Body Size Stigmatization: An Examination of Attitudes of African American Preschool-Age Children Attending Head Start*

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Objective To assess body size stigmatization attitudes (BSSA), their effect on friendship selection, and controllability beliefs in a sample of African American preschool-age children of low socioeconomic status. Methods Participants included 76 children attending Head Start. Children completed an adjective task, a friendship selection task, and a controllability task. Results On the adjective task, the Overweight figure received significantly more negative mean ratings than the Underweight figure; however, there were no significant differences between the mean ratings for the Overweight and Average figures or the Average and Underweight figures. On the friendship selection task, children preferred the Average or Underweight figures as playmates and friends. On the controllability task, greater control was associated with the Overweight figure than the Underweight figure. Conclusion Results suggest that BSSA may be present in a sample of African American preschool-age children of low socioeconomic status. These attitudes may influence friendship selection and controllability beliefs.

Key words African American; body size stigmatization; Head Start; overweight; psychosocial; preschool.

The percentage of children and adolescents who are overweight has steadily increased since the 1960s, with the problem disproportionately affecting minority children (e.g., Hispanic and African American) of low socioeconomic status (Troiano & Flegal, 1998). In addition to the growing numbers of children and adolescents who are overweight (National Center for Health Statistics [NCHS], 2004), over 10% of preschool-age children between the ages of 2 and 5 years are considered overweight—a number that increased from 7% in 1994 (Hedley et al., 2004). Increases in overweight are associated with both health-related and psychosocial consequences.

Consequences of Overweight

The numbers of children and adolescents who are overweight and presenting with health-related consequences such as diabetes and hypertension have increased in prevalence and incidence. In addition, the prevalence of overweight has been found to be significantly higher in children and adolescents with moderate to severe asthma (American Obesity Association [AOA], 2002). Other health-related consequences include orthopedic complications and sleep apnea.

There also are a number of psychosocial consequences that may affect the social–emotional development of children and adolescents who are overweight (Anesbury & Tiggemann, 2000; Cramer & Steinwert, 1998; Eisenberg, Neumark-Sztainer, & Story, 2003; Latner, Stunkard, & Wilson, 2005; Mushler-Eizenman, Holub, Miller, Goldstein, & Edwards-Leeper, 2004; Young-Hyman, Schlundt, Herman-Wenderoth, & Bozylinski, 2003). As children begin to detect differences in body size and, in turn, develop social judgments and behavioral expectations based on body size, they may begin to identify with and strive for an “ideal” body size themselves (Jarvie, Lahey, Graziano, & Framer, 1983). As a result, children may develop a positive attitude toward this ideal body size and a negative attitude toward an overweight body size. This negative attitude may manifest itself in weight-based teasing, which has been identified

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as a threat to the well-being of children who are overweight as well as a risk factor for body dissatisfaction and eating disorders (Abrams & Stormer, 2002; Eisenberg et al., 2003). In addition, the physical appearance of a child who is overweight may impair his or her socialization—more specifically, peers may not approach them or initiate positive interactions.

**Body Size Stigmatization Attitudes**

Traditionally, Western society projects a negative attitude toward overweight, which may lead to the development of negative stereotyping and body size stigmatization attitudes (BSSA; Anesbury & Tiggemann, 2000; Cramer & Steinwert, 1998; Eisenberg et al., 2003). BSSA are based on the notion that children who are overweight differ from other children in terms of personality and behavior (Cramer & Steinwert, 1998). Researchers have explored the origin of BSSA and have documented that adults (Tiggemann & Rothblum, 1988), as well as children, direct negative attitudes toward individuals who are overweight or obese (Brylinsky & Moore, 1994; Cramer & Steinwert, 1998; Musher-Eizenman et al., 2004).

In order to determine how early BSSA manifest, researchers have examined the presence of BSSA in preschool-age children. Sigelman, Miller, and Whitworth (1986) examined stigmatization attitudes related to physical characteristics with a sample of children in preschool to the third grade. All children were presented with drawings that depicted a child without stigmatizing characteristics (i.e., a “normal child”), an African American child, a child of the opposite sex, a child wearing glasses, a child with a facial disfigurement, a child in a wheelchair, and a child who was overweight. During a free-choice evaluation task, the preschool children assigned the most positive descriptions to the normal child and to the child wearing glasses, and all children preferred the normal child over the other drawings. Most notably, evaluations of the drawing of the child who was overweight became more negative among the older children than the younger children in the sample.

Cramer and Steinwert (1998) conducted two studies to assess BSSA and their effects on friendship selection in preschool-age children. Children were told four stories, and after each story, they were presented with two same-sex drawings (an overweight and an underweight drawing) and asked to identify which was the “mean” person and which was the “nice” person. For every story, children ascribed the mean adjective significantly more often to the overweight drawing than to the underweight drawing. In a follow-up study, which added an average-weight drawing to the array, the overweight drawing was chosen most frequently as mean. Starting at age 4, children seemed to focus notably on physical attributes, such as appearance and body size to justify their choices. Also, with increasing age, children attributed more negative adjectives to the overweight drawing than to the average-weight and underweight drawings.

Despite the inclusion of preschool-age children in the BSSA research, most studies failed to investigate attributional accounts of stigma that have been documented in school-age children and adults (Anesbury & Tiggemann, 2000; Bell & Morgan, 2000). Attributional theories predict that when a condition is attributed to a controllable cause, negative judgments and affective reactions will be made about the stigmatized condition. Musher-Eizenman et al. (2004) examined this prediction with a sample of preschool-age children. Consistent with Cramer and Steinwert (1998), the Overweight figure was assigned significantly fewer positive attributes than the Average-weight and Underweight figures, whereas the attributes of the Underweight and Average-weight figures were similar. Children also selected the Overweight figure as friends and best friends significantly less often than the Average-weight or the Underweight figures. In addition, children attributed a low to moderate amount of control over body size to figures that represented overweight. Consistent with previous research with older children (Anesbury & Tiggemann, 2000; Bell & Morgan, 2000), the more control children attributed to overweight, the more negatively they rated the Overweight figure.

Although there are a small number of studies examining BSSA in preschool-age children, results suggest these attitudes exist in young children and they affect their selection of friends. However, previous research has included almost solely children who were White and of middle socioeconomic status. Thus, results from these studies may not generalize to children of different ethnicities and of low socioeconomic status. Examining BSSA and their effects in diverse samples is important because research indicates different attitudes about weight across sex, culture, and ethnicity (Abrams & Stormer, 2002; Jain et al., 2001; Kemper, Sargent, Drane, Valois, & Hussey, 1994; Latner et al., 2005). For example, Latner et al. (2005) found that African American women, when compared to White women and men and African American men, demonstrated less stigmatization attitudes toward individuals who were obese. In addition, research has documented that, when compared to White girls and women, African American
girls and women reported less social pressure about their weight, greater satisfaction with their bodies, and less stigmatization about overweight (Brown et al., 1998; Kemper et al., 1994; Lawrence & Thelen, 1995; Story, French, Resnick, & Blum, 1995). Therefore, BSSA research needs to be replicated with preschool-age children from different ethnicities to determine if these culturally based attitudes are present in young children.

The purpose of this study is to examine the presence of BSSA in a sample of African American preschool-age children of low socioeconomic status, a population that has yet to be targeted in this research. In addition, the relations between BSSA and playmate and friendship selections, and attributions of control for overweight and underweight are examined. Because only African American preschool-age children of low socioeconomic status were included in this study, adaptations were made to the materials to enhance their developmental and cultural appropriateness. Consistent with a large body of research with preschool-age and older children, it was hypothesized that the children would assign more negative ratings to the Overweight figure than to the Average or Underweight figure; that the children would prefer Average or Underweight figures as playmates, friends, and best friends; and that greater control would be associated with the Overweight figure than the Underweight figure.

Method
Participants
Parents or legal guardians of African American children between the ages of 3 and 5 years attending a Head Start program in southwestern Tennessee were invited to participate in the study. Of the 100 invitation packets that were distributed, consent was obtained for 76 children. Children attending the program were predominantly from minority backgrounds and of low socioeconomic status, which is consistent with Head Start income eligibility guidelines (Leavitt, 2005). Only 72 children completed the adjective task; however, the four children unable to complete the adjective task were able to complete the friendship selection and controllability tasks. In addition, 75 children completed the friendship selection and controllability tasks. Only one child was unable to complete more than one task.

Children ranged in age from 3 years, 9 months to 5 years, 11 months (M = 55.7, SD = 6.2) and included 34 boys (44.7%) and 42 girls (55.3%). All of the children were African American, and their primary language was English. Children’s weight ranged from 27.5 pounds to 70 pounds (M = 43.1, SD = 7.9). Children’s body mass index (BMI) scores ranged from 12.5 to 23.2 (M = 15.8, SD = 1.8). Growth charts based on age and sex were used to determine the corresponding percentile for the BMI scores (Centers for Disease Control and Prevention, NCHS, 2000). The percentage of children who were classified as within the average range was 73.7% (n = 56), whereas 7.9% were classified as overweight (n = 6), 9.2% were classified as at risk for overweight (n = 7), and 9.2% were classified as overweight (n = 7). Because of a lack of variability and null findings across analyses, results related to BMI are not discussed.

Using parent education level as an index of socioeconomic status, for those children for whom mother’s education level was reported, 2.8% (n = 2) held less than a high school diploma, 28.2% (n = 20) received a high school diploma or equivalent, 63.4% (n = 45) completed some college or technical school, 4.2% (n = 3) held a bachelor’s degree, and 1.4% (n = 1) held higher than a bachelor’s degree. For those children for whom father’s education level was reported, 3.6% (n = 2) held less than a high school diploma, 51.8% (n = 29) received a high school diploma or equivalent, 39.2% (n = 22) completed some college or technical school, 3.6% (n = 2) held a bachelor’s degree, and 1.8% (n = 1) held higher than a bachelor’s degree.

Materials and Measures
Body Figures
Adaptations of school-age figures (Sherwood et al., 2004) that represented underweight, average, and overweight body sizes were used as stimuli for the tasks. Figures represented African American children, and each set of same-sex figures was depicted with the same face, hairstyle, and clothing. The body figures were 11 inches in height.

Adjective Task
A modified adjective task was used to measure children’s judgments about body size based on a series of personal characteristics. This task included eight adjective pairs (see left column of Table I) used in previous research (Brylinsky & Moore, 1994; Musher-Eizenman et al., 2004; Staffieri, 1967, 1972; Stager & Burke, 1982). In order to make this task more culturally and developmentally appropriate for the sample, informal observations were conducted in classrooms to record the presence or absence of target adjectives in children’s language. Teachers and administrators also provided information about adjectives commonly used. As a result, some adjectives from previous research were replaced: “pretty”
rather than “cute,” “messy” rather than “sloppy,” and “nice” rather than “kind.”

Two random orders of adjective pairs were created and counterbalanced across children. Each adjective pair was presented on a stimulus card and was read aloud. Same-sex figures were presented randomly one at a time. For each adjective pair, two boxes were depicted on a stimulus card. One box contained a negative adjective (e.g., ugly) and the other box contained a positive adjective (e.g., pretty). Once children chose an adjective to describe the figure, a flap was lifted that displayed a bar graph with two additional choices (e.g., “kind of pretty/ugly” or “very pretty/ugly”). Children repeated this process for the three figures across the eight adjective pairs. Responses to each adjective pair resulted in a score that ranged from 1 to 4 (a score of 1 was the most extreme option for the negative adjective, a score of 4 was the most extreme option for the positive adjective). Scores were summed and averaged for each adjective pair. In addition, scores were summed and averaged across adjective pairs to obtain total scores for each figure. Cronbach’s α was .66 for Underweight figure items, .74 for Average figure items, and .60 for Overweight figure items. All items demonstrated corrected item–total correlations above .20 with their respective total scores, except for the Neat/Messy adjective pair (.18) and the Strong/Weak adjective pair (.15) for the Overweight figure.

**Friendship Selection Task**

A modified friendship selection task (Bell & Morgan, 2000; Cramer & Steinwert, 1998; Musher-Eizenman et al., 2004) was used to determine the presence of BSSA in friendship selection. To simplify the presentation of this task and to make it more concrete for preschool-age children, the number of body figures presented was reduced from 18 to 9, and the figures were presented in a line as opposed to being grouped on a single sheet of paper (Musher-Eizenman et al., 2004). Children were presented with one of two randomly ordered lineups of nine same-sex figures that included three figures of each size.

Children were presented with four items designed to assess playmate and friendship selection. All items required children to choose from the Underweight, Average, and Overweight figures. Three items (Outside, Center Time, and Friend) required the children to select figures in response to three parts of each item. For example, the assessors stated, “Point to a child you want to play with outside. Point to another child you want to play with outside. Point to one more child you want to play with outside.” After figures were selected, they were removed from the lineup. This method required children to rank the desirability of the different figures as playmates and friends. The fourth item required children to choose a “best friend.”

**Controllability Task**

A modified controllability task (Musher-Eizenman et al., 2004) measured children’s understanding and beliefs about control of overweight and underweight. The Musher-Eizenman et al. (2004) controllability task focused solely on overweight. Children were required to answer five “Yes/No” questions and, if they responded “Yes,” they were asked to follow-up with a “definitely” or “maybe” response in order to complete a 3-point scale. Children in the current study were asked a total of 10 “Yes/No” questions. The first eight questions (alternating between the Overweight and the Underweight

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**Table I. Descriptive Statistics and Results of the One-Way Repeated Measures Analysis of Variance for Adjective Pairs**

<table>
<thead>
<tr>
<th>Adjective pair</th>
<th>Underweight</th>
<th>Average</th>
<th>Overweight</th>
<th>ANOVA*</th>
<th>Post-hoc testsb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>F</td>
</tr>
<tr>
<td>Pretty/Ugly</td>
<td>2.78</td>
<td>1.25</td>
<td>2.50</td>
<td>1.26</td>
<td>3.82</td>
</tr>
<tr>
<td>Neat/Messy</td>
<td>2.43</td>
<td>1.30</td>
<td>2.29</td>
<td>1.24</td>
<td>4.83</td>
</tr>
<tr>
<td>Strong/Weak</td>
<td>2.04</td>
<td>1.23</td>
<td>2.81</td>
<td>1.26</td>
<td>7.10*</td>
</tr>
<tr>
<td>Healthy/Sick</td>
<td>2.46</td>
<td>1.31</td>
<td>1.89</td>
<td>1.17</td>
<td>3.80</td>
</tr>
<tr>
<td>Smart/Stupid</td>
<td>2.56</td>
<td>1.23</td>
<td>2.37</td>
<td>1.32</td>
<td>1.82</td>
</tr>
<tr>
<td>Nice/Mean</td>
<td>2.67</td>
<td>1.36</td>
<td>2.32</td>
<td>1.29</td>
<td>1.77</td>
</tr>
<tr>
<td>Happy/Sad</td>
<td>2.65</td>
<td>1.28</td>
<td>2.61</td>
<td>1.26</td>
<td>.08</td>
</tr>
<tr>
<td>Fun/Not Fun</td>
<td>2.49</td>
<td>1.32</td>
<td>2.81</td>
<td>1.32</td>
<td>7.37*</td>
</tr>
</tbody>
</table>

Note: O = overweight, A = average, U = underweight.

Note: A score of 1 indicates the most negative rating, and a score of 4 indicates the most positive adjective.

*df = 2 for each adjective pair F-statistic.

bStatistical significance was defined as p < .017 for post-hoc tests.

*p < .006.
figures) assessed beliefs about fault, food consumption, exercise, and parent size. Two additional questions assessed beliefs about the ability to become thin and the ability to control body size.

To provide a visual reference for the children, the Overweight or the Underweight figure was presented with the appropriate questions. Responses were scored on a 3-point scale (0 = Don’t Know, 1 = No, and 2 = Yes). In addition to scores from the individual questions, scores from the first eight questions were summed and averaged to obtain a total score (ranging from 0 to 2). Cronbach’s $\alpha$ for the total score was .56. All eight items demonstrated corrected item–total correlations above .20, except for the question that assessed beliefs about parent size for the Overweight figure (.17).

**Procedures**

**Assessment**

Children were assessed individually at a Head Start program during normal program hours. Children gave verbal assent to participate, and then they were escorted to a quiet room in which height and weight were measured and tasks were administered.

**Age Group Variable**

Due to unequal numbers of children at each 1-year age level, age was collapsed into a two-level categorical variable called "age group." For all analyses in which age was used as a categorical variable, the age group variable was formed by using the mean split based on age in months to form two groups: (a) 36–54 months ($n = 33$) and (b) 55–72 months ($n = 43$). The age group variable was used for all analyses examining the effects of age.

**Integrity**

The first author observed 30% of the assessment sessions and completed an assessment integrity checklist. The percentage of assessments checked was distributed equally across all trained assessors. For all observed assessment sessions, each trained assessor met 100% of the criteria outlined on the assessment integrity checklist.

**Results**

An $\alpha$-level of .05 was used for all statistical tests, unless it was stated otherwise when using a Šidak–Bonferroni correction.

**Adjective Task**

Several series of one-way repeated measures analysis of variance were conducted using mean adjective ratings as the repeated factor and body figure as the within-subjects factor. Mean adjective ratings were 2.51 ($SD = 0.70$) for the Underweight figure, 2.45 ($SD = 0.73$) for the Average figure, and 2.26 ($SD = 0.66$) for the Overweight figure. Overall, there was a significant effect for body figure, $F(2, 142) = 3.81$, $p = .02$. Post-hoc tests were analyzed to determine the source of the effect. Using a Šidak–Bonferroni corrected $\alpha$ of .017, results yielded a significant difference between the mean adjective ratings for the Underweight and Overweight figures, $t(71) = 1.98$, $p = .01$. There were no significant differences between the mean adjective ratings for the Overweight and the Average pair of figures or the Average and the Underweight pair of figures. Sex and age group did not influence children’s adjective ratings.

For the individual adjective pairs, there were significant main effects ($p < .006$) for body figure for two of the eight adjective pairs (Table I): (a) Strong/Weak and (b) Fun/Not Fun. Post-hoc paired-samples $t$-tests (using a corrected $\alpha$ of .017) were used to determine the source of the effect. For the Strong/Weak adjective pair, results yielded significant differences between the mean ratings for the Underweight ($M = 2.04$, $SD = 1.23$) and Average ($M = 2.82$, $SD = 1.26$) figures, $t(71) = 3.46$, $p = .001$, and for the Underweight and Overweight ($M = 2.74$, $SD = 1.35$) figures, $t(71) = 2.93$, $p = .005$. For the Fun/Not Fun adjective pair, results yielded significant differences between the mean ratings for the Underweight ($M = 2.49$, $SD = 1.32$) and Average ($M = 2.04$, $SD = 1.27$) figures, $t(71) = 2.47$, $p = .017$, and for the Average ($M = 2.81$, $SD = 1.32$) and Overweight figures, $t(71) = 3.74$, $p < .001$.

**Friendship Selection Task**

To determine the presence of significant discrepancies between the observed versus the expected frequencies for body figure chosen first across friendship selection task items, aggregated data were obtained by collapsing children’s first choice of body figure across all three items (e.g., Outside, Center Time, and Friend). Results indicated a significant discrepancy for body figure chosen first across friendship selection task items, $\chi^2(2, N = 225) = 27.31$, $p < .001$. Post-hoc tests revealed significant differences between frequencies for all pairs of figures ($p < .017$). The Average figure was chosen 48% of the time ($n = 107$), the Overweight figure 33% of the time ($n = 75$), and the Underweight figure 19% of the time ($n = 43$).

Next, aggregated data were used to test for discrepancies in the body figure chosen within a single
item across all three tasks. For the Outside item, results indicated a significant discrepancy for body figure chosen, $\chi^2(2, N = 225) = 9.36, p = .009$. Post-hoc tests revealed a significant discrepancy between preference for the Average figure (+33%; $n = 96$) over the Overweight figure (27%; $n = 60$), $p < .017$. There were no significant differences between the preference for the Average figure over the Underweight figure or for the Underweight figure over the Overweight figure. Significant discrepancies were not documented for the Center Time item, the Friend item, and Best Friend item ($p > .013$).

Due to some significant discrepancies in body figure chosen, additional analyses were conducted to determine the effects of sex and age group. Results indicated no significant relation between sex and body figure chosen first across friendship selection task items, $\chi^2(2, N = 75) = 1.03, p = .397$. In addition, there were no significant relations between sex and the body figures chosen within an item across all three tasks. Results also indicated no significant relation between age group and body figure chosen first across friendship selection task items, $\chi^2(2, N = 75) = .21, p = .900$. There were no significant relations between age group and body figure chosen within an item across all three tasks.

**Controllability Task**

For tests targeting all six questions, a Šidák-Bonferroni corrected $\alpha$ of .009 was used. For the question that assessed fault as influencing body size, children attributed a significantly greater amount of fault to the Overweight figure ($M = 1.81, SD = 0.39$) than to the Underweight figure ($M = 1.57, SD = 0.50$), $t(74) = 3.67, p < .001$. For the question that assessed over consumption of food as influencing body size, there was a statistically significant difference. Children indicated that the Overweight figure was “fat” because of “too much” food ($M = 1.96, SD = 0.20$), whereas the Underweight figure was “thin” because of some reason other than over consumption of food ($M = 1.41, SD = 0.50$), $t(74) = 8.98, p < .001$. For the question that assessed lack of exercise as influencing body size, there was a statistically significant difference. Children indicated the Overweight figure was “fat” because of lack of exercise ($M = 1.51, SD = 0.50$), whereas the Underweight figure was “thin” for some reason other than lack of exercise ($M = 1.80, SD = 0.40$), $t(74) = 4.50, p < .001$. However, there was no significant difference for the question that measured the effects of parent size. For the question that asked, “Can a fat child become thin if they really try?”, a significantly greater number of children answered Yes than No, $\chi^2(2, N = 75) = 46.32, p < .001$, suggesting that children believed “fat” children can change their body size. For the question that asked, “Do children have control over their body size?” a significantly greater number of children answered Yes than No, $\chi^2(2, N = 75) = 38.48, p < .001$, suggesting that children believed other children can control their body size. There was no significant interaction between sex and the size of the figure on any of the questions.

Bivariate correlations were calculated to determine if there were significant relations between controllability beliefs and BSSA (as measured by mean adjective ratings across each body figure). The controllability total score was significantly and negatively correlated with the mean adjective ratings for the Overweight figure ($r = .25$, $p = .04$), suggesting greater controllability beliefs were associated with less positive adjective ratings for the Overweight figure and vice versa. There was not a significant relation between controllability beliefs and mean adjective ratings for the Underweight figure.

**Discussion**

The current study was designed to expand and to contribute to the BSSA literature involving preschool-age children. It was conducted with a sample of African American preschool-age children of low socioeconomic status, a population that has yet to be included in this line of research. Further, this study was the first to assess BSSA as well as their relations with friendship selection and controllability beliefs regarding overweight and underweight with an African American preschool-age sample.

**Presence of BSSA**

The current results extend previous research and suggest that BSSA are present in African American preschool-age children of low socioeconomic status. Consistent with a stigmatization attitude documented with preschool-age children, older children, and adults (Anesbury & Tiggemann, 2000; Brylinsky & Moore, 1994; Cramer & Steinwert, 1998; Latner & Stunkard, 2003; Mushet-Eizenman et al., 2004; Tiggemann & Rothblum, 1988), the Overweight figure received ratings that were most negative across the majority of adjective pairs. However, on the Strong/Weak pair, the Underweight figure received ratings that were most negative, and on the Healthy/Sick pair, the Average figure received ratings that were most negative. In the Jain et al. (2001) study, mothers of low socioeconomic status, who were mostly African American, described larger body sizes as “thick, healthy, or strong.”
Therefore, children in the current study may have associated the Overweight figure with the term “Healthy” due to cultural and environmental influences (Jain et al., 2001), and the Underweight figure with the term “Healthy” due to societal norms and expectations (Kemper et al., 1994).

Despite this consistent finding of children providing the most negative ratings to the Overweight figure, in contrast to previous research (Cramer & Steinwert, 1998; Musher-Eizenman et al., 2004), the children rated the Overweight figure significantly more negative than the Average figure on only one adjective pair (i.e., Fun/Not Fun). These findings may reflect central tenets of social cognitive theory, which suggest that BSSA develop through the cultural and social transmission of behavioral expectations based on body size (Jain et al., 2001). Because African American children and adults often experience overweight and obesity (NCHS, 2004; Troiano & Flegal, 1998), the children in the current study may be more accepting of overweight and therefore, may not attribute excessively negative characteristics to it. This trend also has been found in the adult literature (Latner et al., 2005).

Effects of BSSA on Friendship Selection

Although children may adopt cultural attitudes about body size from their families or from actual experiences, these attitudes may not generalize to a variety of settings (e.g., playground) because even young children may use physical appearance as a social cue. Therefore, children’s actions may not be consistent with their attitudes, and they may prefer Average or Underweight figures due to social pressure or to the perceived ability of children to complete tasks. In a manner consistent with these postulations, research has suggested that children’s attitudes toward their peers and their choice of playmates may vary as a result of type of interaction or activity, indicating playmate preferences may depend on whether or not children believe a peer can perform a desired activity (Harper, 1999; Jarvie et al., 1983).

The children in the current study preferred the Average figure first across all items, significantly more often than the Overweight or the Underweight figures. This finding is consistent with previous research (Cramer & Steinwert, 1998; Musher-Eizenman et al., 2004) and provides evidence that BSSA may influence playmate and friendship selection in a sample of African American preschool-age children of low socioeconomic status. In addition, across all items, the Overweight figure was chosen first approximately 14% more often than the Underweight figure. However, this finding was not consistent across every item. For example, the Average figure was preferred most often on the Outside item. There was also variation in the figures chosen least often. The Overweight figure was chosen significantly least often on the Outside item, and the Underweight figure was chosen least often on the Center Time item, albeit not significantly. This finding is interesting, although not very predictable, because the Overweight figure, overall, received a more negative rating on the adjective task, whereas the Underweight figure received a more positive rating on the adjective task. Thus, children may have chosen playmates based on perceived ability to engage in specific tasks due to body size. Children did not display a significantly greater preference for a particular figure for the Center Time, Friend, and Best Friend items. Perhaps these findings raise the possibility that preschool-age children may base their choices of playmates for indoor activities, friends, and best friends on factors other than body size, whereas their choice of playmates for outdoor activities may include factors related to body size.

Cramer and Steinwert (1998) documented a sex-related effect on a playmate preference task suggesting girls preferred the Underweight figure as a playmate significantly more often than boys. These results were not evident in this study. Although these disparate findings may be due to differences in the friendship selection tasks that were employed, they also may be due to cultural and socioeconomic status differences (Abrams & Stormer, 2002; Latner et al., 2005) or some other differences not apparent from sample descriptions and their interactions with sex. As found in research conducted with African American females, perhaps preschool-age African American girls are not as influenced as White preschool-age children to choose an Underweight figure, although more research is needed to support this assertion.

Controllability Beliefs

The children in the current study indicated that the Overweight figure was “fat” because of “too much food” and because of a “lack of exercise” and that the Overweight figure could both change and control body size. Children’s controllability beliefs are likely influenced by culturally based beliefs taught to them by their caregivers, by their peers, and by the ways society and media portray health and attractiveness (Abrams & Stormer, 2002; Cohane & Pope, 2001; Eisenberg, Neumark-Sztainer, Story, & Perry, 2005; Wardle & Watters, 2004). Thus, children’s belief that weight is
controllable may mediate their BSSA (Anesbury & Tiggemann, 2000; Bell & Morgan, 2000; Sigelman, 1991). There were no significant sex differences related to control of overweight in this study.

Limitations and Future Directions
Despite the adaptations and improvements made to the materials used in the current study, there are several potential limitations that deserve attention.

Reliability and Validity
The internal consistency reliability statistics indicated adequate item homogeneity for the adjective task and the controllability task, but such statistics could not be reported for the friendship selection task. Lessened reliability at the item level may have led to a decreased ability to detect significant differences across independent variables. Future studies should include a greater number of items to increase reliability.

Although the friendship selection task was only one piece of this study, its ecological validity can be questioned. Some have asserted that methods requiring true peer nominations that use pictures of actual peers may best represent attitudes and behaviors observed in real-life settings (e.g., on the playground; Cramer & Steinwert, 1998; Jarvie et al., 1983). However, this study’s use of novel figures does target the key characteristics of weight without the intertwined and confounding influences of peers’ personality characteristics as well as their prior interactions with their peers. Future research is needed to extend this study by using more ecologically valid methods, such as true peer nomination measures and naturalistic observations.

Sampling Characteristics
Additional limitations are related to the sample. First, African American children were recruited from one Head Start program, so the sample is neither representative of all African American children nor representative of children in Head Start programs across the United States. Second, there were unequal numbers of children at each 1-year age level and in each BMI category. Therefore, future research should include larger samples from Head Start programs across the nation to ensure better representation.

Implications
Overall, results from the current study were consistent with previous research conducted with samples of White preschool-age children of middle socioeconomic status (Cramer & Steinwert, 1998; Musher-Eizenman et al., 2004). Evidence suggests the presence of BSSA in a sample of African American preschool-age children of low socioeconomic status. It is especially important to include children from other minority backgrounds (e.g., Hispanic and Native American) and of low socioeconomic status in the BSSA research because these groups also are affected disproportionately by overweight; therefore, they may experience untoward psychosocial consequences (Hedley et al., 2004; NCHS, 2004; Troiano & Flegal, 1998). In addition, by including children of diverse backgrounds, researchers can examine whether children display different BSSA toward different ethnicities. This information may help researchers understand how culturally based beliefs and behavioral expectations generalize to and across other ethnicities.

Some research indicates that caregivers transmit culturally based beliefs about weight-acceptance to their children. In order to understand the transmission and origin of these beliefs, researchers could assess the BSSA of the influential adults in children’s lives. In addition, researchers may be able to document and understand sex-based solutions to overweight that are facilitated by the media (e.g., calorie restriction for girls vs. an active lifestyle for boys). By incorporating measures of caregiver and teacher beliefs, researchers can use this information to design prevention and intervention programs that promote body size acceptance and healthy lifestyle choices by building on cultural beliefs and expectations.

Evidence also suggests that children who are overweight suffer from harmful peer interactions that may lead to psychosocial and health-related consequences. Prevention and intervention programs need to address these issues and incorporate components designed to educate children about overweight as well as its causes and solutions. Researchers can include the methods used in the current study, as well as more ecologically valid materials, to measure efficacy outcomes of prevention and intervention programs that promote accurate understandings of overweight and that promote the acceptance of children of different body sizes. By doing so, researchers can determine if BSSA will become less negative over time with intervention.

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