

# Stigmatized Students: Age, Sex, and Ethnicity Effects in the Stigmatization of Obesity

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## Abstract

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**Objective:** To assess the stigmatization of obesity relative to the stigmatization of various disabilities among young men and women. Attitudes across ethnic groups were compared. In addition, these findings were compared with data showing severe stigmatization of obesity among children.

**Research Methods and Procedures:** Participants included 356 university students (56% women; mean age, 20.6 years; mean BMI, 23.3 kg/m<sup>2</sup>; range, 14.4 to 45.0 kg/m<sup>2</sup>) who ranked six drawings of same-sex peers in order of how well they liked each person. The drawings showed adults with obesity, various disabilities, or no disability. These rankings were compared with those obtained through a similar procedure with 458 fifth- and sixth-grade children.

**Results:** Obesity was highly stigmatized relative to physical disabilities. African-American women liked obese peers more than did African-American men, white men, or white women [ $F(1,216) = 4.02, p < 0.05$ ]. Overweight and obese participants were no less stigmatizing of obesity than normal weight participants. Adults were more accepting than children of their obese peers [ $t(761) = 9.16, p < 0.001$ ].

**Discussion:** Although the stigmatization of obesity was high among participants overall, African-American women seemed to have more positive attitudes toward obesity than did white women, white men, or African-American men. Participants' weight did not affect their stigmatization of obesity: obese and overweight adults were as highly stigmatizing of obesity as non-overweight adults. Such internalized stigmatization could help to explain the low self-

esteem and poor body image among obese young adults. However, adults seemed to have more positive attitudes about obesity than children. An understanding of the factors that limit the stigma of obesity among African-American women could help efforts to reduce stigma.

**Key words:** stigmatization, sex differences, ethnicity, children

## Introduction

Stigmatization of obesity is aimed at obese adults (1) and children (2,3), college students (4), and medical patients (5) and is perpetuated by peers (6), parents (4), health providers (7), and even researchers who specialize in the study of obesity (8). As a result, obese individuals experience discrimination in educational, occupational, and medical settings (5). The psychological impact of such stigma includes diminished self-esteem (9,10) and, not surprisingly, negative body image (11).

Obesity is as highly stigmatized as other targets of stigma: AIDS, drug addiction, criminal behavior, and homosexuality (12). It may be more stigmatized than many disabilities. Two classic studies by Richardson et al. (13,14) showed that children consistently preferred peers with one of four disabilities to those with obesity: children holding crutches, sitting in a wheelchair, having a facial disfigurement, or having a missing hand. A recent replication of these studies (15) found that children's stigmatization of obese peers has increased in the 40 years since the original study (13), despite the 3-fold rise in the prevalence of childhood obesity (16).

It is not yet clear how young adults view obese peers compared with peers with physical disabilities. There is also a question of how individual differences, such as ethnic background, sex, and weight, among potential perpetrators of weight bias may influence the extent of their stigmatization of obesity relative to the stigmatization of physical disabilities. Previous evidence suggests that African-American individuals, particularly women, may be less likely than whites to hold negative attitudes about obese people (17,18). On the other hand, equal numbers of African-

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American and white overweight adolescent girls report having experienced stigmatizing experiences such as hurtful comments, teasing, and name calling, most frequently carried out by their peers (19).

This study further extended the findings with children (13) to adults. College men and women were asked to view six sex- and age-matched drawings of peers, varying in weight and in the presence of disabilities, and to indicate how much they liked the person depicted in each drawing. Sex, weight category, and ethnic group differences were examined, and it was hypothesized that African-American participants, particularly women, would show less stigmatization than white participants. Adults' responses were also compared with those of children from the study noted above (15), in which children ranked their liking of drawings of sex- and age-matched peers with various disabilities and obesity.

## Research Methods and Procedures

### Participants

Participants included 356 college students enrolled at a large state university who were recruited from lecture classes in various departments. Their mean age was 20.6 years, and their current BMI was 23.3 kg/m<sup>2</sup>. The sample was 56% women, and 54.3% were white, 23.3% were Asian, 8.9% were African American, 6.9% were Hispanic, 1.4% were Native American, and 2.9% were other ethnicity; 2.3% of participants did not identify their ethnic background.

### Measures

Participants were administered a questionnaire displaying drawings similar to those used in previous studies of children (13–15). They depicted six adults: one with no visible disabilities or obesity (Healthy), one holding crutches with a brace on one leg (Crutches), one sitting in a wheelchair with a blanket covering both legs (Wheelchair), one with a missing hand (Hand), one with a facial disfigurement on one side of the mouth (Face), and one who was obese (Obese). The figures were otherwise matched for size, clothing, and facial appearance, differing only in the features depicting the above conditions. Female figures were 60 mm high (55 mm for the wheelchair figure) and 15 mm wide at the shoulders (18 mm for the obese figure), and male figures were 62 mm high (56 mm for the wheelchair figure) and 16 mm wide at the shoulders (19 mm for the obese figure). Figures were black and white line drawings of non-specific ethnicity. Male participants received drawings of male adults, and women received drawings of female adults. They were displayed alongside one another and below a set of instructions.

Questionnaires were distributed, filled out, and collected before the start of the class in which they were administered.

The design was one developed for studies of children (13–15). The questionnaire instructed participants to keep their answers private, not to show their forms to anyone else, and not to write their names on their forms. Participants were asked to look carefully at the six pictures and to circle the picture of the person whom they liked best. They were asked to look at a second set of the same pictures beneath the first set on the same questionnaire form and to circle the person they liked second best, etc., until all six rankings were obtained. They were instructed to review their responses to make sure that they had circled each drawing once and only once. Participants were asked to indicate their age, height, weight, their highest-ever weight, the age at which they were at their highest weight, and their ethnic background.

This study was approved by the Rutgers University Institutional Review Board. Informed consent was obtained from all participants.

### Statistical Procedures

Participants' responses were numbered in order of preference from 1 to 6 (most to least well-liked). Participants were divided into categories based on their current BMI and their highest-ever BMI:  $\geq 25$  (overweight), 18.5 to 24.9 (normal weight), and  $< 18.5$  kg/m<sup>2</sup> (underweight) (as defined by the National Heart, Lung, and Blood Institute) (20). Responses of participants in each of these categories were compared using one-way ANOVA. Independent-samples Student's *t* tests were used to compare the responses of white and African-American participants and male and female participants. Independent-samples Student's *t* tests also examined possible differences between the responses obtained in this sample and those obtained in a previous study of 458 fifth- and sixth-grade children who had also ranked drawings of six same-sex peers with the same four physical disabilities, obesity, or neither obesity nor disabilities (15).

## Results

Three hundred forty-eight participants were included in the analyses; eight were excluded for filling out the questionnaires incorrectly. The mean rank and SD given to the six drawings are shown in Table 1. The healthy person received the highest rank among the drawings, and the obese person received the second lowest rank, next to the person with no left hand.

### Ethnicity

African-American participants showed a greater liking for obese persons than white participants did [ $t(218) = 2.00$ ,  $p < 0.05$ ]. Asians also showed a greater liking than whites for obese persons [ $t(268) = 2.13$ ,  $p < 0.05$ ]. No differences emerged between African Americans and whites or Asians

**Table 1.** Mean rank of each drawing

Drawings	Sets of participants					
	Sex		Ethnicity			
	Male	Female	African American	Asian	Hispanic	White
Healthy	2.08 (1.52)	2.24 (1.73)	2.52 (1.75)	1.96 (1.56)	2.42 (1.82)	2.13 (1.62)
Face*	2.54 (1.64)	3.36 (1.80)	3.16 (1.81)	3.02 (1.71)	2.88 (1.98)	2.95 (1.76)
Crutches	3.24 (1.26)	3.25 (1.27)	2.90 (1.40)	3.42 (1.25)	3.38 (1.35)	3.20 (1.25)
Wheelchair	4.10 (1.52)	3.87 (1.58)	3.90 (1.74)	3.99 (1.59)	3.92 (1.59)	4.02 (1.52)
Obese*†	4.34 (1.37)	3.85 (1.50)	3.68 (1.56)	3.84 (1.38)	3.88 (1.30)	4.24 (1.45)
Hand	4.66 (1.19)	4.42 (1.45)	4.71 (1.13)	4.78 (1.29)	4.54 (1.38)	4.43 (1.36)
N	154	194	31	81	24	189

Values are means (SD).

Higher numbers indicate greater stigmatization.

\* Significant difference between men and women ( $p < 0.005$ ).

† Significant difference between African-American and white and between Asian and white participants ( $p < 0.05$ ).

and whites in their responses to any other picture. There were also no differences in the liking of the obese figure between Hispanic and white participants. However, combining all non-white ethnic groups and comparing their responses to those of whites did yield a significant difference in the liking of the obese figure [ $t(339) = 2.80$ ,  $p < 0.005$ ; = 3.80 and 4.24, respectively], suggesting greater stigmatization by whites, with no differences in liking of any of the other figures. There were no differences in ranking between any other ethnic groups.

### Sex

Comparison of rankings between men and women showed two significant differences. Men responded more favorably than women to the facially disfigured drawing [ $t(346) = 4.38$ ,  $p < 0.001$ ] and less favorably to the obese drawing [ $t(339) = 3.20$ ,  $p < 0.005$ ; = 4.34 and 3.85].

### Interaction of Sex and Ethnicity

Because of this sex difference, a 2 (sex)  $\times$  2 (ethnic group) factorial ANOVA was used to assess possible interaction effects between sex and ethnicity for each of two pairs of ethnic groups: African-American and white and Asian and white. For African Americans and whites, an interaction effect emerged between sex and ethnic background [ $F(1,216) = 4.02$ ,  $p < 0.05$ ]. Whereas no differences emerged between African-American men and white men, African-American women found the obese person to be more likeable than did white women [ $t(116) = 2.92$ ,  $p < 0.005$ ], as shown in Figure 1. No significant interaction effect was found for Asian and white participants [ $F(1,$

266) = 2.43, not significant]. The finding of a difference between white and non-white participants in their ranking of obese peers was also not qualified by any interaction with sex, as shown by a 2 (sex)  $\times$  2 (minority) ANOVA [ $F(1,337) = 1.86$ , not significant].

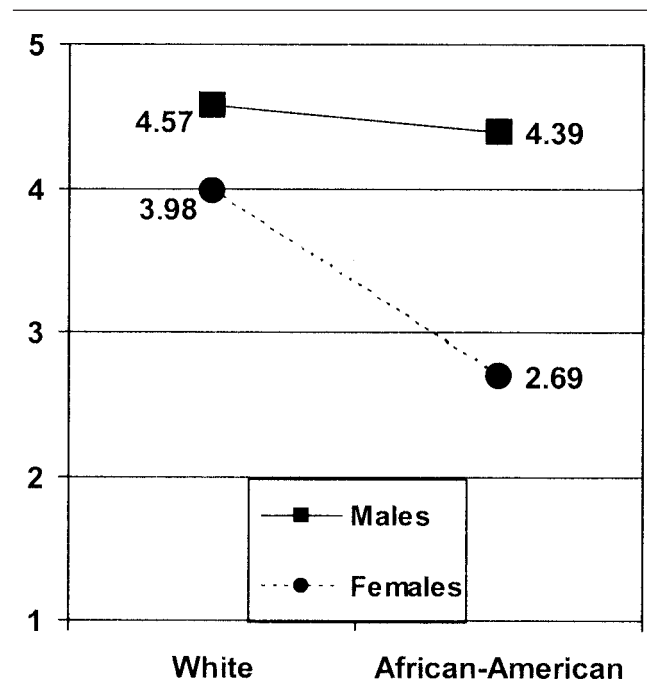


Figure 1: Interaction effect between sex and ethnicity in ratings of liking of obese peers. Higher numbers indicate greater stigmatization.

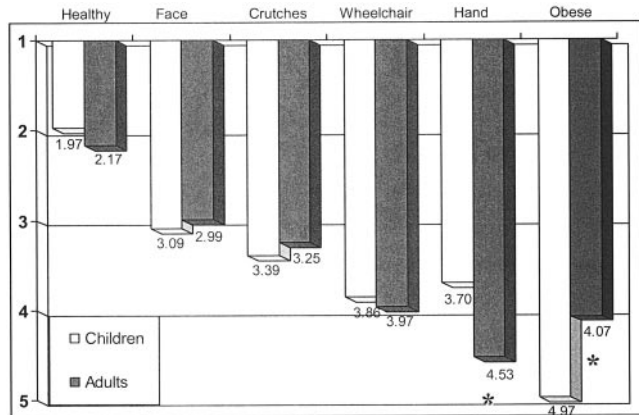


Figure 2: Mean rankings of drawings of adult peers found in this study and mean rankings of drawings of children's peers reported in Latner and Stunkard (15). Higher numbers indicate greater stigmatization.

### Weight

One-way ANOVA revealed no differences in participants' liking of any of the six drawings among the three weight categories [BMI of  $\geq 25$  (25.3%), between 18.5 and 24.9 (66.1%), or  $< 18.5$  kg/m<sup>2</sup> (6.6%; 2% did not specify their weight)]. This was also true when these three weight groups were examined separately for male and female participants. In addition, repeating these analyses using participants' highest reported lifetime weight also yielded no differences among those with a highest-ever BMI of  $\geq 25$  (37.4%), those whose BMI was between 18.5 and 24.9 (57.9%), and those  $< 18.5$  kg/m<sup>2</sup> (4.0%; highest reported weight was not specified by 3.7%). Comparison of participants with a BMI  $> 30$  (7.9%) with those  $< 25$  kg/m<sup>2</sup> (72.7%) and between those  $> 30$  with  $< 30$  kg/m<sup>2</sup> (92.1%) yielded trends toward greater liking of obese peers on the part of obese participants [ $t(278) = 1.76, p < 0.08$ ;  $t(340) = 1.78, p < 0.08$ , respectively]. Finally, there was no significant correlation between participants' BMI and their liking of obese peers.

### Adults and Children

The responses in this study were compared with the responses of children to six comparable pictures of peers (15). These analyses revealed that adults liked the obese figure significantly more [ $t(761) = 9.16, p < 0.001$ ] and the figure with no left hand significantly less [ $t(761) = 7.61, p < 0.001$ ] than did children (Figure 2). The more favorable attitudes toward obese peers by adults remained when examining men [ $t(347) = 2.83, p < 0.005$ ] and women [ $t(412) = 10.15, p < 0.005$ ] separately. However, a 2 (age)  $\times$  2 (sex) factorial ANOVA revealed a significant interaction effect [ $F(1, 759) = 20.00, p < 0.001$ ; see Figure 3]. Whereas girls liked obese peers less than boys did, as

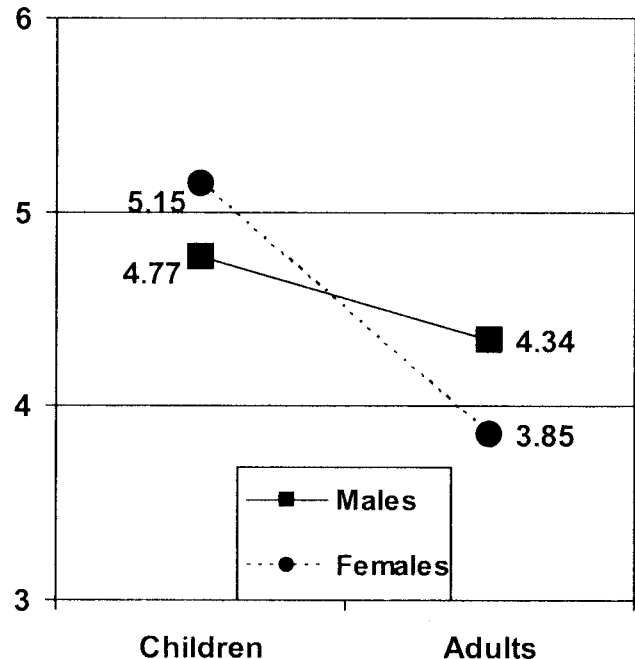


Figure 3: Interaction effect between sex and age in ratings of liking of obese peers. Higher numbers indicate greater stigmatization.

reported previously (15), women liked obese peers more than men did, as reported above. Also, in contrast to these results among adults, there were no ethnic group differences among children's rankings of their obese peers (15).

### Discussion

This study showed that, among participants overall, obesity was highly stigmatized. However, African-American adults liked obese peers significantly more than did whites, indicating greater acceptance and less stigmatization. This finding was because of African-American women, who viewed obese individuals more favorably than did white women, African-American men, or white men. Asian participants also liked obese peers more than white participants did, a finding that applied to both men and women.

The reduced stigmatization of obesity by African-American women may be related to their greater prevalence of obesity (49%) compared with white women (31%) (21). Obesity may be less salient and, therefore, considered less deviant among African-American women (17). The greater acceptance of obesity among minority group members may also result from the process of disidentification, whereby individuals reject the standards and ideals of the majority group, in this case thinness, to protect or affirm their sense of self-esteem (17). Compared with African-American young women, white young women report greater dietary restraint, smaller ideal body sizes, greater body dissatisfaction,



tion (22), and greater discrepancy between current and ideal body size (23). Perhaps because of such attitudinal differences, obese white and Hispanic adolescent girls have significantly lower self-esteem than non-obese white and Hispanic adolescent girls, whereas the self-esteem of obese and non-obese African-American adolescent girls is similar (24). It is of note, however, that although African Americans were less stigmatizing of obese peers than other ethnic groups in this study, they still liked obese peers less than non-obese peers, peers with crutches, and facially disfigured peers. This suggests that despite a greater acceptance of obesity and possible rejection of mainstream thin ideals, African-American young women may still have internalized those ideals to some extent.

Unexpectedly, men liked obese peers less than women did. This finding is in direct contrast with previous findings that girls liked obese peers less than boys did (13,15). It is possible that female respondents might be generally more accepting of obesity than male respondents; some previous evidence suggests that adult men hold more negative attitudes toward obesity than women (1,18). On the other hand, a study using implicit measures of weight bias showed higher levels of bias among women that were not revealed by explicit measures (8). Although this study assessed only same-sex evaluations, one might predict that men might have highly negative attitudes toward obese women as well as toward obese men.

Between-group analyses indicated that overweight and obese young adults are just as stigmatizing of obese individuals as are their normal weight counterparts, consistent with reports that obese individuals hold negative attitudes toward obesity (25–28). It has been suggested that this internalized stigmatization among obese individuals might account for their low self-esteem (17,29).

Among both men and women, there was less stigmatization of obese peers by adults in this study than by children in the previous study (15). In the absence of prospective data, it is not possible to determine whether this difference was caused by changes in levels of bias over the course of development or a difference between two age cohorts that were examined cross-sectionally. Previous cross-sectional research has revealed that, at least during early development (in children 4 to 9 years old), stigmatization of obesity *increases* with age (6). However, research with a wider age range of children and adults has indicated that children are less tolerant of larger body size than are adults, whereas the range of ideal and acceptable body sizes tends to expand with age (30), consistent with these findings. Just as the prevalence of obesity among African-American women might make excess weight less deviant in this group (17), the higher prevalence of obesity in adults relative to children might also increase adults' tolerance of obesity among their peers.

A limitation of this study was that the majority of participants were white, with smaller proportions of participants from other ethnic backgrounds; future research should use stratified sampling methods to confirm the ethnic differences in the stigmatization of obesity. Another limitation was the forced-choice design, based on the older studies of children by Richardson et al. (13,14) and their recent replication (15). This design may limit the flexibility of responses (31); however, it may also reduce social desirability effects, thus eliciting the full range of responses for each participant. In addition, the design may be relevant with regard to decision-making about the ranking and selection of applicants for universities or jobs.

In research on weight stigma, the high levels of bias toward obesity may increase the risk of ceiling effects, which may make it harder to identify correlates of higher levels of bias. Future studies should consider the use of visual analog scales to overcome this problem. In addition, prospective studies of changes in stigmatization are needed to examine possible changes in the stigmatization of obesity across the lifespan. The difference between adults and children in this study could represent differences across two age cohorts rather than a developmental change. If the results do reflect a developmental shift from a greater stigmatization by girls to a greater stigmatization by young adult men, they might suggest that, over the course of development, young men may learn to place as much or more value on appearance and thinness as girls do earlier on. Alternatively, men might continue to prioritize functional ability (as indicated by boys' greater stigmatization of wheelchair-bound peers) (13,15), and obesity may be perceived as a greater functional disadvantage with increased age. In childhood, excess weight might be less of an obstacle to physical activity than in adulthood (when more comorbid health problems may develop).

Because obese people may be stigmatized partly because they are blamed for their condition (32), future research would benefit from the use of comparison groups that include problems where there may also be some attribution of blame, such as substance abuse, criminal activity, or HIV. Further research is also needed to explain differences in the stigmatization of obesity between African-American and white women and to understand how different cultures' attitudes about body size and obesity may vary with the different ages and circumstances of groups within these cultures. Understanding the factors that limit the stigma of obesity among African-American women and Asian-American women and men could help to inform efforts at the reduction of stigma in the general population.

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