born premature (Circle One): Yes No

Race (please check one):

\_\_\_\_ Caucasian/Non-Hispanic \_\_\_\_\_ African American \_\_\_\_\_ Hispanic/Latino

\_\_\_\_ Asian Pacific Islander \_\_\_\_\_ Asian \_\_\_\_\_ Native American

\_\_\_\_ Other \_\_\_\_\_ (specify)

Home Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Height: \_\_\_\_\_ inches Weight: \_\_\_\_\_ lbs. BMI: \_\_\_\_\_

.....  
**Parent/Guardian Information:**

Relation to Child: \_\_\_\_\_ Mother \_\_\_\_\_ Father  
\_\_\_\_\_ Other \_\_\_\_\_ (specify)

Age: \_\_\_\_\_

Race (please check one):

\_\_\_\_ Caucasian/Non-Hispanic \_\_\_\_\_ African American \_\_\_\_\_ Hispanic/Latino

\_\_\_\_ Asian Pacific Islander \_\_\_\_\_ Asian \_\_\_\_\_ Native American

\_\_\_\_ Other \_\_\_\_\_ (specify)

Parent Education: Highest level completed (Check One):

\_\_\_\_ High School \_\_\_\_\_ Some College \_\_\_\_\_ Undergraduate \_\_\_\_\_ Graduate

\_\_\_\_ Post-Graduate \_\_\_\_\_ Doctoral \_\_\_\_\_ Other \_\_\_\_\_ (specify)

Home Number: \_\_\_\_\_ Work Number: \_\_\_\_\_

Home Address (if different than above): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Height: \_\_\_\_\_ inches Weight: \_\_\_\_\_ lbs. BMI: \_\_\_\_\_

---

## Appendix B1

### Child Silhouette Form

Scoring for child silhouette:  
Child form

DATE OF VISIT:

CHILD'S NAME:

ID#: \_\_\_\_\_

1. Which figure looks most like you?

1      2      3      4      5      6      7

2. Which figure looks most like you would like to look?

1      2      3      4      5      6      7

3. Which figure looks most like a (same gender: boy/girl) your age should look?

1      2      3      4      5      6      7

4. Which figure looks most like a (opposite gender: boy/girl) your age should look?

1      2      3      4      5      6      7

Self: I think I am:    fat    skinny    in-between

Ideal: I would like to: lose weight    gain weight    stay the same

(Collins, 1991)

## Appendix B2

### Parent Silhouette Form

Scoring for child silhouette:

Parent form:          Mother          Father          Other

DATE OF VISIT:

CHILD'S NAME:

ID#: \_\_\_\_\_

5. Which figure looks most like your child?

1      2      3      4      5      6      7

6. Which figure looks most like you would like your child to look?

1      2      3      4      5      6      7

7. Which figure looks most like a (same gender: boy/girl) your child's age should look?

1      2      3      4      5      6      7

8. Which figure looks most like a (opposite gender: boy/girl) your child's age should look?

1      2      3      4      5      6      7

Self: I think my child is:      fat      skinny      in-between

Ideal: I would like my child to:      lose weight      gain weight      stay the same

(Collins, 1991)

## Appendix C

### AAAS Beliefs and Attitudes Survey

Below are some beliefs and attitudes about religion, families, racism, Black people, White people, and health. Please tell us how much you personally agree or disagree with these beliefs and attitudes by circling a number. There are no right or wrong answers, we simply want to know your views and your beliefs.

|                                                              | Totally<br>Disagree<br>Not True<br>At all |   |   | Sort of<br>Agree |   |   | Strongly<br>Agree<br>Absolutely<br>True |
|--------------------------------------------------------------|-------------------------------------------|---|---|------------------|---|---|-----------------------------------------|
| 1. I believe in the Holy Ghost                               | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 2. I like gospel music                                       | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 3. I believe in heaven and hell                              | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 4. The church is the heart of the black community            | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 5. I have seen people "get the spirit" or speak in tongues   | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 6. I am currently a member of a black Church                 | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 7. When I was young, I was a member of a Black church        | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 8. Prayer can cure disease                                   | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 9. What goes around, comes around                            | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 10. I used to sing on the church choir                       | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 11. Most of the music I listen to is by Black artists        | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 12. I like Black music more than White music                 | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 13. I listen to Black radio stations                         | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 14. I try to watch all Black shows on TV                     | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 15. The person I admire the most is Black                    | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |
| 16. I feel more comfortable around Blacks than around Whites | 1                                         | 2 | 3 | 4                | 5 | 6 | 7                                       |

|                                                                                                                                                        |   |   |   |   |   |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|
| 17. When I pass a Black person (a stranger) on the street, I always say hello or nod at them                                                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. Most of my friends are Black                                                                                                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. I read (or used to read) Essence or Ebony magazine                                                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. I don't trust most white people                                                                                                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. IQ tests were set up purposely to discriminate against Black people                                                                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. Most White people are afraid of Blacks                                                                                                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. Deep in their hearts, most White people are racists                                                                                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. Whites don't understand Blacks                                                                                                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. Most tests (like the SATs and tests to get a job) are set up to make sure that Blacks don't get high scores on them                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. Some members of my family hate or Distrust White people                                                                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. When I was young, I shared a bed at night with my sister, brother, or some other relative                                                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 28. When I was young, my parent(s) sent me to stay with a relative (aunt, uncle, grandmother) for a few days or weeks, and then I went back home again | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 29. When I was young, my cousin, my aunt, grandmother, or other relative lived with me and my family for awhile                                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 30. When I was young, I took a bath with my sister, brother, or some other relative                                                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 31. Some people in my family use Epson salt                                                                                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 32. Illnesses can be classified as natural and unnatural types                                                                                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

|                                                                                                                                         |   |   |   |   |   |   |   |
|-----------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|
| 33. Some old Black women/ladies know how to cure diseases                                                                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 34. Some older Black women know a lot about pregnancy and childbirth                                                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 35. I was taught that you shouldn't take a bath and then go outside                                                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 36. I avoid splitting a pole                                                                                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 37. When the palm of your hand itches, you will receive some money                                                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 38. There's some truth to many old superstitions                                                                                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 39. I eat black-eyed peas on New Year's Eve                                                                                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 40. I grew up in a mostly Black neighborhood                                                                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 41. I went to (or go) a mostly Black high school                                                                                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 42. I went to mostly Black elementary school                                                                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 43. I currently live in a mostly Black neighborhood                                                                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 44. It's better to try to move your whole family ahead in this world than it is to be out for only yourself                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 45. Old people are wise                                                                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 46. I often lend money or give other types of support to members of my family                                                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 47. A child should not be allowed to call a grown woman by her first name, "Alice". The child should be taught to call her "Miss Alice" | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## Appendix D

### Black Racial Identity Attitude Scale

This survey is designed to measure people's social and political attitudes. There are no right or wrong answers. Use the scale below to answer each statement. Circle the number that best describes your attitude and belief about each statement.

|                                                                                                                  | 1                    | 2        | 3         | 4     | 5                 |
|------------------------------------------------------------------------------------------------------------------|----------------------|----------|-----------|-------|-------------------|
|                                                                                                                  | Strongly<br>Disagree | Disagree | Uncertain | Agree | Strongly<br>Agree |
| 1. I believe that being Black is a positive experience                                                           | 1                    | 2        | 3         | 4     | 5                 |
| 2. I know through experience what being Black in America means                                                   | 1                    | 2        | 3         | 4     | 5                 |
| 3. I feel unable to involve myself in white experiences<br>And am increasing my involvement in black experiences | 1                    | 2        | 3         | 4     | 5                 |
| 4. I believe that large numbers of Blacks are untrustworthy                                                      | 1                    | 2        | 3         | 4     | 5                 |
| 5. I feel an overwhelming attachment to Black people                                                             | 1                    | 2        | 3         | 4     | 5                 |
| 6. I involve myself in causes that will help all oppressed people                                                | 1                    | 2        | 3         | 4     | 5                 |
| 7. I feel comfortable wherever I am                                                                              | 1                    | 2        | 3         | 4     | 5                 |
| 8. I believe that White people look and express themselves better than Blacks                                    | 1                    | 2        | 3         | 4     | 5                 |
| 9. I feel very uncomfortable around Black people                                                                 | 1                    | 2        | 3         | 4     | 5                 |
| 10. I feel good about being Black, but to not limit myself<br>To Black activities                                | 1                    | 2        | 3         | 4     | 5                 |
| 11. I often find myself referring to White people as<br>honkies, devils, pigs, etc.                              | 1                    | 2        | 3         | 4     | 5                 |
| 12. I believe that to be Black is not necessarily good                                                           | 1                    | 2        | 3         | 4     | 5                 |
| 13. I believe that certain aspects of the Black experience<br>apply to me, and others do not                     | 1                    | 2        | 3         | 4     | 5                 |
| 14. I frequently confront the system and the man                                                                 | 1                    | 2        | 3         | 4     | 5                 |
| 15. I constantly involve myself in Black political and<br>social activities                                      | 1                    | 2        | 3         | 4     | 5                 |
| 16. I involve myself in social action and political groups<br>even if there are no other Blacks involved         | 1                    | 2        | 3         | 4     | 5                 |
| 17. I believe that Black people should learn to think and                                                        | 1                    | 2        | 3         | 4     | 5                 |



experience life in ways that are similar to White people

|                                                                                                                              |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 18. I believe that the world should be interpreted from a Black perspective                                                  | 1 | 2 | 3 | 4 | 5 |
| 19. I have changed my style of life to fit my beliefs about Black people                                                     | 1 | 2 | 3 | 4 | 5 |
| 20. I feel excitement and joy in Black surroundings                                                                          | 1 | 2 | 3 | 4 | 5 |
| 21. I believe that Black people came from a strange, dark, and uncivilized continent                                         | 1 | 2 | 3 | 4 | 5 |
| 22. People, regardless of their race, have strengths and Limitations                                                         | 1 | 2 | 3 | 4 | 5 |
| 23. I find myself reading a lot of Black literature and thinking about being Black                                           | 1 | 2 | 3 | 4 | 5 |
| 24. I feel guilty and/or anxious about some of the things I believe about Black people                                       | 1 | 2 | 3 | 4 | 5 |
| 25. I believe that a Black person's most effective weapon for solving problems is to become part of the White person's world | 1 | 2 | 3 | 4 | 5 |
| 26. I speak my mind regardless of the consequences                                                                           | 1 | 2 | 3 | 4 | 5 |
| 27. I believe that everything Black is good, and consequently, I limit myself to Black activities                            | 1 | 2 | 3 | 4 | 5 |
| 28. I am determined to find my Black identity                                                                                | 1 | 2 | 3 | 4 | 5 |
| 29. I believe that White people are intellectually superior to Blacks                                                        | 1 | 2 | 3 | 4 | 5 |
| 30. I believe that because I am Black, I have many strengths                                                                 | 1 | 2 | 3 | 4 | 5 |
| 31. I feel that Black people do <u>not</u> have much to be proud of as White people do                                       | 1 | 2 | 3 | 4 | 5 |
| 32. Most Blacks I know are failures                                                                                          | 1 | 2 | 3 | 4 | 5 |
| 33. I believe that White people should feel guilty about the way they have treated Blacks in the past                        | 1 | 2 | 3 | 4 | 5 |
| 34. White people can't be trusted                                                                                            | 1 | 2 | 3 | 4 | 5 |
| 35. In today's society if Black people don't achieve, they have only themselves to blame                                     | 1 | 2 | 3 | 4 | 5 |
| 36. The most important thing about me is that I am Black                                                                     | 1 | 2 | 3 | 4 | 5 |
| 37. Being Black just feels natural to me                                                                                     | 1 | 2 | 3 | 4 | 5 |

|                                                                                                                            |   |   |   |   |   |
|----------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 38. Other Black people have trouble accepting me because my life experiences have been so different from their experiences | 1 | 2 | 3 | 4 | 5 |
| 39. Black people who have any White people's blood should feel ashamed of it                                               | 1 | 2 | 3 | 4 | 5 |
| 40. Sometimes, I wish I belonged to the White race                                                                         | 1 | 2 | 3 | 4 | 5 |
| 41. The people I respect the most are White                                                                                | 1 | 2 | 3 | 4 | 5 |
| 42. A person's race usually is <u>not</u> important to me                                                                  | 1 | 2 | 3 | 4 | 5 |
| 43. I feel anxious when White people compare me to other members of my race                                                | 1 | 2 | 3 | 4 | 5 |
| 44. I can't feel comfortable with either Black people or White people                                                      | 1 | 2 | 3 | 4 | 5 |
| 45. A person's race has little to do with whether or not he/she is a good person                                           | 1 | 2 | 3 | 4 | 5 |
| 46. When I am with Black people, I pretend to enjoy the things they enjoy                                                  | 1 | 2 | 3 | 4 | 5 |
| 47. When a stranger who is Black does something that is embarrassing in public, I get embarrassed                          | 1 | 2 | 3 | 4 | 5 |
| 48. I believe that a Black Person can be close friends with a White person                                                 | 1 | 2 | 3 | 4 | 5 |
| 49. I am satisfied with myself                                                                                             | 1 | 2 | 3 | 4 | 5 |
| 50. I have a positive attitude about myself because I am Black                                                             | 1 | 2 | 3 | 4 | 5 |

## Appendix E

### White Racial Identity Attitude Scale

This survey is designed to measure people's social and political attitudes. There are no right or wrong answers. Use the scale below to answer each statement. Circle the number that best describes your attitude and belief about each statement.

| 1<br>Strongly<br>Disagree                                                                               | 2<br>Disagree | 3<br>Uncertain | 4<br>Agree | 5<br>Strongly<br>Agree |   |   |
|---------------------------------------------------------------------------------------------------------|---------------|----------------|------------|------------------------|---|---|
| 1. I hardly think about the race I am                                                                   |               | 1              | 2          | 3                      | 4 | 5 |
| 2. I don't understand what Blacks want from Whites                                                      |               | 1              | 2          | 3                      | 4 | 5 |
| 3. I get angry when I think about how whites have been treated by Blacks                                |               | 1              | 2          | 3                      | 4 | 5 |
| 4. I feel as comfortable around Blacks as I do around Whites                                            |               | 1              | 2          | 3                      | 4 | 5 |
| 5. I involve myself in causes regardless of the race of the people involved in them                     |               | 1              | 2          | 3                      | 4 | 5 |
| 6. I find myself watching Black people to see what they are like                                        |               | 1              | 2          | 3                      | 4 | 5 |
| 7. I feel depressed after I have been around Black people                                               |               | 1              | 2          | 3                      | 4 | 5 |
| 8. There is nothing that I want to learn from Blacks                                                    |               | 1              | 2          | 3                      | 4 | 5 |
| 9. I seek out new experiences even if I know a large number of Blacks will be involved in them          |               | 1              | 2          | 3                      | 4 | 5 |
| 10. I enjoy watching the different ways that Blacks and Whites approach life                            |               | 1              | 2          | 3                      | 4 | 5 |
| 11. I wish I had a Black friend                                                                         |               | 1              | 2          | 3                      | 4 | 5 |
| 12. I do not feel that I have the social skills to interact with Black people effectively               |               | 1              | 2          | 3                      | 4 | 5 |
| 13. A Black person who tries to get close to you is usually after something                             |               | 1              | 2          | 3                      | 4 | 5 |
| 14. When a Black person holds an opinion with which I disagree, I am not afraid to express my viewpoint |               | 1              | 2          | 3                      | 4 | 5 |
| 15. Sometimes jokes based on Black people's experiences are funny                                       |               | 1              | 2          | 3                      | 4 | 5 |

|                                                                                                                                 |   |   |   |   |   |
|---------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 16. I think it is exciting to discover the little ways in which Black and White people are different                            | 1 | 2 | 3 | 4 | 5 |
| 17. I used to believe in racial integration, but now I have my doubts                                                           | 1 | 2 | 3 | 4 | 5 |
| 18. I'd rather socialize with only Whites                                                                                       | 1 | 2 | 3 | 4 | 5 |
| 19. In many ways Blacks and Whites are similar, but they are so different in some very important ways                           | 1 | 2 | 3 | 4 | 5 |
| 20. Blacks and Whites have much to learn from each other                                                                        | 1 | 2 | 3 | 4 | 5 |
| 21. For most of my life, I did not think about racial issues                                                                    | 1 | 2 | 3 | 4 | 5 |
| 22. I have come to believe that Black people and White people are very different                                                | 1 | 2 | 3 | 4 | 5 |
| 23. White people have bent over backwards trying to make up for their ancestors' mistreatment of Blacks, now it is time to stop | 1 | 2 | 3 | 4 | 5 |
| 24. It is possible for Blacks and Whites to have meaningful social relationships with each other                                | 1 | 2 | 3 | 4 | 5 |
| 25. There are some valuable things that White people can learn from Blacks that they can't learn from other Whites              | 1 | 2 | 3 | 4 | 5 |
| 26. I am curious to learn in what ways Black people differ from each other                                                      | 1 | 2 | 3 | 4 | 5 |
| 27. I limit myself to White activities                                                                                          | 1 | 2 | 3 | 4 | 5 |
| 28. Society may have been unjust to Blacks, but it has also been unjust to Whites                                               | 1 | 2 | 3 | 4 | 5 |
| 29. I am knowledgeable about which values Blacks and Whites share                                                               | 1 | 2 | 3 | 4 | 5 |
| 30. I am comfortable wherever I am                                                                                              | 1 | 2 | 3 | 4 | 5 |
| 31. In my family, we never talked about racial issues                                                                           | 1 | 2 | 3 | 4 | 5 |
| 32. When I must interact with a Black person, I usually let them make the first move                                            | 1 | 2 | 3 | 4 | 5 |
| 33. I feel hostile when I am around Black people                                                                                | 1 | 2 | 3 | 4 | 5 |
| 34. I think I understand Black people's values                                                                                  | 1 | 2 | 3 | 4 | 5 |
| 35. Blacks and Whites can have successful intimate                                                                              | 1 | 2 | 3 | 4 | 5 |

relationships

|                                                                                                                        |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 36. I was raised to believe that people are people regardless of their race                                            | 1 | 2 | 3 | 4 | 5 |
| 37. Nowadays, I go out of my way to avoid associating with Blacks                                                      | 1 | 2 | 3 | 4 | 5 |
| 38. I believe that Blacks are inferior to Whites                                                                       | 1 | 2 | 3 | 4 | 5 |
| 39. I believe I know a lot about Black people's customs                                                                | 1 | 2 | 3 | 4 | 5 |
| 40. There are some valuable things that White people can learn from Blacks that they can't learn from other Whites     | 1 | 2 | 3 | 4 | 5 |
| 41. I think that it's okay for Black people and White people to date each other as long as they don't marry each other | 1 | 2 | 3 | 4 | 5 |
| 42. Sometimes I am not sure what I think or feel about Black people                                                    | 1 | 2 | 3 | 4 | 5 |
| 43. When I am the only White in a group of Blacks, I feel anxious                                                      | 1 | 2 | 3 | 4 | 5 |
| 44. Blacks and Whites differ from each other in some ways, but neither race is superior                                | 1 | 2 | 3 | 4 | 5 |
| 45. I am not embarrassed to admit that I am White                                                                      | 1 | 2 | 3 | 4 | 5 |
| 46. I think White people should become more involved in socializing with Blacks                                        | 1 | 2 | 3 | 4 | 5 |
| 47. I don't understand why Black people blame all White people for their social misfortunes                            | 1 | 2 | 3 | 4 | 5 |
| 48. I believe that White people look and express themselves better than Blacks                                         | 1 | 2 | 3 | 4 | 5 |
| 49. I feel comfortable talking to Blacks                                                                               | 1 | 2 | 3 | 4 | 5 |
| 50. I value the relationships that I have with my Black friends                                                        | 1 | 2 | 3 | 4 | 5 |

Appendix F

Figure Rating Scale (Parent Form)

ID# \_\_\_\_\_

1. Which figure looks most like you currently look?

1      2      3      4      5      6      7      8      9

2. Which figure looks like you would like to look?

1      2      3      4      5      6      7      8      9

3. Which figure looks most like a woman/man (same sex) your age should look?

1      2      3      4      5      6      7      8      9

4. Which figure looks most like a woman/man (opposite sex) your age should look?

1      2      3      4      5      6      7      8      9

5. Which figure looks most like your mother looked when you were a child?

1      2      3      4      5      6      7      8      9

6. Which figure looks most like your father looked when you were a child?

1      2      3      4      5      6      7      8      9

Who completed survey: \_\_\_\_\_ Mother      \_\_\_\_\_ Father      \_\_\_\_\_ Other

(Stunkard et al.1983)

Subject #: \_\_\_\_\_

Appendix G

EATING HABITS QUESTIONNAIRE

Please circle the best answer for each of the following questions.

1. If you have put on weight, do you eat less than you usually do?  
never      seldom      sometimes      often      very often      not relevant
2. Do you try to eat less at mealtimes than you would like to eat?  
never      seldom      sometimes      often      very often
3. How often do you refuse food or drink offered because you are concerned about your weight?  
never      seldom      sometimes      often      very often
4. Do you watch exactly what you eat?  
never      seldom      sometimes      often      very often
5. Do you deliberately eat foods that are slimming?  
never      seldom      sometimes      often      very often
6. When you have eaten too much, do you eat less than usual the following days?  
never      seldom      sometimes      often      very often      not relevant
7. Do you deliberately eat less in order not to become heavier?  
never      seldom      sometimes      often      very often
8. How often do you try not to eat between meals because you are watching your weight?  
never      seldom      sometimes      often      very often

9. How often in the evening do you try not to eat because you are watching your weight?
- never      seldom      sometimes      often      very often
10. Do you take into account your weight with what you eat?
- never      seldom      sometimes      often      very often
11. Do you have the desire to eat when you are irritated?
- never      seldom      sometimes      often      very often      not relevant
12. Do you have a desire to eat when you have nothing to do?
- never      seldom      sometimes      often      very often      not relevant
13. Do you have a desire to eat when you are depressed or discouraged?
- never      seldom      sometimes      often      very often      not relevant
14. Do you have a desire to eat when you are feeling lonely?
- never      seldom      sometimes      often      very often      not relevant
15. Do you have a desire to eat when somebody lets you down?
- never      seldom      sometimes      often      very often      not relevant
16. Do you have a desire to eat when you are cross?
- never      seldom      sometimes      often      very often      not relevant
17. Do you have a desire to eat when you are approaching something unpleasant to happen?
- never      seldom      sometimes      often      very often
18. Do you get the desire to eat when you are anxious, worried or tense?
- never      seldom      sometimes      often      very often



19. Do you have a desire to eat when things are going against you or when things have gone wrong?
- never      seldom      sometimes      often      very often
20. Do you have a desire to eat when you are frightened?
- never      seldom      sometimes      often      very often      not relevant
21. Do you have a desire to eat when you are disappointed?
- never      seldom      sometimes      often      very often      not relevant
22. Do you have a desire to eat when you are emotionally upset?
- never      seldom      sometimes      often      very often      not relevant
23. Do you have a desire to eat when you are bored or restless?
- never      seldom      sometimes      often      very often      not relevant
24. If food tastes good to you, do you eat more than usual?
- never      seldom      sometimes      often      very often
25. If food smells and looks good, do you eat more than usual?
- never      seldom      sometimes      often      very often
26. If you see or smell something delicious, do you have a desire to eat it?
- never      seldom      sometimes      often      very often
27. If you have something delicious to eat, do you eat it straight away?
- never      seldom      sometimes      often      very often
28. If you walk past the baker do you have the desire to buy something delicious?
- never      seldom      sometimes      often      very often

29. If you walk past a snackbar or a cafe, do you have the desire to buy something delicious?
- never      seldom      sometimes      often      very often
30. If you see others eating, do you also have the desire to eat?
- never      seldom      sometimes      often      very often
31. Can you resist eating delicious foods?
- never      seldom      sometimes      often      very often
32. Do you eat more than usual, when you see others eating?
- never      seldom      sometimes      often      very often
33. When preparing a meal are you inclined to eat something?
- never      seldom      sometimes      often      very often

# Appendix H

## EDI

Instructions: This is a scale which measures a variety of attitudes, feelings and behaviors. Some of the items relate to food and eating. Others ask you about your feelings about yourself. THERE ARE NO RIGHT OR WRONG ANSWERS SO TRY VERY HARD TO BE COMPLETELY HONEST IN YOUR ANSWERS. RESULTS ARE COMPLETELY CONFIDENTIAL. Read each question and select the letter which applies best for you. Please answer each question very carefully. Thank you.

1=Always    2=Usually    3=Often    4=Sometimes    5=Rarely    6=Never

- |                                                                     |                                                                                         |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| _____ 1. I eat sweets and carbohydrates without feeling nervous.    | _____ 28. I have gone on eating binges where I have felt that I could not stop.         |
| _____ 2. I think that my stomach is too big.                        | _____ 29. As a child, I tried very hard to avoid disappointing my parents and teachers. |
| _____ 3. I wish that I could return to the security of childhood.   | _____ 30. I have close relationships.                                                   |
| _____ 4. I eat when I am upset.                                     | _____ 33. I like the shape of my buttocks.                                              |
| _____ 5. I stuff myself with food.                                  | _____ 32. I am preoccupied with the desire to be thinner.                               |
| _____ 6. I wish that I could be younger.                            | _____ 33. I don't know what's going on inside me.                                       |
| _____ 7. I think about dieting.                                     | _____ 34. I have trouble expressing my emotions to others.                              |
| _____ 8. I get frightened when my feelings are too strong.          | _____ 35. The demands of adulthood are too great.                                       |
| _____ 9. I think that my thighs are too large.                      | _____ 36. I hate being less than best at things.                                        |
| _____ 10. I feel ineffective as a person.                           | _____ 37. I feel secure about myself.                                                   |
| _____ 11. I feel extremely guilty after overeating.                 | _____ 38. I think about bingeing (overeating).                                          |
| _____ 12. I think that my stomach is just the right size.           | _____ 39. I feel happy that I am not a child anymore.                                   |
| _____ 13. Only outstanding performance is good enough in my family. | _____ 40. I get confused as to whether or not I am hungry.                              |
| _____ 14. The happiest time in life is when you are a child.        | _____ 41. I have a low opinion of myself.                                               |
| _____ 15. I am open about my feelings.                              | _____ 42. I feel that I can achieve my standards.                                       |
| _____ 16. I am terrified of gaining weight.                         | _____ 43. My parents have expected excellence of me.                                    |
| _____ 17. I trust others.                                           | _____ 44. I worry that my feelings will get out of control.                             |
| _____ 18. I feel alone in the world.                                | _____ 45. I think that my hips are too big.                                             |
| _____ 19. I feel satisfied with the shape of my body.               | _____ 46. I eat moderately in front of others and stuff myself when they're gone.       |
| _____ 20. I feel generally in control of things in my life.         | _____ 47. I feel bloated after eating a normal meal.                                    |
| _____ 21. I get confused about what emotion I am feeling.           | _____ 48. I feel that people are happiest when they are children.                       |
| _____ 22. I would rather be an adult than a child.                  | _____ 49. If I gain a pound, I worry that I will keep gaining.                          |
| _____ 23. I can communicate with others easily.                     | _____ 50. I feel that I am a worthwhile person.                                         |
| _____ 24. I wish I were someone else.                               | _____ 51. When I am upset, I don't know if I am sad, frightened or angry.               |
| _____ 25. I exaggerate or magnify the importance of weight.         |                                                                                         |
| _____ 26. I can clearly identify what emotion I am feeling.         |                                                                                         |
| _____ 27. I feel inadequate.                                        |                                                                                         |

# EDI

1 = Always      2 = Usually      3 = Often      4 = Sometimes      5 = Rarely      6 = Never

- \_\_\_\_\_ 52. I feel that I must do things perfectly, or not do them at all.
- \_\_\_\_\_ 53. I have the thought of trying to vomit in order to lose weight.
- \_\_\_\_\_ 54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).
- \_\_\_\_\_ 55. I think that my thighs are just the right size.
- \_\_\_\_\_ 56. I feel empty inside (emotionally).
- \_\_\_\_\_ 57. I can talk about personal thoughts or

- \_\_\_\_\_ 58. The best years of your life are when you become an adult.
- \_\_\_\_\_ 59. I think that my buttocks are too large.
- \_\_\_\_\_ 60. I have feelings I can't quite identify.
- \_\_\_\_\_ 61. I eat or drink in secrecy.
- \_\_\_\_\_ 62. I think that my hips are just the right size.
- \_\_\_\_\_ 63. I have extremely high goals.
- \_\_\_\_\_ 64. When I am upset, I worry that I will start eating.

Appendix I

THREE FACTOR EATING QUESTIONNAIRE RESTRAINT SCALE

**Directions:** Please answer the following questions by circling the number above the response that is appropriate to you.

37. How often are you dieting in a conscious effort to control your weight?

|        |           |         |        |
|--------|-----------|---------|--------|
| 1      | 2         | 3       | 4      |
| rarely | sometimes | usually | always |

38. Would a weight fluctuation of 5 lbs affect the way you live your life?

|            |          |            |           |
|------------|----------|------------|-----------|
| 1          | 2        | 3          | 4         |
| not at all | slightly | moderately | very much |

39. How often do you feel hungry?

|                      |                            |                        |                  |
|----------------------|----------------------------|------------------------|------------------|
| 1                    | 2                          | 3                      | 4                |
| only at<br>mealtimes | sometimes<br>between meals | often between<br>meals | almost<br>always |

40. Do your feelings of guilt about overeating help you to control your food intake?

|       |        |       |        |
|-------|--------|-------|--------|
| 1     | 2      | 3     | 4      |
| never | rarely | often | always |

41. How difficult would it be for you to stop eating halfway through dinner and not eat for the next four hours?

|      |                       |                         |                   |
|------|-----------------------|-------------------------|-------------------|
| 1    | 2                     | 3                       | 4                 |
| easy | slightly<br>difficult | moderately<br>difficult | very<br>difficult |

42. How conscious are you of what you are eating?

|            |          |            |           |
|------------|----------|------------|-----------|
| 1          | 2        | 3          | 4         |
| not at all | slightly | moderately | extremely |

43. How frequently do you avoid 'stocking up' on tempting foods?

|              |        |         |               |
|--------------|--------|---------|---------------|
| 1            | 2      | 3       | 4             |
| almost never | seldom | usually | almost always |

44. How likely are you to shop for low calorie foods?

|          |                 |                   |             |
|----------|-----------------|-------------------|-------------|
| 1        | 2               | 3                 | 4           |
| unlikely | slightly likely | moderately likely | very likely |

45. Do you ever eat sensibly in front of others and splurge alone?

|       |        |       |        |
|-------|--------|-------|--------|
| 1     | 2      | 3     | 4      |
| never | rarely | often | always |

46. How likely are you to consciously eat slowly in order to cut down on how much you eat?

|          |                 |                   |             |
|----------|-----------------|-------------------|-------------|
| 1        | 2               | 3                 | 4           |
| unlikely | slightly likely | moderately likely | very likely |

47. How frequently do you skip dessert because you are no longer hungry?

|              |               |                   |              |
|--------------|---------------|-------------------|--------------|
| 1            | 2             | 3                 | 4            |
| almost never | seldom a week | at least once day | almost every |

48. How likely are you to consciously eat less than you want?

|          |                 |                   |             |
|----------|-----------------|-------------------|-------------|
| 1        | 2               | 3                 | 4           |
| unlikely | slightly likely | moderately likely | very likely |

49. Do you go on eating binges though you are not hungry?

|       |        |           |                      |
|-------|--------|-----------|----------------------|
| 1     | 2      | 3         | 4                    |
| never | rarely | sometimes | at least once a week |

50. On a scale of 0 to 5, where 0 means no restraint in eating (eating whatever you want) and 5 means total restraint (constantly limiting food intake and never "giving in,") what number would you give yourself?

|                                             |                                                     |                                                   |                                              |                                             |                                                    |
|---------------------------------------------|-----------------------------------------------------|---------------------------------------------------|----------------------------------------------|---------------------------------------------|----------------------------------------------------|
| 0                                           | 1                                                   | 2                                                 | 3                                            | 4                                           | 5                                                  |
| eat whatever you want, whenever you want it | usually eat whatever you want, whenever you want it | often eat whatever you want, whenever you want it | often limit food intake, but often "give in" | usually limit food intake, rarely "give in" | constantly limiting food intake, never "giving in" |

## Appendix J

Dear Directors and Teachers:

### **Project Description: The “ My Body, My Weight” Project**

Obesity among children is increasing at an alarming rate. Obese kids are likely to become obese adults. Obesity is related to a number of illnesses and health problems (for example, diabetes/high blood sugar, hypertension, and some cancers). We want to prevent children from becoming overweight. The purpose of this project is to compare the acceptability of being overweight among children of various ethnic backgrounds. We will be looking at body image in 190 first graders. These results will be used to suggest ways to prevent overweight/obesity and disordered eating among children.

### **Time Commitment for Families:**

In order to gather the information needed from the children and their parent, I will need to set up a **45-minute** block of time to interview each parent and child. All interviews will be conducted at your church. The child will be given one questionnaire measuring body image, which will take approximately 5 minutes. The parent will be asked to complete four questionnaires, which will take about 30 minutes. Weight and height will be measured for both the parent and the child. We are looking to recruit as many children as possible from your church as well as other churches in the area. Information will be collected from children/parents at various YMCAs from October 2001 until August 2003. **We are asking you to strongly encourage all eligible families to participate in this project!**

### **Commitment and Benefits of Participation:**

Children who participate will receive a T-shirt. Parents will be given \$10.00 for completing the surveys.

### **Who is Eligible to Participate?**

- First-graders or 6 or 7 year old children
- Normal weight and Overweight children
- All races
- English-speaking families
- Children with no developmental or cognitive disabilities (ex: Downs Syndrome)

I have enclosed a sample parent flyer and permission slip for your review. Thank you for your time and attention. Your assistance in helping motivate families to participate is greatly appreciated. If you have any questions, I can be contacted at 301-295-9664 or ddavis@usuhs.mil.

Sincerely,

Dawnavan S. Davis, M.S.  
Principal Investigator  
Uniformed Services University of Health Sciences  
Department of Medical and Clinical Psychology

Appendix K

**"My Body, My Weight": Body Perception  
Among Young Children**

We are excited to announce our center's involvement in the "My Body, My Weight" project, which is attempting to fight obesity in young children. The "My Body, My Weight" project is being conducted at several YMCA centers, churches, and schools in the Washington metro area, and we think this is a wonderful opportunity to help children in our community. We are looking for First-graders & their families of all sizes to participate in this project. This project is sponsored by the Department of Medical and Clinical Psychology at the Uniformed Services University in Bethesda, Maryland. The YMCA is working with the "My Body, My Weight" project director,

Dawnavan Davis, who can be reached at 301-295-9664.

Ms. Davis will be contacting you to set up a 45-minute interview with you and your child. You and your child will be asked to complete surveys about body image and eating patterns. Your child will receive a T-shirt and a certificate for taking part in this study. Parents will receive \$10.00 for completing the surveys. Please fill out the bottom portion of this form and return as soon as possible.

We thank you for your participation!

Sincerely,

YMCA Director and Staff

---

Please return this portion to your Teacher

Name of Center: \_\_\_\_\_

Child's Name: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Please check one: ☐ I would like to participate in this study. Please contact me to set up an interview

Daytime Phone: \_\_\_\_\_ Evening Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

☐ I would not like to participate in this study

---

Signature

---

Date



## Appendix L

### Informed Consent Document

**Research Study: “My Body, My Weight”: Body Perception in Young Children**

**Principal Investigator: Dawnavan S. Davis, M.S.**

#### Introduction

You and your child are being asked to take part in a research study. Before you decide to take part in this research, you need to understand both the risks and benefits so that you can make an informed decision. This is known as informed consent.

This consent form provides information about the research study, which has been explained to you. Once you understand the study and the tests it requires, you will be asked to sign this form if you want to take part in this study. Your decision to participate in this study is completely voluntary. This means that you are free to choose if you will take part in the study.

#### Description of Purpose and Procedures

Obesity among children in the U.S. is increasing at an alarming rate. Fourteen percent of U.S. children aged six to 11 are overweight, which is an 8% increase over the last 20 years. Obese children are more likely to become obese adults, which can result in a number of illnesses and health problems such as hypertension, heart disease, Type II diabetes, gallbladder disease, and arthritic conditions. It is important to prevent children from becoming overweight in order to have a healthier pediatric, adolescent, and future adult population. The purpose of this research study is to compare the acceptability of being overweight among 190 first-grade African American and Caucasian children. We will also be studying parent's attitudes toward their child's body as well as their own bodies.

The Department of Medical and Clinical Psychology of the Uniformed Services University of the Health Sciences (USUHS) is carrying out a research study to answer the following questions:

1. Do African American and Caucasian children have different views about their bodies?
    - a. Are African American children more or less satisfied with their bodies?
    - b. Or, is there no difference between African American and Caucasian children?
  2. Is children's body perception related to their parent's body perception?
  3. How do family beliefs, values, and norms relate to children's body perception?
- To answer these questions, you will be asked to complete five surveys, and your child will complete one survey.
    - a. The survey given to your child has 5 questions. The principal investigator of the study will ask your child questions about how they think their body looks, and

\_\_\_\_\_  
Date

1

\_\_\_\_\_  
Subject's Initials

how they would like their bodies to look. This survey will take less than 15 minutes to complete.

- b. Two of the surveys you will complete as part of this study will be completed in a 15-minute assessment with the principal investigator. The investigator will ask you questions about your perception of your child's body and perception of your own body. The remaining surveys will be completed, while your child is being interviewed.
- c. At the time of your scheduled assessment you and your child's height and weight will also be taken.
- d. During the scheduled assessment you will be asked to complete information sheet (age, gender, race, residential location)

- Information will be gathered from other families at this center, and families from other centers throughout the Washington metro area over a ten-month period. This study will begin in October 2001 and end March 2004.

- If you and your child agree to participate, you and your child will only be required to set one 1-hour interview time. **You and your child will only be interviewed once as part of the study, there will be no follow-up interviews required.** Assessments will be conducted at the YMCA, and scheduled for a time convenient for you and your child.

- Data will be collected in a coded fashion. You and your child will be given a code number. This number will be used for the surveys you complete. This code number helps to protect your privacy and your child's privacy. This code number and the data collected to it will be destroyed at the end of the study.

### **Potential Benefits**

Your child will be given a Certificate of Participation and a T-shirt for participating in the study. In addition, if you would like to be provided a synopsis of project results at the end of the study, this information will be provided to you, upon request. A health education seminar on healthy eating and exercise entitled "*Fun and Healthy Eating*" will be given for the families at the YMCA by the principal investigator. This health seminar may provide for your family important information about the importance of healthy living to fight illness and disease.

### **Payment for Participation**

You will receive \$10.00 for completing all the surveys.

### **Potential Risks**

We do not anticipate any risks either to you or your child. However, we understand that some of the questions and statements could make you feel uncomfortable and could seem stereotypical. As always, you are free to answer or not answer any of the questions.

### **Alternatives**

The alternative to participating in this study is for you and your child not to participate in this study.

### **Costs**

Other than you and your child's time, there are no costs to you and your child associated with your involvement in this study.

### **Right To Withdraw From The Study**

You and your child may decide to stop taking part in this study at any time. There is no penalty for choosing to stop participating. If you decide to stop participating in the study, please call the principal investigator of the study, Dawnavan Davis, M.S., at 310-295-9664 in the Department of Medical and Clinical Psychology. There will be no way to trace anything back to you. There is no penalty for withdrawing from the study.

### **Recourse In The Event Of Injury**

This study should not entail any physical or mental risk to you or your child. We do not expect any negative consequences associated with participation to occur, but if, for any reason, you feel that continuing this study would cause a hardship for you, we will end your participation in the study.

If at any time you believe you or your child have suffered an injury or illness as a result of participating this research project, you should contact Dr. Robert Bienvenu in the Office of Research Administration at the Uniformed Services University of the Health Sciences, Bethesda, MD 20814 at (301) 295-3303. This office can review the matter with you, provide information about your rights as a participant, and may be able to identify resources available to you. Legal information is available from the University's General Counsel at (301) 295-3028.

### **Privacy And Confidentiality**

All information you and your child provide is confidential and will be protected according to the law. Information you provide will be kept in private. Only the principal investigator will have access to your data. The Institutional Review Board at the Uniformed Services University of the Health Sciences who provide oversight for human subject protection may ask to see your records. Except for these people, records from this study will be kept private unless required by law. Any reports on this study will not use you or your child's name or identify either of you personally.

### Questions

If you have any questions about this study, please contact Dawnavan Davis, M.S. at USUHS- Department of Medical and Clinical Psychology at (301) 295-9664.

**Please check one of the following:**

- ( ) I would like a copy of the study group results at the end of the project.  
( ) I would not like a copy of the group study results at the end of the project.

### Signatures

By signing this form you are agreeing that the study has been explained to you and you understand the study. You are signing to agree to you and your child's participation in the study. You will be given a copy of this consent form.

I have read the explanation of the study on this form. I agree to participate in the parental surveys. I also agree to allow my child to participate in the study. This study has been reviewed with me. All my questions have been answered. I understand the purpose of the study and volunteer to participate.

**Signatures and Date Signed:**

**Printed Name :**

\_\_\_\_\_  
Parent/Guardian

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
Principal Investigator

\_\_\_\_\_  
(Date)

### Investigator Statement

I certify that the research study has been explained to the above individual, by me, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered.

**PRINCIPAL INVESTIGATOR:**

\_\_\_\_\_

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

\_\_\_\_\_  
Date

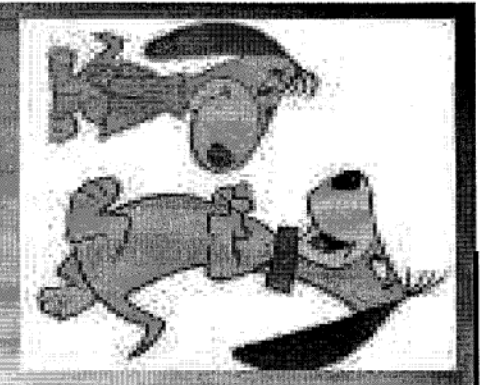
4

\_\_\_\_\_  
Subject's Initials

# Certificate of Participation

is awarded to

for taking part in the "My Body,  
My Weight" Study at the  
Uniformed Services University



Principal Investigator

Date

## Appendix N

### "Fun and Healthy Eating" Health Education Seminar Outline

#### **Event: Carnival/Fun Day at each YMCA Location**

##### Part I: Activities for the Children

- I. The Importance of Healthy Eating and Staying Active- held in YMCA gymnasium
  - A. "Fun with Food": educational activities to promote healthy eating (30 minutes)
    1. Stop Light Method for Eating- Each team of children will be provided with a box of plastic food models. Teams will select one food out of a box at a time, if the team selects a green "go" food they can take 3 giant steps, a yellow "slow down" food-one step, and a red "stop" food- no steps. The first team to the finish line wins.
    2. Giant Pyramid Game: A big color-coded food guide pyramid will be created so that children learn what foods go in the various food groups. Child will select from a box of cardboard color-coded food models, and place the color-coded model on the corresponding color area of on the giant food pyramid.
    3. Go Fish! Different types of foods will float in an inflatable pool, children will go fish for healthier food items.
  - B. "It's Cool to Move": activities to help you stay on the move (30minutes)
    1. Making My Heart Beat Faster- children will listen to their heartbeats with a stethoscope, while at rest and again after physical activity. Children will learn that it is good to make their heart pump faster to be healthy.
    2. Circuit Training- children will have the option to participate in a variety of physical activities at various stations:
      1. Basketball
      2. Doge Ball
      3. Jump Rope
      4. Soccer

## Part II: Parent Activities

### I. Healthy Eating and Exercise: a family effort

#### A. Education provided by principal investigator (30 minutes)

1. Why it is important for parents to promote healthy eating and exercise?
  - a. Increase prevalence of obesity
  - b. Medical/Psychological effects of being overweight for children and adults
  - c. Reasons why we eat unhealthy and don't exercise
    - a. Time
    - b. Convenience
    - c. Access to food
    - d. Family environment
    - e. Taste of food
    - f. Safety
2. Learn to "Stop Light Method" - parents will be given a list of various foods, and whether they are a red, yellow, or green food.
3. Parents will learn the components of the Food Guide Pyramid, what foods are located in each food group, and how many serving of each food group their child should have each day. A handout of the Food Guide Pyramid will be given to each parent.
4. What's for Lunch?: Parents will learn how to pack a healthy well-balanced lunch for their child. With plastic food models, parents will pack a lunch they "typically" give to their child. Group will discuss healthier and poorer food choices.
5. Guidelines for Staying Active as a family

Part III. Group Social- Parents and children will come together to enjoy healthy snacks (15 minutes)

## Appendix O

**USUHS "My Body, My Weight" Project**  
**Department of Medical and Clinical Psychology**  
**Phone: 301-295-9664**  
**Fax: 301-295-3034**

Dear Participant:

The Department of Medical and Clinical Psychology of the Uniformed Services University of Health Sciences (USUHS) in Bethesda, Maryland thanks you for your interest in participating as a voluntary subject for this research project.

You will be asked to complete many different types of questionnaires. Most of these questionnaires are related to eating, dieting, and your opinions of body image. However, the following questionnaires (African American Acculturation Scale, Landrine & Klonoff, Authors) and the (Black & White Racial Identity, Janet Helms, Author) have been developed by researchers to assess ethnicity and racial identity. These questionnaires have been used in past research studies in areas such as eating disorders, body image, occupational achievement, health care utilization, test performance, and medical/psychological disease presentation, diagnosis, and treatment in ethnically diverse populations. These questionnaires have been found to be valid and reliable measures. This means the questionnaires are good at measuring a person's ethnicity and racial identity, and consistently produce the same results each time the questionnaires are given. Despite the proven reliability and validity of these measures, we understand that some of the questions and statements may make you feel uncomfortable and may seem stereotypical. As always, you are free to refuse to answer any of these questionnaires. The data collected from these questionnaires will help us to study the effect of ethnicity on attitudes about your weight and body image and how these attitudes and beliefs may influence your child. We assure you that your answers will remain completely confidential.

In working with past participants, we know that some participants have questioned our motives for using these questionnaires. I want to assure you that neither I, nor my advisor promotes or holds credence to any of the stereotypical views illustrated. These scales, however, have been validated through scientific process to measure self-identity accurately, making them very important to this project.

Again, we sincerely thank you for your willingness to participate in this project.

Sincerely,

Dawnavan S. Davis, M.S.  
Project Director  
Department of Medical & Clinical Psych

Tracy Sbrocco, Ph.D.  
Associate Professor- Advisor  
Department of Medical & Clinical Psych



## Appendix P

Table 1: Child Demographics and Anthropometric Measures

|                                  | Overall      | African Americans<br>(n= 32) | Caucasians<br>(n=26) | Statistical<br>Test                |
|----------------------------------|--------------|------------------------------|----------------------|------------------------------------|
| N                                | 58           | 32 (55.2%)                   | 26 (44.8%)           |                                    |
| Age (yrs), M (SD)                | 6.17 (.38)   | 6.19 (.40)                   | 6.15 (.37)           | $t_{(56)} = -.33$                  |
| Gender, n (% sample)             |              |                              |                      | $\chi^2_{(1, n=58)} = .07$         |
| Male                             | 28 (48.3%)   | 18 (64.3%)                   | 10 (25.7%)           |                                    |
| Female                           | 30 (51.7%)   | 14 (46.7%)                   | 16 (53.7%)           |                                    |
| Weight (pounds),<br>M (SD)       | 53.96 (8.53) | 55.88 (7.68)                 | 51.61 (9.08)         | $F_{(1,54)} = 2.11$                |
| Height (inches), M (SD)          | 47.84 (2.87) | 48.58 (2.86)                 | 46.94 (2.66)         | $F_{(1,54)} = 3.66$ ,<br>$p = .06$ |
| BMI (kg/m <sup>2</sup> ), M (SD) | 16.54 (1.67) | 16.65 (1.42)                 | 16.41 (1.95)         | $F_{(1,54)} = .01$                 |

Note. Age, weight, height, and body mass index are all presented as mean scores (standard deviation).

Sample size and gender information are presented as raw score (percentages).

Table 2: Parent Demographics and Anthropometric Measures

|                                   | Overall        | African Americans<br>(n= 32) | Caucasians<br>(n=26) | Statistic<br>al Test              |
|-----------------------------------|----------------|------------------------------|----------------------|-----------------------------------|
| N                                 | 58             | 32 (55.2%)                   | 26 (44.8%)           |                                   |
| Age (yrs), M (SD)                 | 34.74 (6.72)   | 33.44 (7.22)                 | 36.35 (5.80)         | $t_{(56)} = 1.66$                 |
| Gender, n (% sample)              |                |                              |                      | $\chi^2_{(1, n=58)} = 33.38^{**}$ |
| Male                              | 7 (12.1%)      | 3 (42.9%)                    | 4 (57.1%)            |                                   |
| Female                            | 51 (87.9%)     | 29 (56.9%)                   | 22 (43.1%)           |                                   |
| Education (yrs), M (SD)           | 14.59 (2.28)   | 13.63 (2.00)**               | 15.77 (2.07)**       | $t_{(56)} = 4.01^{**}$            |
| County Residence, n (%<br>sample) |                |                              |                      | $\chi^2_{(3, n=58)} = 37.60^{**}$ |
| PG                                | 15 (25.9%)     | 12 (80.0%)                   | 3 (20.0%)            |                                   |
| Mont                              | 22 (37.9%)     | 1 (4.5%)                     | 21 (95.5%)           |                                   |
| District                          | 17 (29.3%)     | 16 (94.1%)                   | 1 (5.9%)             |                                   |
| Other                             | 4 (6.9%)       | 3 (75.0%)                    | 1 (25.0%)            |                                   |
| Weight (pounds),<br>M (SD)        | 174.16 (48.71) | 195.10 (47.78)**             | 148.38<br>(36.41)**  | $F_{(1,54)} = 7.93^{**}$          |
| Height (inches), M (SD)           | 61.16 (2.85)   | 65.41 (2.96)                 | 64.87 (2.74)         | $F_{(1,54)} = .77$                |
| BMI (kg/m <sup>2</sup> ), M (SD)  | 28.84 (7.78)   | 32.17 (7.85)*                | 24.94 (5.47)*        | $F_{(1,54)} = 6.00^*$             |

Note. Age, weight, height, body mass index and education are all presented as mean scores (standard deviation). Sample size, gender and county information are presented as raw score (percentages). \*  $p < .05$ ,

\*\*  $p < .01$ .

Table 3: Child Body Satisfaction by Race

|                                     | Race             |           | Total     |
|-------------------------------------|------------------|-----------|-----------|
|                                     | African American | Caucasian |           |
| Desirable Body Size                 |                  |           |           |
| Smaller                             | 18               | 18        | 36        |
| Larger                              | 11               | 4         | 15        |
| Same                                | 3                | 4         | 7         |
| <b>Total</b>                        | <b>32</b>        | <b>26</b> | <b>58</b> |
| $\chi^2(2, n=58)= 2.82,$<br>$p=.24$ |                  |           |           |

Note. Data presented as frequencies.

Table 3a: Child Body Satisfaction by Gender

|                                     | Gender    |           | Total     |
|-------------------------------------|-----------|-----------|-----------|
|                                     | Male      | Female    |           |
| Desirable Body Size                 |           |           |           |
| Smaller                             | 16        | 20        | 36        |
| Larger                              | 7         | 8         | 15        |
| Same                                | 5         | 2         | 7         |
| <b>Total</b>                        | <b>28</b> | <b>30</b> | <b>58</b> |
| $\chi^2(2, n=58)= 1.73,$<br>$p=.42$ |           |           |           |

Note. Data presented as frequencies.

Table 3b: Child Body Satisfaction by Child BMI

|                               | Body Desirability |           |           | Total     |
|-------------------------------|-------------------|-----------|-----------|-----------|
|                               | same              | smaller   | larger    |           |
| Child BMI                     |                   |           |           |           |
| Normal                        | 4                 | 23        | 11        | 38        |
| Elevated                      | 3                 | 13        | 4         | 20        |
| <b>Total</b>                  | <b>7</b>          | <b>36</b> | <b>15</b> | <b>58</b> |
| $\chi^2(2, n=58)= .67, p=.72$ |                   |           |           |           |

Note. Data presented as frequencies.

Table 4: Correlations Between Child/Parent Body Image among Caucasians ( $n=22$ )

|             | CBMI | CC   | CI   | CD     | PBMI | PCC   | PCI   | PCD    | PC     | PI    | PD     |
|-------------|------|------|------|--------|------|-------|-------|--------|--------|-------|--------|
| <b>CBMI</b> | 1.00 | .47* | -.27 | -.59** | .35  | .45*  | .32   | -.33   | .12    | .54*  | .19    |
| <b>CC</b>   |      | 1.00 | .44* | -.25   | .01  | .40   | .32   | -.25   | -.09   | .03   | .12    |
| <b>CI</b>   |      |      | 1.00 | .76**  | -.18 | -.13  | .15   | .28    | -.16   | -.33  | -.02   |
| <b>CD</b>   |      |      |      | 1.00   | -.20 | -.43* | -.07  | .48*   | -.11   | -.38  | -.11   |
| <b>PBMI</b> |      |      |      |        | 1.00 | -.17  | -.04  | .18    | .84**  | .66** | -.62** |
| <b>PCC</b>  |      |      |      |        |      | 1.00  | .60** | -.77** | -.32   | .03   | .40    |
| <b>PCI</b>  |      |      |      |        |      |       | 1.00  | .04    | .07    | .01   | .09    |
| <b>PCD</b>  |      |      |      |        |      |       |       | 1.00   | -.86** | -.03  | -.44*  |
| <b>PC</b>   |      |      |      |        |      |       |       |        | 1.00   | .58** | -.86** |
| <b>PI</b>   |      |      |      |        |      |       |       |        |        | 1.00  | -.08   |
| <b>PD</b>   |      |      |      |        |      |       |       |        |        |       | 1.00   |

Note. Data are presented as Person's  $r$  correlations. CBMI= Child BMI, CC= Child Perceived Current Body Size, CI= Child Ideal Body Size, CD= Child Body Dissatisfaction, PBMI= Parent BMI, PCC= Parent Perceived Current Body Size for Child, PCI- Parent Ideal Body Size for Child, PCD= Parent Body Dissatisfaction for Child, PC= Parent Perceived Current Body for Self, PI= Parent Ideal Body Size for Self, PD= Parent Body Dissatisfaction for Self. \*  $p<.05$ ; \*\*  $p<.01$ .

Table 5: Correlations Between Child/Parent Body Image among African Americans  
(*n*=29)

|             | CBMI | CC   | CI   | CD     | PBMI | PCC  | PCI  | PCD    | PC    | PI   | PD     |
|-------------|------|------|------|--------|------|------|------|--------|-------|------|--------|
| <b>CBMI</b> | 1.00 | .17  | .11  | -.06   | .22  | .22  | .03  | -.21   | .27   | -.17 | -.40*  |
| <b>CC</b>   |      | 1.00 | .00  | -.75** | .18  | .33  | -.27 | -.57** | .21   | -.01 | -.22   |
| <b>CI</b>   |      |      | 1.00 | .67**  | -.03 | .44* | .24  | -.26   | -.23  | -.17 | .12    |
| <b>CD</b>   |      |      |      | 1.00   | -.15 | .04  | .37  | .25    | -.31  | -.11 | .24    |
| <b>PBMI</b> |      |      |      |        | 1.00 | .13  | -.04 | -.17   | .65** | .27  | -.49** |
| <b>PCC</b>  |      |      |      |        |      | 1.00 | .45* | -.69** | .27   | .26  | -.10   |
| <b>PCI</b>  |      |      |      |        |      |      | 1.00 | .34    | .07   | .21  | .07    |
| <b>PCD</b>  |      |      |      |        |      |      |      | 1.00   | -.29  | -.11 | .16    |
| <b>PC</b>   |      |      |      |        |      |      |      |        | 1.00  | .38* | -.77** |
| <b>PI</b>   |      |      |      |        |      |      |      |        |       | 1.00 | .30    |
| <b>PD</b>   |      |      |      |        |      |      |      |        |       |      | 1.00   |

Note. Data are presented as Person's *r* correlations. CBMI= Child BMI, CC= Child Perceived Current Body Size, CI= Child Ideal Body Size, CD= Child Body Dissatisfaction, PBMI= Parent BMI, PCC= Parent Perceived Current Body Size for Child, PCI- Parent Ideal Body Size for Child, PCD= Parent Body Dissatisfaction for Child, PC= Parent Perceived Current Body for Self, PI= Parent Ideal Body Size for Self, PD= Parent Body Dissatisfaction for Self. \*  $p < .05$ ; \*\*  $p < .01$ .

Table 6: Body Image by Race for Child Participants

|                              | <b>African Americans<br/>(n= 32)</b> | <b>Caucasians<br/>(n=26)</b> |
|------------------------------|--------------------------------------|------------------------------|
| BMI, M (SD)                  | 16.65 (1.42)                         | 16.42 (1.95)                 |
| Current Body Size,<br>M (SD) | 3.44 (1.24)                          | 3.73 (.79)                   |
| Ideal Body Size,<br>M (SD)   | 3.06(1.19)                           | 2.81 (1.27)                  |
| Discrepancy Score,<br>M (SD) | -.38 (1.64)                          | -.92 (1.64)                  |

Note. Data presented as mean (standard deviation).

Table 7: Body Satisfaction Data by Gender for Child Participants

|                              | <b>Male<br/>(n= 28)</b> | <b>Female<br/>(n= 30)</b> |
|------------------------------|-------------------------|---------------------------|
| BMI, M (SD)                  | 16.98(1.60)             | 16.14 (1.66)              |
| Current Body Size,<br>M (SD) | 3.71 (1.10)             | 3.43 (1.01)               |
| Ideal Body Size,<br>M (SD)   | 3.18 (1.36)             | 2.73 (1.05)               |
| Discrepancy Score,<br>M (SD) | -.54 (1.55)             | -.70 (1.39)               |

Note. Data presented as mean (standard deviation).

Table 8: Summary Table of Significance Values for Child Body Image Factors by Race and Gender ( $n=58$ )

|                             | Main Effect-Race | Main Effect-Gender | Race X Gender |
|-----------------------------|------------------|--------------------|---------------|
| BMI                         |                  |                    |               |
| Overall                     | $p=.924$         | $p=.048^*$         | $p=.265$      |
| Power                       | (.051)           | (.510)             | (.198)        |
| Eta <sup>2</sup>            | [.000]           | [.070]             | [.023]        |
| Perceived Current Body Size |                  |                    |               |
| Overall                     | $p=.215$         | $p=.459$           | $p=.662$      |
| Power                       | (.234)           | (.113)             | (.072)        |
| Eta <sup>2</sup>            | [.029]           | [.010]             | [.004]        |
| Ideal Body Size             |                  |                    |               |
| Overall                     | $p=.515$         | $p=.179$           | $p=.326$      |
| Power                       | (.099)           | (.267)             | (.163)        |
| Eta <sup>2</sup>            | [.008]           | [.034]             | [.018]        |
| Discrepancy Score           |                  |                    |               |
| Overall                     | $p=.144$         | $p=.547$           | $p=.607$      |
| Power                       | (.308)           | (.092)             | (.080)        |
| Eta <sup>2</sup>            | [.040]           | [.007]             | [.005]        |

Note. Data presented are significance values, power (1- $\beta$ ), and effect sizes [eta<sup>2</sup>]. \*  $p < .05$ .

Table 9: Correlations Between African American Mother/Child Demographic Factors and Parental Acculturation ( $n=29$ )

|                  | Parent Weight | Parent BMI | Parent Age | Parent Education | Child Weight | Child BMI |
|------------------|---------------|------------|------------|------------------|--------------|-----------|
| AAAS Total       | -.57**        | -.57       | .39*       | .11              | -.15         | -.37*     |
| Subscales        |               |            |            |                  |              |           |
| Belief           | -.23          | -.20       | .15        | .32              | .07          | -.19      |
| Preference       | -.42**        | -.53**     | .25        | .16              | .00          | -.01      |
| Attitudes        | -.25          | -.25       | .15        | .32              | -.16         | -.07      |
| Family Practices | -.20          | -.21       | .19        | -.26             | -.10         | -.20      |
| Health           | -.39*         | -.27       | .35        | -.05             | -.22         | -.39*     |
| Superstitions    | -.15          | -.15       | .24        | -.20             | -.18         | -.53*     |
| Segregation      | -.49**        | -.40*      | .11        | -.17             | -.21         | -.16      |
| Family Values    | -.27          | -.25       | .18        | .08              | .13          | -.11      |

Note. Data are presented as Person's  $r$  correlations. AAAS= African American Acculturation Scale.

\*  $p < .05$ ; \*\*  $p < .01$ .

Table 10: African American Parental Acculturation and Child/Parent Body Image Factors ( $n= 29$ ).

|                                              | AAAS<br>Total | Bel  | Prefer | Att   | Fam<br>Pract | Health | Super | Segreg | Fam<br>Val |
|----------------------------------------------|---------------|------|--------|-------|--------------|--------|-------|--------|------------|
| Child Perceived Current Body Size for Self   | -.13          | .09  | -.23   | -.16  | .11          | -.25   | .03   | -.22   | .20        |
| Child Ideal Body Size for Self               | -.09          | -.29 | .14    | .01   | .21          | -.15   | .02   | -.25   | -.19       |
| Child Body Dissatisfy for Self               | .04           | -.26 | .26    | .12   | .06          | .09    | -.01  | -.01   | -.28       |
| Parent Perceived Current Body Size for Child | -.27          | -.19 | -.14   | -.24  | .08          | -.26   | -.08  | -.26   | .07        |
| Parent Ideal Body Size for Child             | .00           | -.35 | .34    | -.14  | -.07         | .10    | .21   | -.11   | .01        |
| Parent Body Dissatisfy for Child             | .28           | -.08 | .43*   | .14   | -.14         | .36    | .26   | .19    | -.07       |
| Parent Perceived Current Body Size for Self  | -.32          | -.01 | -.45*  | -.10  | -.04         | -.22   | -.19  | -.24   | .06        |
| Parent Ideal Body Size for Self              | -.29          | -.01 | -.36*  | -.39* | -.06         | -.09   | .03   | -.02   | -.16       |
| Parent Body Dissatisfy for Self              | .13           | .00  | .21    | -.16  | -.00         | .18    | .21   | .24    | -.18       |

Note. Data are presented as Person's  $r$  correlations. AAAS= African American Acculturation Scale, Bel= Beliefs, Prefer= Preference, Att= Attitudes, Fam.Pract= Family Practices, Super= Superstitions, Segreg= Segregation, and Fam Val= Family Values. \*  $p<.05$ .

Table 11: African American Mothers' Eating Behavior and Acculturation ( $n=29$ ).

|            | EDI             | Thinness       | Bulimia         | Body           | TEEQ-R          | DEBQ            | DEBQ-R          |
|------------|-----------------|----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| AAAS Total | -.10<br>$p=.61$ | .02<br>$p=.92$ | -.07<br>$p=.73$ | .15<br>$p=.45$ | -.14<br>$p=.46$ | -.01<br>$p=.97$ | -.20<br>$p=.31$ |

Note. Data are presented as Person's  $r$  correlations. AAAS= African American Acculturation Scale, EDI= Eating Disorders Inventory, TFEQ-R= Three Factor Eating Questionnaire Restraint Scale, DEBQ= Dutch Eating Habits Questionnaire, DEBQ-R= Dutch Eating Habits Questionnaire Restraint Scale. \*  $p<.05$ ; \*\*  $p<.01$ .

Table 12: Correlational Data for Racial Identity and Parent/Child Body Image Factors among Caucasians and African Americans

|                          | Child Perceived Body Size for Self | Child Ideal Body Size for Self | Child Body Diss for Self | Parent Perceived Body Size for Child | Parent Ideal Body Size for Child | Parent Body Diss for Child | Parent Perceived Body Size for Self | Parent Ideal Body Size for Self | Parent Body Diss for Self |
|--------------------------|------------------------------------|--------------------------------|--------------------------|--------------------------------------|----------------------------------|----------------------------|-------------------------------------|---------------------------------|---------------------------|
| <b>WRI Total (n=22)</b>  | -.42                               | .03                            | .33                      | -.61**                               | -.24                             | .58**                      | .15                                 | -.29                            | -.36                      |
| Pseudo-Independent (n=8) | -.41                               | -.14                           | .15                      | -.51*                                | -.18                             | .49*                       | .29                                 | .11                             | -.29                      |
| Autonomy (n=12)          | -.54**                             | -.22                           | .15                      | -.30                                 | -.17                             | .24                        | .07                                 | -.18                            | -.20                      |
| Contact (n=2)            | -.18                               | .02                            | .15                      | -.40                                 | .01                              | .50*                       | .37                                 | -.01                            | -.46*                     |
| <b>BRI Total (n=29)</b>  | -.26                               | .01                            | .20                      | -.10                                 | .22                              | .28                        | -.31                                | -.18                            | .19                       |
| Encounter (n=2)          | -.19                               | .21                            | .28                      | .02                                  | .13                              | .08                        | -.09                                | .05                             | .13                       |
| Immersion (n=1)          | -.26                               | -.00                           | .19                      | -.14                                 | .31                              | .41*                       | -.34                                | -.13                            | .26                       |
| Emersion (n=8)           | .12                                | -.01                           | -.10                     | .06                                  | .01                              | -.05                       | -.05                                | -.21                            | -.09                      |
| Internalize (n=18)       | -.14                               | -.21                           | -.03                     | -.05                                 | -.09                             | -.02                       | -.06                                | -.12                            | -.02                      |

Note. Data are presented as Person's r correlations. WRI= White Racial Identity, BRI= Black Racial Identity. \*  $p < .05$ , \*\*  $p < .01$ .

Table 13: Mothers' Body Satisfaction for Self by Race

|                                    | Race             |           | Total     |
|------------------------------------|------------------|-----------|-----------|
|                                    | African American | Caucasian |           |
| Desired Body Size for Self         |                  |           |           |
| Smaller                            | 23               | 17        | 40        |
| Larger                             | 2                | 0         | 2         |
| Same                               | 4                | 5         | 9         |
| <b>Total</b>                       | <b>29</b>        | <b>22</b> | <b>51</b> |
| $\chi^2 (2, n=51) = 2.09, p = .35$ |                  |           |           |

Note. Data presented as frequencies.



Table 14: Caucasian Mothers' Body Satisfaction for Self by BMI

|              | Body Desirability |           |          | Total     |
|--------------|-------------------|-----------|----------|-----------|
|              | same              | smaller   | larger   |           |
| Parent BMI   |                   |           |          |           |
| Normal       | 5                 | 9         | 0        | 14        |
| Elevated     | 0                 | 8         | 0        | 8         |
| <b>Total</b> | <b>5</b>          | <b>17</b> | <b>0</b> | <b>22</b> |

Note. Data presented as frequencies.

Table 14a: African American Mothers' Body Satisfaction for Self by BMI

|              | Body Desirability |           |          | Total     |
|--------------|-------------------|-----------|----------|-----------|
|              | same              | smaller   | larger   |           |
| Parent BMI   |                   |           |          |           |
| Normal       | 4                 | 2         | 1        | 7         |
| Elevated     | 0                 | 21        | 1        | 22        |
| <b>Total</b> | <b>4</b>          | <b>23</b> | <b>2</b> | <b>29</b> |

Note. Data presented as frequencies.

Table 15: Mothers' Body Satisfaction for Their Children by Race

|                                   | Race             |           | Total     |
|-----------------------------------|------------------|-----------|-----------|
|                                   | African American | Caucasian |           |
| Desired Body Size for Child       |                  |           |           |
| Smaller                           | 2                | 0         | 2         |
| Larger                            | 10               | 3         | 13        |
| Same                              | 17               | 19        | 36        |
| <b>Total</b>                      | <b>29</b>        | <b>22</b> | <b>51</b> |
| $\chi^2(2, n=51) = 5.01, p = .08$ |                  |           |           |

Note. Data presented as frequencies.

Table 16: Caucasian Mothers' Body Satisfaction for Their Children by Child BMI

|              | <b>Body Desirability</b> |           |          | Total     |
|--------------|--------------------------|-----------|----------|-----------|
|              | same                     | smaller   | larger   |           |
| Child BMI    |                          |           |          |           |
| Normal       | 0                        | 0         | 3        | 3         |
| Elevated     | 7                        | 12        | 0        | 19        |
| <b>Total</b> | <b>7</b>                 | <b>12</b> | <b>3</b> | <b>22</b> |

Note. Data presented as frequencies.

Table 16a: African American Mothers' Body Satisfaction for Their Children by Child BMI

|              | <b>Body Desirability</b> |          |           | Total     |
|--------------|--------------------------|----------|-----------|-----------|
|              | same                     | smaller  | larger    |           |
| Child BMI    |                          |          |           |           |
| Normal       | 10                       | 1        | 6         | 17        |
| Elevated     | 7                        | 1        | 4         | 12        |
| <b>Total</b> | <b>17</b>                | <b>2</b> | <b>10</b> | <b>29</b> |

Note. Data presented as frequencies.

Table 17: Mothers' Body Satisfaction for Self and Child by Parent Race

|                                               | <b>African Americans<br/>(n= 29)</b> | <b>Caucasians<br/>(n=22)</b> | <b>Statistical Test</b>       | <b>Power<br/>Eta<sup>2</sup></b> |
|-----------------------------------------------|--------------------------------------|------------------------------|-------------------------------|----------------------------------|
| Parents' Perceived Current Body Size for Self | 4.93 (1.36)                          | 4.23 (1.11)                  | $F(1,48)= .70$ ,<br>$p= .41$  | (.130)<br>[.014]                 |
| Parents' Ideal Body Size for Self             | 3.52 (.91)                           | 3.05 (.58)                   | $F(1,48)= .51$ ,<br>$p= .48$  | (.108)<br>[.011]                 |
| Parents' Body Dissatisfaction for Self        | -1.41 (1.32)                         | -1.18 (.91)                  | $F(1,48)= 1.64$ ,<br>$p= .21$ | (.241)<br>[.033]                 |
| Parents' Perceived Body Size for Child        | 3.48 (.87)                           | 3.73 (.77)                   | $F(1,48)= 1.30$ ,<br>$p= .26$ | (.201)<br>[.026]                 |
| Parents' Ideal Body Size for Child            | 3.90 (.67)                           | 3.95 (.49)                   | $F(1,48)= .13$ ,<br>$p= .72$  | (.065)<br>[.003]                 |
| Parents' Body Dissatisfaction for Child       | .41 (.82)                            | .23 (.61)                    | $F(1,48)= .89$ ,<br>$p= .35$  | (.153)<br>[.018]                 |

Note. Data presented are as mean (standard deviation). Significance values, power (1- $\beta$ ), and effect sizes [eta<sup>2</sup>] are presented.

Table 18: Correlations Between Child/Parent Body Image for All Participants ( $n=51$ )

|             | CBMI | CC   | CI   | CD     | PBMI | PCC   | PCI   | PCD    | PC    | PI    | PD     |
|-------------|------|------|------|--------|------|-------|-------|--------|-------|-------|--------|
| <b>CBMI</b> | 1.00 | .26  | -.06 | -.25   | .24  | .32*  | .14   | -.24   | .20   | .09   | -.16   |
| <b>CC</b>   |      | 1.00 | .14  | -.63** | .07  | .36** | -.11  | -.49** | .09   | -.03  | -.12   |
| <b>CI</b>   |      |      | 1.00 | .68**  | -.04 | .19   | .20   | -.05   | -.17  | -.19  | .06    |
| <b>CD</b>   |      |      |      | 1.00   | -.08 | -.12  | .24   | .33*   | -.20  | -.13  | .14    |
| <b>PBMI</b> |      |      |      |        | 1.00 | -.04  | -.06  | -.00   | .73** | .45** | -.51** |
| <b>PCC</b>  |      |      |      |        |      | 1.00  | .50** | -.72** | .02   | .14   | .07    |
| <b>PCI</b>  |      |      |      |        |      |       | 1.00  | .24    | .01   | .14   | .08    |
| <b>PCD</b>  |      |      |      |        |      |       |       | 1.00   | -.01  | -.04  | -.02   |
| <b>PC</b>   |      |      |      |        |      |       |       |        | 1.00  | .47** | -.79** |
| <b>PI</b>   |      |      |      |        |      |       |       |        |       | 1.00  | .17    |
| <b>PD</b>   |      |      |      |        |      |       |       |        |       |       | 1.00   |

Note. Data are presented as Person's  $r$  correlations. CBMI= Child BMI, CC= Child Perceived Current Body Size, CI= Child Ideal Body Size, CD= Child Body Dissatisfaction, PBMI= Parent BMI, PCC= Parent Perceived Current Body Size for Child, PCI- Parent Ideal Body Size for Child, PCD= Parent Body Dissatisfaction for Child, PC= Parent Perceived Current Body for Self, PI= Parent Ideal Body Size for Self, PD= Parent Body Dissatisfaction for Self. \*  $p<.05$ ; \*\*  $p<.01$ .

Table 19: Eating Behaviors for African American and Caucasian Mothers

|            | African Americans<br>( <i>n</i> =29) | Caucasians<br>( <i>n</i> =22) | Statistical Test              | Power<br>Eta <sup>2</sup> |
|------------|--------------------------------------|-------------------------------|-------------------------------|---------------------------|
| EDI Total  | 17.35 (8.27)                         | 25.48 (23.23)                 | $F(1,49)= 3.06$ ,<br>$p= .09$ | (.403)<br>[.059]          |
| Thinness   | 3.25 (2.25)                          | 4.18 (4.08)                   | $F(1,49)= 1.08$ ,<br>$p= .30$ | (.175)<br>[.022]          |
| Body       | 2.35 (2.15)                          | 5.91 (7.22)                   | $F(1,49)= 6.33^*$             | (.693)<br>[.114]          |
| Bulimia    | 1.48 (2.84)                          | 1.09 (2.45)                   | $F(1,49)= .27$ ,<br>$p= .61$  | (.080)<br>[.005]          |
| TFEQ-R     |                                      |                               |                               |                           |
| Restraint  | 24.97 (7.75)                         | 27.59 (7.14)                  | $F(1,49)= 1.53$ ,<br>$p= .22$ | (.229)<br>[.030]          |
| DEBQ Total | 82.00 (20.93)                        | 97.73 (13.12)                 | $F(1,49)= 9.55^{**}$          | (.858)<br>[.163]          |
| Restraint  | 27.03 (9.19)                         | 32.27 (7.25)                  | $F(1,49)= 4.85^*$             | (.579)<br>[.090]          |

Note. Data presented as mean (standard deviation). Significance values, power (1- $\beta$ ), and effect sizes [eta<sup>2</sup>] are presented. EDI= Eating Disorders Inventory, TFEQ-R= Three Factor Eating Questionnaire Restraint Scale, DEBQ= Dutch Eating Habits Questionnaire, DEBQ-R= Dutch Eating Habits Questionnaire Restraint Scale. \*  $p < .05$ , \*\*  $p < .01$ .

Table 20: Correlations Between Eating Behavior and Body Image for Children and Mothers ( $n= 51$ ).

|                                              | EDI   | Thinness | Bulimia | Body  | TEEQ-R | DEBQ  | DEBQ-R |
|----------------------------------------------|-------|----------|---------|-------|--------|-------|--------|
| Child Perceived Current Body Size for Self   | .09   | .03      | .00     | .04   | .08    | .04   | .02    |
| Child Ideal Body Size for Self               | .01   | .07      | -.06    | -.13  | -.17   | .05   | -.12   |
| Child Body Dissatisfaction for Self          | -.06  | .03      | -.05    | -.13  | -.19   | .01   | -.11   |
| Parent Perceived Current Body Size for Child | .06   | .02      | -.09    | .01   | .01    | .14   | -.04   |
| Parent Ideal Body Size for Child             | .01   | .04      | -.05    | -.02  | -.21   | -.02  | -.23   |
| Parent Body Dissatisfaction for Child        | -.06  | .01      | .06     | -.03  | -.18   | -.18  | -.15   |
| Parent Perceived Current Body Size for Self  | .20   | .23      | .48**   | .11   | .28*   | .14   | .19    |
| Parent Ideal Body Size for Self              | -.10  | -.13     | .22     | -.22  | -.33*  | -.17  | -.31*  |
| Parent Body Dissatisfaction for Self         | -.29* | -.35*    | -.38**  | -.28* | -.54** | -.28* | -.43** |
| Parent BMI                                   | .19   | .19      | .50**   | -.12  | .15    | .12   | .13    |
| Parent Weight                                | .22   | .20      | .55**   | -.11  | .19    | .14   | .13    |
| Child BMI                                    | .25   | .20      | .13     | -.04  | .10    | .02   | .05    |
| Child Weight                                 | .12   | .20      | .16     | -.14  | .07    | -.02  | .10    |

Note. Data are presented as Person's  $r$  correlations. EDI= Eating Disorders Inventory, TFEQ-R= Three Factor Eating Questionnaire Restraint Scale, DEBQ= Dutch Eating Habits Questionnaire, DEBQ-R= Dutch Eating Habits Questionnaire Restraint Scale. \*  $p<.05$ ; \*\*  $p<.01$ .

Appendix Q

Figure 1: Child Mean BMI Scores by Race and Gender

Child BMI Score by Gender and RaceGENDERGirlsBoysBMIS

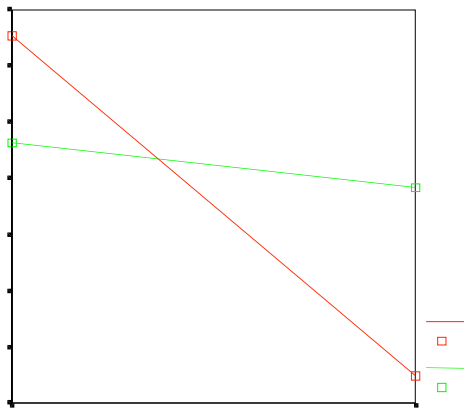
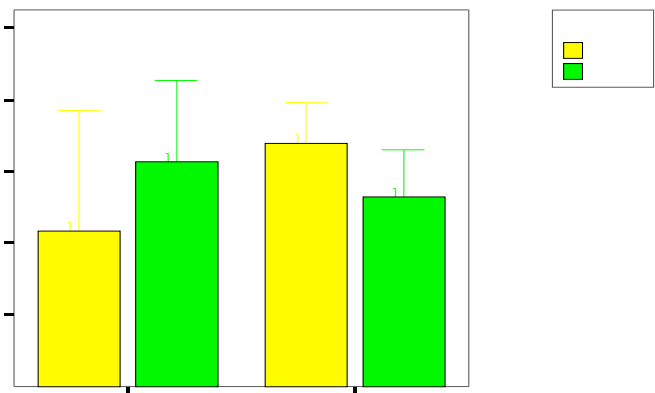


Figure 2: Child's Ideal Body Size by Race and Gender

MaleFemalegenderError Bars show 95.0% CI of MeanBars show MeansCaucasianAfrican AmericanRace12345IdealBodySize



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