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Gender and Ethnic Differences in Body Image and Opposite Sex Figure Preferences of Rural Adolescents

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Abstract

This study examined whether rural adolescents would report gender and ethnic differences in body image similar to those that have been observed in urban samples. Data were analyzed for 384 rural adolescents (57% African American, 43% Caucasian, mean age 13 yr) to determine gender and ethnic differences in body dissatisfaction, body size discrepancy, and current and ideal figure ratings. Females wanted to be smaller and reported more body dissatisfaction than did males. Caucasian females reported the most body dissatisfaction. African Americans reported larger current and ideal figure ratings than did Caucasians. African Americans preferred larger opposite sex figures than did Caucasians. Both African American and Caucasian males selected a larger female figure as ideal than was selected by females. Results demonstrated that gender and ethnic differences exist in body image for rural adolescents. This frequently overlooked population may benefit from further study. Implications of findings and limitations of the study are also discussed.

Keywords

Gender differences; Ethnic differences; Body Image; Rural; Adolescents

Numerous studies have shown that adolescent females are dissatisfied with their shape and weight and prefer a thinner body figure (Demarest & Allen, 2000; Gardner, Friedman, & Jackson, 1999). Males, by contrast, appear to be generally satisfied with their overall body shape and size, although some may wish to be larger or more muscular (Peixoto-Labre, 2002; Stanford & McCabe, 2005). Additional studies have revealed that African Americans tend to report less body dissatisfaction than Caucasians, as well as a preference for a larger current figure and a larger ideal figure than Caucasians (Gluck & Geliebter, 2002; Miller & Gleaves, 2000). Further, when evaluating opposite sex body preferences, African American men find a larger female figure more attractive than do Caucasian men (Jackson & McGill, 1996; Thompson, Sargent, & Kemper, 1996). African American and Caucasian women prefer both thin and muscular builds for the opposite sex (Jackson & McGill, 1996).

The majority of these studies examined urban/suburban populations. Little is known about the body image of rural adolescents. These individuals, because of their remote location and oftentimes low socio-economic status (Fries, Meyer, & Danish, 2001), could be shielded from

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media images that promote the adoption of a thin body ideal. However, this issue has not been explored. If body image concerns exist, lack of research in this population may cause them to be overlooked in terms of body image and weight-related interventions. The present study examined gender and ethnic differences in body image and opposite sex figure preferences in a sample of rural adolescents. Consistent with findings in urban youth, we predicted that rural females and Caucasians would report greater body size dissatisfaction and body size discrepancy than would rural males and African Americans. We also anticipated that African Americans would prefer larger opposite sex figure ratings than would Caucasians.

Method

Participants and Procedure

Questionnaires were completed by 484 seventh grade students from seven rural¹ Virginia middle schools as part of the Goals for Health (GFH) study. This is a 3-year randomized, school-based trial, designed to reduce cancer risk among adolescents by implementing a teacher- and peer-led risk reduction program. GFH staff administered questionnaires in a classroom setting and explained that information from the questionnaires would be used to learn about health behaviors of middle school students. Students were informed that study participation was completely voluntary and that all information would remain confidential. All (100%) eligible students assented to participation in the study, and parental consent was obtained. The study was approved by Virginia Commonwealth University's Internal Review Board.

To prevent the potential effect of the intervention on study outcomes, only students from the control group were included in this study. (Students were assessed during the second year of the study.) Data were cleaned for infrequent/inconsistent responses (N=44), and students from the "Other" ethnic group category (N=56) were removed because of insufficient sample size for ethnic comparisons. The final sample included 384 students with 57% African American, 43% Caucasian, and 52% male.

Measures

Demographics—Demographic variables including race, gender, birth month and year, height, and weight were self-reported by students.

Body Dissatisfaction—The Body Dissatisfaction (BD) sub-scale of the Eating Disorders Inventory-2 (EDI-2) was used to assess students' dissatisfaction with the overall shape and size of various body parts (Garner, 1991). Scores range from 0 to 21 with higher scores indicating higher levels of body dissatisfaction. The subscale has good test-retest reliability and convergent validity with other measures of overall body dissatisfaction (Garner, 1991).

Figure Rating Scale—The Figure Rating Scale (FRS) was used to evaluate body size satisfaction (Stunkard, Sorensen, & Schulsinger, 1983). It includes drawing of nine silhouettes (male and female) ranging from very thin (1) to very heavy (9). Students were presented with male and female (adult) versions of the FRS and were asked to identify the figure they currently had and the figure they would like to have. Discrepancy scores were calculated based on difference between the actual and ideal figures chosen. Positive scores indicate a desire to be smaller, while negative scores suggest a desire to be larger. The discrepancy between the current and desired figures has been widely interpreted as an indication of level of *body size satisfaction* rather than *weight satisfaction* (Gardner et al. 1999). Same and opposite sex figure

¹Rural is defined as having a population of fewer than 2500 or less than 150 inhabitants per square mile. Each county in the sample had less than 45 inhabitants per square mile. (US Census Bureau, n.d.)

preference were assessed by having students indicate which male and female figures most girls find ideal and which male and female figures most boys find ideal. These questions were used to examine figures deemed as ideal within each gender compared to figure sizes favored by the opposite sex.

The FRS has acceptable reliability. Two-week test-retest reliability for the “ideal” variable is .71 for males and .82 for females (Thompson & Altabe, 1991). FRS discrepancy scores have modest convergent validity with the BD subscale of the Eating Disorder Inventory-II (.60 for females and .27 for males) (Thompson & Altabe, 1991).

Analyses

Two-way analyses of variance (ANOVAs) were conducted to examine gender and ethnic differences on all dependent variables -- body mass index (BMI), body dissatisfaction, and body size discrepancy ratings. Pairwise and independent samples t-tests were conducted to examine gender and ethnic differences between selected current and ideal figures and opposite sex figure ratings. A Bonferroni correction was used to control the alpha level for each family of t-test comparisons. Based on this correction, the alpha level for all t-tests was adjusted to $p < .01$. We note that the FRS can be viewed as either an interval or ordinal scale, but it is most commonly used as an interval scale (Demarest & Allen, 2000; Perry, Rosenblatt, & Wang, 2004). Thus, our principal analyses were conducted using the scale as an interval measure. Additional nonparametric analyses, which treated the scale as an ordinal measure, yielded the same statistical conclusions.

Results

Descriptive Statistics

Table 1 shows descriptive data for respondents. Participants had a mean age of 13.4 ± 0.6 yr, height of 161.9 ± 11.7 cm, weight of 55.8 ± 13.4 kg, and BMI of 21.2 ± 4.7 kg/m². Parental education (N=265), assessed from a parent survey, was as follows: 39% high school or less, 26% some college or trade school training, 21% college degree, 11% advanced degree, and 3% other. Fifty-eight percent of parents were employed full-time, 13% part-time and 29% other (i.e. homemaker, retired, unemployed).

Gender and Ethnic Differences in BMI

When examining gender and ethnic differences in BMI, the two-way ANOVA revealed ethnic differences only. BMI values for African Americans ($M=22.2$ kg/m² ± 5.0 kg/m²) were significantly higher than those for Caucasians [$M=20.1$ kg/m² ± 4.1 kg/m²; $F(1, 376)=17.14$, $p<.001$, Cohen's $d=.47$].

Gender and Ethnic Differences in Body Size Dissatisfaction

In terms of body size dissatisfaction (as measured by BD subscale of the EDI-2), two-way ANOVA revealed main effects for both gender [$F(1, 376)=11.33$, $p<.001$] and the gender by ethnicity interaction term [$F(1, 376)=5.29$, $p=.03$]. Females reported higher BD scores ($M=5.8 \pm 5.5$) than males ($M=4.1 \pm 4.9$). A one-way ANOVA (with a Tukey post-hoc test) revealed that Caucasian males ($M=3.3 \pm 4.8$) reported lower BD scores than did both African American females ($M=5.4 \pm 5.5$) and Caucasian females [$M=6.4 \pm 5.5$; $F(3, 375)=4.99$, $p<.001$]. African American males reported a mean BD score of 4.7 ± 5.0 , which was not statistically different from the other three groups.

Gender and Ethnic Differences in Current and Ideal Figure Ratings

Figure 1 presents the mean scores for participants' current and ideal figure ratings. Females chose an ideal figure ($M=2.7 \pm 1.0$) that was smaller than their current figure [$M=3.2 \pm 1.2$, $t(158)=5.92$, $p<.001$, Cohen's $d=.47$], whereas there were no significant differences between current ($M=3.9 \pm 1.3$) and ideal ($M=3.8 \pm 1.1$) figures for males. Both African Americans (current figure, $M=3.7 \pm 1.3$ vs. ideal figure, $M=3.5 \pm 1.1$, $t(178)=3.22$, $p<.001$, Cohen's $d=.25$) and Caucasians (current figure $M=3.2 \pm 1.3$ vs. ideal figure $M=2.9 \pm 1.2$, $t(143)=3.06$, $p<.001$, Cohen's $d=.24$) selected a smaller ideal figure. Among males, African Americans and Caucasians did not differ significantly in their current figure ratings ($M=4.0 \pm 1.4$ and $M=3.8 \pm 1.3$, respectively). However, African American males chose a larger figure as ideal than Caucasian males [$M=4.0 \pm 1.1$ vs. 3.6 ± 1.1 , respectively; $t(181)=2.4$, $p=.01$, Cohen's $d=.37$]. Among females, African Americans selected a larger current ($M=3.5 \pm 1.3$) and ideal ($M=3.1 \pm 1.0$) figure than Caucasian females [current figure, $M=2.6 \pm 1.0$; ideal figure, $M=2.2 \pm 0.8$; $t(163)=4.7$, $p=.01$, Cohen's $d=.75$ and $t(178)=6.6$, $p<.001$, Cohen's $d=.97$, respectively].

A two-way ANOVA revealed significant gender differences in discrepancy scores [$F(3, 376)=3.95$, $p<.001$] but no effect for ethnicity. Results revealed that females reported a larger discrepancy ($M=0.5 \pm 1.1$) between their current and ideal figures than males ($M=0.1 \pm 1.3$). These scores indicate that, on average, females wanted to be one half size smaller than their current size, whereas, there was very little discrepancy between current and ideal figures for males. Follow-up analyses examined males with a BMI above or below the median of 20 kg/m^2 and revealed that males with a BMI below 20 kg/m^2 desired a larger figure as ideal [current figure = 2.8 ± 1.1 , ideal figure = 3.0 ± 1.2 ; $t(128)=-2.79$, $p<.001$, Cohen's $d=.17$]. Males with a BMI above 20 kg/m^2 chose a smaller figure as ideal [current figure = 4.0 ± 1.2 , ideal figure = 3.3 ± 1.2 ; $t(139)=7.78$, $p<.001$, Cohen's $d=.59$].

Gender and Ethnic Differences for Opposite Sex Figure Ratings

When asked which opposite sex figure they found ideal, males reported a mean female figure rating of 3.3 ± 1.1 as ideal. This figure was larger than what females considered ideal for themselves [$M=2.7 \pm 1.0$; $t(337)=-5.19$, $p<.001$, Cohen's $d=.48$]. Females reported an ideal male figure rating of 3.8 ± 1.1 , which was not statistically different from what males reported as ideal for themselves ($M=3.8 \pm 1.2$). Among males, African Americans selected a larger female figure as ideal than Caucasians [$M=3.5 \pm 0.9$ vs. 2.9 ± 0.8 respectively; $t(167)=5.0$, $p<.001$, Cohen's $d=.32$]. Among females, African Americans selected a larger male figure as ideal than Caucasians [$M=3.7 \pm 1.1$ vs. 2.6 ± 1.0 respectively, $t(165)=6.2$, $p<.001$, Cohen's $d=1.0$].

When examined within ethnicities, African American males chose a larger female figure as ideal than African American females chose for themselves [$M=3.4 \pm 1.0$ vs. 3.1 ± 0.9 , respectively, $t(185)=-4.15$, $p<.001$, Cohen's $d=.32$]. African American males and females chose similar ideal male figures (3.7 ± 1.1). Caucasian males chose a larger female figure as ideal than Caucasian females chose for themselves [$M=2.6 \pm 0.9$ vs. 2.4 ± 0.9 , $t(150)=-3.12$, $p<.001$, Cohen's $d=.22$]. Additionally, Caucasian males and females were similar in their selection of an ideal male figure; both choose a mean figure of 3.0 ± 1.1 .

Discussion

Results of our study of rural adolescents are consistent with those of urban youth. Adolescent females wanted to be at least one half size smaller than their current size and reported greater body dissatisfaction and body size discrepancy than did males (Demarest & Allen, 2000; Gardner et al. 1999). Caucasian females reported the highest BD scores and Caucasian males reported the lowest. We note, however, that our respondents scored substantially lower

than do individuals in eating-disordered samples whose body dissatisfaction scores ranged from 14-19 (Garner, 1991). Thus, our participants scored in a non-clinical range on the BD subscale and reported a similar level of body image concern as their same-aged peers (Garner, 1991), including respondents from urban samples.

There were no significant differences between the current and ideal figures selected by males. However, when a median split of BMI was performed, males with a BMI below 20 kg/m² wanted to be larger than their current size. These results are similar to findings suggesting that adolescent males tend to report a desire to be larger and/or more muscular (Peixoto-Labre, 2002; Welch et al. 2004).

Results demonstrated that both ethnic groups wanted to be smaller. However, the current and ideal figures selected by African Americans were larger than those selected by Caucasians. This is consistent with previous research suggesting that African Americans are more comfortable with a larger body size than are Caucasians (Gluck & Geliebter, 2002; Miller & Gleaves, 2000). Further, African Americans reported higher BMIs than did Caucasians, which is also consistent with previous research (Perry et al. 2004). Thus, although African Americans reported some body dissatisfaction, their ideal body preferences tended to be for larger figures than selected by Caucasians.

Finally, results revealed that males, regardless of race, selected larger female figures as ideal than females chose as ideal for themselves. These results support previous findings that females perceive males as being attracted to thinner female figures than is actually true for males (Jackson & McGill, 1996; Thompson, Corwin, & Sargent, 1997). Similar to previous studies, African Americans preferred larger opposite sex figures than did Caucasians. These results are consistent with findings that African Americans are more comfortable with and even prefer larger body sizes for themselves and their opposite sex mates (Gluck & Geliebter, 2002; Jackson & McGill, 1996).

Our study had several limitations including the failure to assess respondents' socioeconomic status (SES). Students were not asked to provide household income information because this information may not be valid/reliable and is considered sensitive. Thus, the effects we have attributed to ethnicity may possibly be explained, in part, by differences in SES between African Americans and Caucasians. Swami and Tovee (2005a, 2005b) found that perceived male and female attractiveness varied across populations of differing SES. Future studies should include measures of SES to control for potential differences in body image related to income.

Future studies also would be strengthened by measuring participants' height and weight. Self-reports, as used in the present study, may overestimate height and underestimate weight (Pirie, 1981). Thus, our BMI results should be interpreted cautiously. Finally, the FRS is of unknown validity in non-white populations. Future studies that examine body image in African Americans should consider using the culture-specific measure recently developed by Pulvers et al. (2004).

In summary, it appears that rural adolescents are not immune from body image concerns, despite their remote locations. Results suggest that rural Caucasians females could be at risk for developing eating disorders or an unhealthy body image. Additionally, although African Americans' preferences for a larger body size may be protective against the development of poor body-esteem and eating disorders, these preferences may promote cultural norms for body size and weight-related practices that increase risk for overweight or obesity (Celio, Zabinski, & Wilfley, 2002). Additional investigation of these hypotheses is needed in both rural and urban youth.

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Figure adapted from Stunkard, Sorensen, and Schulsinger, 1983.

Figure 1.
Current and ideal figure ratings for African Americans and Caucasians split by gender.

Table 1

Participants' Demographic and Other Characteristics.

Variable	Total Sample (N=384)	African Americans (N=221, 51% male)	Caucasians (N=163, 55% male)	Males (N=201)	Females (N=183)
Age (yr)	13.4 ± 0.6	13.4 ± 0.6	13.4 ± 0.5	13.5 ± 0.6	13.2 ± 0.5
Height (cm)	161.9 ± 11.7	162.2 ± 12.9	161.4 ± 9.9	164.3 ± 11.9	159.0 ± 10.6
Weight (kg)	55.8 ± 13.4	58.3 ± 13.5	52.6 ± 12.7	58.9 ± 14.8	53.60 ± 11.4
BMI (kg/m2) ^a	21.2 ± 4.7	22.2 ± 5.0	20.1 ± 4.1	21.3 ± 4.8	21.2 ± 4.6
Current figure	3.5 ± 1.3	3.7 ± 1.3	3.2 ± 1.3	3.9 ± 1.3	3.2 ± 1.2
Ideal figure	3.2 ± 1.1	3.5 ± 1.1	2.9 ± 1.2	3.8 ± 1.1	2.7 ± 1.0
Body dissatisfaction score	4.9 ± 5.2	5.1 ± 5.2	4.7 ± 5.3	4.1 ± 4.9	5.8 ± 5.5
Body size ^b discrepancy score	0.3 ± 1.2	0.3 ± 1.2	0.4 ± 1.1	0.1 ± 1.3	0.5 ± 1.1

^a BMI = body mass index.

^b Positive scores indicate a desire to be thinner; negative scores indicate a desire to be larger.