

# The UCLA Body Project II: Breast and Body Dissatisfaction among African, Asian, European, and Hispanic American College Women

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**Abstract** Breast and global body dissatisfaction were examined in Asian ( $n=237$ ), European ( $n=196$ ), Hispanic ( $n=109$ ), and African ( $n=58$ ) American college women. Asian American women reported the lowest body satisfaction on the Appearance Evaluation Scale (Cash, T. F. The multidimensional body-self relations questionnaire users' manual: 3rd revision, 2000) and greatest breast dissatisfaction on one of two breast dissatisfaction measures. Ethnic differences in breast dissatisfaction, but not in body dissatisfaction, disappeared when body size (BMI) was statistically controlled. Results were consistent with research showing that (1) ethnic differences in body dissatisfaction are small, (2) studies of ethnic differences must include appropriate controls for total or specific body size, and (3) Asian college women report lower global body satisfaction than women of African, European, or Hispanic heritage.

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## Introduction

Most of the extensive literature on body dissatisfaction has emphasized the experience of Western women of European descent and has focused on dissatisfaction with weight. This emphasis has been understandable because of the strong link between weight dissatisfaction and disordered eating (e.g., Stice and Shaw 2002). However, an unintended consequence of the emphasis on weight has been the availability of only limited information on the extent which women are dissatisfied with specific physical features. Dissatisfaction with breast size is a particularly important matter to examine because feelings about one's breasts have been linked to general psychological well-being (Koff and Benavage 1998) as well as the pursuit of invasive surgical techniques for modifying one's breast size (Didie and Sarwer 2003).

Although ethnic minorities comprise about 31% of U.S. women (U. S. Census Bureau 2001), very little is known about the experiences minorities have with specific aspects of their bodies (Altabe 1998; Grabe and Hyde 2006). The omission of minorities is important, not simply because they make up a large and growing segment of the population, but because there is increasing evidence that dissatisfaction with specific body features varies among ethnic groups (Frederick et al. 2007b; Jung et al. 2007). This study was conducted to examine the prevalence of body and breast dissatisfaction in a sample of African, Asian, European, and Hispanic American college women using a series of self-report body image measures.

## Objectification of Women's Breasts

The appearance and social meaning of the female body has been extensively discussed by feminist researchers (Fredrickson and Roberts 1997). According to feminist theorists, the female body is constructed as an object to be viewed and evaluated by others, particularly by men, and women learn that perceptions of their personal worth are dependent on their appearance (Bartky 1990). As women learn that others view and evaluate their bodies or aspects of their bodies as objects, a process described as objectification, women learn to view their own body or body parts as objects (self-objectification). Tremendous pressure is placed on women to attain the ideal body, and women's breasts are a salient feature of the ideal female body (Harrison 2003). Breast size, in particular, is a feature that is highly sexualized and considered an important feature of women's attractiveness (Latteier 1998; Sarwer et al. 2000; Sarwer et al. 1998; Yalom 1997). In reporting their interview research with women regarding their attitudes about their breasts, Millsted and Frith (2003, p. 455) noted that "Women's breasts are invested with social, cultural, and political meanings..." "Breasts are seen simultaneously as a marker of womanhood, as a visual signifier of female sexualisation, [and] as synonymous with femininity."

Women's breasts, perhaps more than any other aspect of women's bodies, are widely presented for evaluation and objectification in television, movies, and popular magazines (e.g., Seifert 2005). This emphasis on breasts, which Latteier (1998 p. 1) described as "an American obsession," has been the subject of much sharp criticism, particularly by feminists (e.g., Dettwyler 1995; Jeffreys 2005), and appears to be one of several important factors in the sexualization and objectification of girls (APA, Task Force on the Sexualization of Girls 2007).

This extensive sexualization of women's breasts and the prevalence of breast augmentation surgery suggest that many women experience dissatisfaction with their breasts. Consistent with this perspective, Frederick, et al. (2007a) analyzed the results of an online study of over 60,000 adults and found that only 30% of women reported that they were satisfied with their breasts. Most of the dissatisfied women desired larger breasts (28%) or felt that their breasts were too droopy (33%), whereas the remainder desired smaller breasts (9%). Similarly, several studies of college students show that many women would like to have larger breasts (e.g., Forbes et al. 2006; Harrison 2003; Jacobi and Cash 1994; Tantleff-Dunn and Thompson 2000; Thompson and Tantleff 1992). The first goal of this study was to examine the prevalence of breast dissatisfaction using a larger and more ethnically diverse sample than those frequently used in previous studies of college students.

## Ethnic Differences in Breast Dissatisfaction

There have been numerous studies of ethnic differences in body dissatisfaction, particularly between European and African American women (Grabe and Hyde 2006), but very little is known about ethnic differences in breast dissatisfaction or ethnic differences in the relationship between breast dissatisfaction and global body dissatisfaction. In order to understand the experience of ethnic minorities and develop intervention programs to meet their needs, it is necessary to determine if certain groups are at greater risk for experiencing breast or body dissatisfaction.

Very few studies of ethnic differences in breast dissatisfaction have been published and their results have not been consistent. When Altabe (1998) asked women to list the five most important features of their ideal body, Hispanic and European American women listed a desire to have larger breasts, but Asian and African American women did not. However, Mintz and Kashubeck (1999) found that Asian American women were less satisfied with their breasts than were European American women. Even less is known about ethnic differences in the relationship between breast size dissatisfaction and global body dissatisfaction. In what appears to be the only available study, Koff, et al. (2001) found that dissatisfaction with breast size was related to global body dissatisfaction for European American women, but no relationship was found for Asian American women.

## Ethnic Differences in Body Size and Body Dissatisfaction

Although our primary goal was to examine the prevalence of breast dissatisfaction among a diverse sample of college students, a secondary goal was to address two limitations in past research on ethnic differences in body dissatisfaction. The first is that most studies have compared the experiences of only two groups, most often European and African Americans (Grabe and Hyde 2006). Relatively few studies have examined the overall body satisfaction of two of the fastest growing ethnic populations in the U.S.—Asian and Hispanic Americans. Because the prejudice and discrimination experienced by members of ethnic minorities may sharpen their awareness of how their appearance is judged by others (Neal and Wilson 1989; Root 1990), we predicted that Hispanic and Asian American women would report more body dissatisfaction than European women. Although this same logic should lead to a similar prediction for African American women, past research has shown there is a small but reliable tendency for African American women to report *less* dissatisfaction than other groups (Grabe and Hyde 2006).

The second limitation of past work is that relatively few studies of ethnic differences in body or breast dissatisfaction have controlled for ethnic differences in body or breast size (Grabe and Hyde 2006.) This is an important issue because research indicates that controlling for ethnic differences in body size can significantly alter the extent or even the direction of ethnic differences in body dissatisfaction (Forbes et al. 2004; Jung and Forbes 2006; Koff and Benavage 1998). The second goal of this study was to examine ethnic differences in both global body dissatisfaction and dissatisfaction with specific body features.

#### Present Study

The present study investigated both global body dissatisfaction and breast dissatisfaction in samples of African, Asian, European, and Hispanic American college women, the four largest ethnic groups in the United States. Because body dissatisfaction often varies as a function of age, education, and body size, a college sample was used to minimize differences in age and education and BMI was calculated to allow for the statistical control of body size.

#### *Hypothesis 1. Breast Size is Associated with Breast Dissatisfaction*

Consistent with past research, and because of the intense sexualization and prestige afforded to large breasts in the contemporary United States, we predicted that women with smaller breast sizes would generally report more breast dissatisfaction than women with larger breasts. We expected this would be true across all ethnic groups.

#### *Hypothesis 2. Breast Size is Associated with Body Dissatisfaction*

Also consistent with past research (e.g., Frederick et al. 2007a), we predicted that women who were dissatisfied with their breasts, regardless of ethnic group, would report more body dissatisfaction. This association is expected because breast size is considered an important feature of women's overall attractiveness.

#### *Hypothesis 3. Breast Dissatisfaction is Associated with Body Dissatisfaction*

Given that breast size is an important feature of woman's perceived attractiveness, we predicted that women who are dissatisfied with their breasts would also be more dissatisfied with their overall physical attractiveness.

#### *Hypothesis 4. Asian American and Hispanic Women will Report the Least Satisfaction*

Based on our previous research with this population (Frederick et al. 2007b), we expected that Asian American women would report less body satisfaction than other groups, even when controlling for differences in body size. Further, we expected that Asian American women would report less breast satisfaction overall, but investigated whether this is simply due to the fact that women of this group have smaller breasts on average than other groups (i.e., that this difference is due to breast size differences and not ethnic differences, per se). Similarly, we predicted that Hispanic women would report lower breast and body dissatisfaction, but investigated whether this was due to group differences in body size rather than ethnicity.

#### *Hypothesis 5. African American Women will Report the Most Satisfaction*

Given past research has shown that African American women report slightly higher body satisfaction, on average, than other women, we predicted that they would report greater breast and body satisfaction in this study as well (Grabe and Hyde 2006).

## Method

### Participants and Procedures

The participants were 729 women from the University of California, Los Angeles. Participants were women who volunteered to complete the survey during their introductory psychology courses and women who were approached by research assistants at campus eateries and gathering places.

Participants indicated their ethnicity by selecting a label from a list. Based on their selections, participants were classified as Asian ( $n=237$ ), European/White/Caucasian ( $n=196$ ), Hispanic/Latino ( $n=109$ ), or Black/African ( $n=58$ ) American. Because the numbers of participants in other ethnic groups were too small for analysis, data from 129 participants are not reported. A significant analysis of variance (ANOVA),  $F(3, 593) = 5.88, p < .001$ , partial  $\eta^2 = .029$ , indicated that the ages of the groups differed. Post hoc Fisher least significant difference (LSD) tests indicated that the European ( $M=21.01, SD=5.10$ ) and Hispanic ( $M=20.96, SD=4.31$ ) groups did not differ from each other but were older than the Asian ( $M=20.19, SD=2.32$ ) and African ( $M=18.86, SD=1.38$ ) American groups.

The African American group was significantly younger than each of the other groups.

## Measure

### *Actual and Ideal Breast Size*

The participants indicated their actual and ideal breast size using standard bra cup sizes (A–D). When we pretested this measure, many women observed that standard breast cup sizes were imprecise. For example, some women reported that they were a large A cup, others reported that they were a small C cup, etc. Consequently, we expanded the scale to include three levels, (small, medium, and large) within each cup size. This resulted in a 1–12 breast size scale (Small A=1, Large D=12). A discrepancy score was computed by subtracting a participant's actual breast size from her ideal breast size. Because dissatisfaction with breast size could reflect the perception that breasts were either too large or too small, breast dissatisfaction was operationalized as the absolute value of this discrepancy score. For some analyses, the measure was divided into three groups to determine the percentage who desired smaller breasts, larger breasts, or no change in their breast size.

### *Breast Size Dissatisfaction Scale*

The Breast Size Dissatisfaction Scale was constructed from the following items: "I feel dissatisfaction with my breast size," "I wish I could change my breast size," and "I am happy with the size of my breasts" (reverse scored). Items were answered using a Likert-type scale ranging from 0–5 (0=Never; 5=Always). Scores were averaged to create a 0–5 scale, with higher numbers indicating increased breast dissatisfaction. The coefficient alpha for this measure was .89. For some analyses, the measure was divided into two groups in order to distinguish between women who were typically satisfied (Mean=0–2.5; Never–Sometimes) or typically dissatisfied (Mean=2.51–5.00; Often–Always) with their breasts.

### *Appearance Evaluation Scale*

Global body satisfaction was operationalized as scores on the widely used Appearance Evaluation Scale from the Multidimensional Body-Self Relations Questionnaire (Cash 2000). This seven-item measure contains items such as "I like my looks just the way they are." Participants indicated their responses on a 5-point Likert scale (1=Definitely disagree; 5=Definitely agree). Scores were averaged to create a 1–5 scale, with higher numbers representing greater satisfaction with one's body. The coefficient alpha was .89.

## BMI

Body size was measured by the body mass index [weight (kg)/ height (m<sup>2</sup>)] that was computed from the participant's reported height and weight. For some analyses, the BMI values were grouped into underweight (BMI<18.50), lower normal (BMI=18.50–21.74), upper normal (BMI=21.75 – 25.00), and overweight/obese (BMI>25.00) categories. These categories were constructed using the criteria set forth by the World Health Association (1995), except that the normal category was split in half. The original WHO classifications were constructed for medical purposes and each category contains a wide range of body masses. For example, for a woman 5 ft and 4 in. tall, the normal BMI category includes women weighing between 108 and 146 lbs. However, weight changes of only a few pounds can produce large changes in body satisfaction. Therefore, consistent with past research (Frederick et al. 2006; 2007b), we decided to divide the "normal" category in half in order to more precisely portray the levels of breast and body satisfaction reported by women in these ranges. Unfortunately, sample sizes were not large enough to allow this practice with the underweight and overweight/obese groups.

## Results

Significance was set at  $p=.05$  for all statistical tests. Because of missing data, *N*s varied from 573 to 591. Small but significant correlations ( $r=.08-.13$ ) were found between age and the measures of breast and body dissatisfaction. Because of age differences among the ethnic groups, all analyses were also computed as ANCOVAs with age as a covariate. Because the addition of age as a covariate did not alter the pattern of significant results, these analyses were not reported.

### Relationships Among Variables

First order correlations among the variables are shown below the diagonal in Table 1. With the exception of the correlation showing that women with larger breasts had a larger ideal breast size,  $r(571)=.67$ ,  $p<.001$ , significant relationships among breast measures were of small to modest size and indicated 2 to 21% shared variance. However, all of these variables were correlated with BMI. For this reason, relationships among these variables were also determined with partial correlations using BMI as a covariate. Inspection of the partial correlations, which appear above the diagonal in Table 1, indicates that controlling for BMI produced no meaningful change in the relationships among the measures of breast and body dissatisfaction.

**Table 1** First order and partial correlations between breast and body measures.

	Actual breast	Ideal breast	Ideal- actual	Breast dissatisfaction	Appearance evaluation
Actual Breast	–	.64***	–.32***	–.37***	.10*
Ideal breast	.67***	–	.01	–.05	.12**
Ideal–actual	–.35***	–.02	–	.67***	–.17***
Breast dissatisfaction	–.40***	–.08	.68***	–	–.28***
Appearance evaluation	–.03	.03	–.12**	–.22**	–
BMI	.46***	.26***	–.15***	–.19***	–.28***

First order correlations appear below the diagonal. Partial correlations controlling for BMI appear above the diagonal.

\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

Inverse relationships were found between actual breast size and both measures of breast dissatisfaction. This indicates that as stated by Hypothesis 1, women with smaller breasts reported greater breast dissatisfaction. However, contrary to Hypothesis 2, women with smaller breasts did not report higher levels of global body dissatisfaction as measured by the Appearance Evaluation Scale. As stated by Hypothesis 3, women in the European American group who had greater breast dissatisfaction, as measured by both the absolute value of the discrepancy between ideal and actual breast size,  $r(231) = -.13$ ,  $p < .05$  and scores on the Breast Size Dissatisfaction Scale,  $r(231) = -.23$ ,  $p < .001$ , also had lower global body satisfaction (i.e., greater dissatisfaction) as measured by the Appearance Evaluation Scale. As stated by Hypothesis 3, these relationships were also

significant for the Asian American group,  $r(189) = -.21$ ,  $p < .01$ , and  $r(195) = -.23$ ,  $p < .001$ , respectively. However, contrary to Hypothesis 3, parallel relationships were not found for the Hispanic and African American groups.

#### Predictors of Breast Satisfaction

The percentage of participants desiring a change in breast size and the percentage of participants expressing frequent dissatisfaction with their breasts are shown in Table 2. The majority of participants in all ethnic groups desired larger breasts and, as stated by Hypothesis 4, the desire for larger breasts and scores on the Breast Size Dissatisfaction Scale were influenced by ethnicity, body size (BMI), and actual breast size.

**Table 2** Percent of participants' attitudes toward their breast size as a function of ethnicity, BMI, and cup size.

	Desired change				Breast dissatisfaction scale		
	<i>n</i>	Percent larger	Percent none	Percent smaller	<i>n</i>	Percent never–sometimes	Percent often–always
<b>Ethnicity</b>							
Asian	232	70	21	9	323	69	31
European	189	50	31	19	195	83	17
Hispanic	108	66	19	15	109	73	27
African	58	54	29	17	58	74	26
<b>BMI group</b>							
Underweight	53	85	11	4	52	56	44
Lower normal	263	70	23	7	268	72	28
Upper normal	174	54	28	18	175	80	20
Overweight/obese	86	34	29	37	87	85	15
<b>Cup size</b>							
A cup	153	90	10	0	154	50	50
B cup	224	75	21	4	229	80	20
C cup	147	34	42	24	147	90	10
D cup	59	2	30	68	60	85	15
Overall	587	61	25	14	594	75	25

### *Ethnicity*

Consistent with Hypothesis 4, a 3 (Desired Change in Breast Size) X 4 (Ethnic Group) Chi Square test of independence,  $\chi^2(6, N=586)=21.48, p<.001$ , indicated that the Asian American group was more likely to desire larger breasts and less likely to desire smaller breasts than the other ethnic groups. A parallel 2 (Breast Dissatisfaction) X 4 (Ethnic Group) Chi Square test of independence,  $\chi^2(3, N=685)=12.54, p<.01$ , on scores from the Breast Dissatisfaction Scale also indicated that Asian American participants were the most likely to be dissatisfied with their breasts. Contrary to Hypothesis 4, dissatisfaction was not higher among Hispanic American women compared to White and African American women. Finally, contrary to Hypothesis 5, breast dissatisfaction was not lowest in the African American sample. Instead, breast dissatisfaction as measured by the Breast Dissatisfaction Scale was lowest in the European American sample.

### *BMI*

A 3 (Desired Change in Breast Size) X 4 (BMI Category) Chi Square test of independence,  $\chi^2(6, N=582)=8.51, p<.001$ , was significant, indicating that a desire for larger breasts was related to BMI. This relationship indicated that underweight women were more likely to desire larger breasts and less likely to desire smaller breasts than were overweight/obese women. A parallel, 2 (Breast Dissatisfaction) X 4 (BMI Category) Chi Square test of independence,  $\chi^2(3, N=582)=18.51, p<.001$ , on scores from the Breast Dissatisfaction Scale indicated that underweight participants were the most likely and overweight/obese participants were the least likely to be dissatisfied with their breasts.

### *Actual Breast Size*

Although breast size was originally measured with a 12-point scale, to simplify the comparisons in Table 2 and to increase the  $N$  per cell, the scale was collapsed to reflect standard cup sizes. The results for actual breast size paralleled the results for BMI. Consistent with Hypothesis 1, a 3 (Desired Change in Breast Size) X 4 (Breast Cup Size) Chi Square test of independence,  $\chi^2(6, N=583)=278.83, p<.001$  indicated that women with an A cup were more likely to desire larger breasts and less likely to desire smaller breasts than were women with a D cup. Consistent with Hypothesis 2, a 2 (Breast Dissatisfaction) X 4 (Breast Cup Size) Chi Square test of independence,  $\chi^2(3, N=590)=74.81, p<.001$ , that participants with an A cup were the most likely and participants with a D cup were the least likely to be dissatisfied with their breasts.

### *Understanding Ethnic Differences in Breast and Body Satisfaction*

As shown in Table 3, ethnic groups differed in both BMI and actual breast size, thus confounding simple ethnic comparisons of breast and global body dissatisfaction. For this reason, ANOVAs comparing breast dissatisfaction among ethnic groups were followed by ANCOVAs with actual breast size or a combination of actual breast size and BMI as covariates.

#### *Ideal Breast Size*

As shown in Table 3, the Asian American group had a smaller ideal breast size than the other ethnic groups. Although the effect size diminished with ANCOVAs using actual breast size or the combination of actual breast size and BMI as covariates, each of the differences between the Asian American and the other ethnic groups remained significant. This indicates that, although the Asian American participants' preference for smaller ideal breasts was influenced by having smaller bodies and smaller breasts, their preference for smaller ideal breasts cannot be attributed solely to these factors.

#### *Breast Dissatisfaction*

As shown in Table 3, when breast dissatisfaction was operationalized as the absolute value of the difference between ideal and actual breast size, no ethnic differences were found. Importantly, this result did not change with ANCOVAs using actual breast size or a combination of actual breast size and BMI as covariates. Similar results were found on the Breast Size Dissatisfaction Scale. Although the ANOVA found a small ethnic difference, with the Asian group having more breast dissatisfaction than the European and Hispanic American groups, this difference disappeared with the two ANCOVAs. This indicates that ethnic differences on the Breast Dissatisfaction Scale were the result of differences in actual breast size and BMI. Contrary to Hypotheses 4 and 5, with statistical correction for actual breast size we did not find the expected ethnic differences on either measure of breast dissatisfaction.

#### *Body Satisfaction*

Examination of global body satisfaction as measured by the Appearance Evaluation Scale produced different results than the examination of breast dissatisfaction. As shown in Table 3, a significant ANOVA indicated that the Asian American group exhibited less global body satisfaction than

**Table 3** Ethnic differences in physical characteristics and breast and body attitudes.

	BMI		Actual breast		Ideal breast		Actual–ideal		Breast dissatisfaction		Appearance evaluation	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
ANOVA												
Asian	21.10 <sub>a</sub>	.218	4.17 <sub>abc</sub>	.184	5.76 <sub>abc</sub>	.126	2.06	.108	2.10 <sub>ab</sub>	.078	3.10 <sub>abc</sub>	.048
European	21.90 <sub>b</sub>	.237	6.57 <sub>ad</sub>	.201	7.35 <sub>a</sub>	.139	1.67	.119	1.54 <sub>ac</sub>	.085	3.43 <sub>a</sub>	.052
Hispanic	24.30 <sub>abc</sub>	.322	6.07 <sub>b</sub>	.269	7.30 <sub>b</sub>	.184	2.01	.158	1.83 <sub>bc</sub>	.114	3.27 <sub>b</sub>	.070
African	21.58 <sub>c</sub>	.433	5.66 <sub>cd</sub>	.367	7.05 <sub>c</sub>	.252	2.15	.215	1.79	.156	3.46 <sub>c</sub>	.096
<i>F</i>	$F(3,583)=21.79^*$		$F(3,587)=28.42^*$		$F(3,585)=30.18^*$		$F(3,583)=2.53$		$F(3,590)=7.93^*$		$F(3,591)=8.75^*$	
Partial $\eta^2$	.101		.127		.134				.039		.038	
ANCOVA-1												
Asian					6.30 <sub>abc</sub>	.102	1.80	.105	1.91	.076	3.06 <sub>abc</sub>	.050
European					6.87 <sub>a</sub>	.112	1.90	.115	1.72	.082	3.47 <sub>a</sub>	.054
Hispanic					7.00 <sub>b</sub>	.145	2.13	.149	1.91	.107	3.31 <sub>b</sub>	.070
African					6.96 <sub>c</sub>	.197	2.20	.202	1.83	.145	3.46 <sub>c</sub>	.096
<i>F</i>					$F(3,582)=7.33^*$		$F(3,582)=1.73$		$F(3,585)=1.11$		$F(3,585)=10.87^*$	
Partial $\eta^2$					.036						.053	
ANCOVA-2												
Asian					6.31 <sub>abc</sub>	.103	1.81	.106	1.91	.076	3.06 <sub>abc</sub>	.048
European					6.84 <sub>a</sub>	.112	1.88	.116	1.70	.083	3.42 <sub>a</sub>	.052
Hispanic					7.11 <sub>b</sub>	.151	2.17	.157	1.97	.112	3.43 <sub>b</sub>	.071
African					6.94 <sub>c</sub>	.195	2.19	.202	1.82	.145	3.42 <sub>c</sub>	.092
<i>F</i>					$F(3,570)=7.93^*$		$F(3,570)=1.86$		$F(3,572)=1.64$		$F(3,572)=11.20^*$	
Partial $\eta^2$					.040						.055	

Means having the same subscript are significantly different at  $p < .05$  using Fisher's LSD test. ANCOVA-1 includes actual breast size as a covariate. ANCOVA-2 includes actual breast size and BMI as covariates.

\* $p < .001$

each of the other groups, but no differences were found among the other groups. Identical results were found for the ANCOVAs using actual breast size or the combination of actual breast size and BMI as covariates. The results from the ANCOVAs indicated that the lower global body satisfaction of the Asian American group could not be attributed to smaller breast or body size (BMI). These results were consistent with our prediction of greater body dissatisfaction in the Asian American group. However, there was no support for our prediction that the African American group would report the least body dissatisfaction (Hypothesis 5).

## Discussion

Although a great deal of past research has focused on the prevalence of dissatisfaction with body weight (e.g., Frederick et al. 2006) or overall body dissatisfaction (e.g., Frederick et al. 2007b), the findings of the current study indicate that many women are also dissatisfied with the size of their breasts, with many desiring larger breasts. Consistent with the perspective that women face tremendous pressure related to their breast size, most women desired larger breasts (61%) while a minority desired smaller

breasts (14%) or no change in their breast size (25%). Overall, 25% of the women reported being often to always dissatisfied with their breast size, and women who reported an "A" cup size were most likely to feel frequently dissatisfied and (50%) and to desire larger breasts (90%).

## Ethnic Differences

Contrary to our predictions, no ethnic differences were found on the discrepancy-based measure of breast dissatisfaction. Although the initial comparison of ethnic differences on the Breast Size Dissatisfaction Scale found greater breast dissatisfaction in the Asian American group, no ethnic differences were found when breast size was statistically controlled. Taken as a whole, our results suggest that ethnic differences in breast dissatisfaction are the result of ethnic differences in breast and body size rather than specific ethnocultural factors directly influencing attitudes towards breasts.

Although Asian Americans did not exhibit greater breast dissatisfaction than the other groups, they did, as hypothesized, report greater global body dissatisfaction, as measured by the Appearance Evaluation Scale. Importantly, and unlike the differences in breast dissatisfaction, differences in global body dissatisfaction remained significant

when controlling for breast size or a combination of breast size and BMI. This indicates that ethnocultural factors contribute to global body dissatisfaction for Asian American women above and beyond differences in breast or body size. These results are consistent with other reports of greater global body dissatisfaction among some Asian groups than among European American groups (Frederick et al. (2007a); Jung and Forbes 2006). Future research is needed to identify whether this effect is driven by concerns with ethnically-linked physical characteristics such as facial features (e.g., Hall 1995).

Although we found support for our prediction that the Asian American group would have lower global body satisfaction than the other groups, we found no support for the prediction that African Americans would report greater breast and body satisfaction than other groups in this sample. These results are in contrast to the conclusions of major review articles and the frequent suggestion that African Americans have “protective” factors against body dissatisfaction (Grabe and Hyde 2006). However, it is important to recall that not all studies have found ethnic differences, not all studies reporting differences controlled for body size, and when found, the differences between European and African American women are usually rather small (Cohen’s  $d=.29$ ; Grabe and Hyde 2006).

#### Limitations and Strengths

Although breast size is highly salient and psychologically important, our results are limited by the use of only one specific physical feature and our use of self-reported measures of breast and body size. Although it seems likely that direct measurement of breast and body size would have been preferable to self reports, direct measurement of breast size would have been intrusive and self-reports of body size are commonly used to compute BMI (e.g., Bulik et al. 2001). Our results are also limited by the use of broad categories that tend to obscure important differences within ethnic groups.

It is important to note that our samples were young women attending a prestigious university in a large city. As a young sample with excellent educational opportunities, their degree of education, acculturation, body size, and other relevant variables probably differ from their ethnic cohorts in the general population. Consequently, generalizations to other samples of ethnic women should be made with caution. Strengths of the study are notable as well. In particular, our results were strengthened by the use of two separate measures of breast dissatisfaction. Further, we employed essential, but often omitted, controls for body size, and we were able to examine the concerns of several understudied ethnic minority groups.

#### Conclusions

Although the majority of women in each ethnic group were dissatisfied with the size of their breasts, no ethnic differences in breast dissatisfaction were found. However, even with controls for body and breast size, Asian American college women had lower global body satisfaction than African, European, and Hispanic American college women. Our results are consistent with (1) an emerging consensus that ethnic differences in body dissatisfaction are relatively small (e.g., Grabe and Hyde 2006), (2) the increasing recognition that studies of ethnic differences must include appropriate controls for total or specific body size (Koff and Benavage 1998), and (3) the proposal that it is important to study both global body dissatisfaction and dissatisfaction with specific body features (e.g., Forbes et al. 2006; Harrison 2003). The results also suggest that membership in an ethnic minority group does not reduce the risk of body dissatisfaction in college women and may, in the case of Asian Americans, actually increase this risk.

Given that there was a high degree of breast dissatisfaction reported in this sample, research is needed to identify what factors create this dissatisfaction. One factor that likely contributes to this widespread breast dissatisfaction is the intense sexualization of breasts in Western society (for reviews, see Latteier 1998; Yalom 1997). Research is needed to isolate the roles that sexualization of breasts, self-objectification, and internalization of popular media ideals play in the formation of breast dissatisfaction and desires for breast augmentation surgery.

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#### References

- Altabe, M. (1998). Ethnicity and body image: Quantitative and qualitative analysis. *International Journal of Eating Disorders*, 23, 153–159.
- American Psychological Association, Task Force on the Sexualization of Girls. (2007). Report of the APA Task Force on the Sexualization of Girls. Washington, DC: American Psychological Association. Retrieved from [www.apa.org/pi/wpo/sexualization.html](http://www.apa.org/pi/wpo/sexualization.html), June 30, 2007.
- Bartky, S. L. (1990). *Femininity and domination: Studies in the phenomenology of repression*. New York: Routledge.
- Bulik, C. M., Wade, T. D., Heath, A. C., Martin, N. G., Stunkard, A. J., & Eaves, L. J. (2001). Relating body mass index to figural stimuli: Population-based normative data for Caucasians. *International Journal of Obesity*, 25, 1517–1524.
- Cash, T. F. (2000). *The multidimensional body-self relations questionnaire users' manual: 3rd revision*. Available at <http://www.body-images.com>.
- Dettwyler, K. A. (1995). Beauty and the breast: The cultural context of breastfeeding in the United States. In P. Stuart-Macadam, & K.

- A. Dettwyler (Eds.) Breastfeeding: Biocultural perspectives (pp. 167–215). New York: Aldine de Gruyter.
- Didie, E. R., & Sarwer, D. B. (2003). Factors that influence the decision to undergo cosmetic breast augmentation surgery. *Journal of Women's Health, 12*, 241–253.
- Forbes, G. B., Doroszewicz, K., Card, K., & Adams-Curtis, L. (2004). Association of the thin body ideal, ambivalent sexism, and self-esteem with body acceptance and the preferred body size of college women in Poland and the United States. *Sex Roles, 50*, 331–345.
- Forbes, G. B., Jobe, R. L., & Revak, J. A. (2006). Relationships between dissatisfaction with specific body characteristics and the sociocultural attitudes toward appearance Questionnaire-3 and Objectified Body Consciousness Scale. *Body Image, 3*, 295–300.
- Frederick, D. A., Forbes, G. B., Grigorian, K. E., & Jarcho, J. M. (2007a). The UCLA body project I: Predictors of body satisfaction and appearance surveillance among 2206 White, Asian, and Hispanic men and women. *Sex Roles, 57*, 317–327.
- Frederick, D. A., Peplau, L. A., & Lever, J. (2007b). The Barbie mystique: Satisfaction with breast shape and size across the lifespan. *International Journal of Sexual Health* (in press).
- Frederick, D. A., Peplau, L. A., & Lever, J. (2006). The swimsuit issue: Correlates of body image in a sample of 52,677 heterosexual adults. *Body Image, 4*, 413–419.
- Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21*, 273–306.
- Grabe, S., & Hyde, J. S. (2006). Ethnicity and body dissatisfaction among women in the United States: A meta-analysis. *Psychological Bulletin, 132*, 622–640.
- Hall, C. C. I. (1995). Asian eyes: Body image and eating disorders of Asian and Asian American women. *Eating Disorders, 3*, 8–19.
- Harrison, K. (2003). Television viewers' ideal body proportions: The case of the curvaceously thin woman. *Sex Roles, 48*, 255–264.
- Jacobi, L., & Cash, T. F. (1994). In pursuit of the perfect appearance: Discrepancies among self-ideal percepts of multiple physical attributes. *Journal of Applied Social Psychology, 24*, 379–396.
- Jeffreys, S. (2005). *Beauty and misogyny: Harmful cultural practices of the West*. New York: Routledge.
- Jung, J., & Forbes, G. (2006). Multidimensional assessment of body dissatisfaction and disordered eating in Korean and US college women: A comparative study. *Sex Roles, 55*, 39–50.
- Jung, J., Forbes, G. B., & Lee, Y-j. (2007). *Cross-cultural differences in body dissatisfaction and behaviors associated with disordered eating among early adolescent boys and girls: A study in South Korea and the United States* (in press).
- Koff, E., & Benavage, A. (1998). Breast size perception and satisfaction, body image, and psychological functioning in Caucasian and Asian American college women. *Sex Roles, 38*, 655–673.
- Koff, E., Benavage, A., & Wong, B. (2001). Body-image attitudes and psychosocial functioning in Euro-American and Asian-American college women. *Psychological Reports, 88*, 917–928.
- Latteier, C. (1998). *Breasts: The woman's perspective on an American obsession*. New York: Haworth.
- Millsted, R., & Frith, H. (2003). Being large-breasted: Women negotiating embodiment. *Women's Studies International Forum, 26*, 455–465.
- Mintz, L. B., & Kashubeck, S. (1999). Body image and disordered eating among Asian American and Caucasian college students: An examination of race and gender differences. *Psychology of Women Quarterly, 23*, 781–796.
- Neal, A. M., & Wilson, M. L. (1989). The role of skin color and features in the Black community: Implications for Black women and therapy. *Clinical Psychology Review, 9*, 323–333.
- Root, M. P. P. (1990). Disordered eating in women of color. *Sex Roles, 22*, 525–536.
- Sarwer, D. B., Bartlett, S. P., Bucky, L. P., LaRossa, D., Low, D. W., Pertschuk, M. J., et al. (1998). Bigger is not always better: Body image dissatisfaction in breast reduction and breast augmentation patients. *Plastic and Reconstructive Surgery, 101*, 1956–1961.
- Sarwer, D. B., Nordmann, J. E., & Herbert, J. D. (2000). Cosmetic breast augmentation surgery: A critical overview. *Journal of Women's Health & Gender-Based Medicine, 9*, 843–856.
- Seifert, T. (2005). Anthropomorphic characteristics of centerfold models: Trends towards slender figures over time. *International Journal of Eating Disorders, 37*, 271–274.
- Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research, 53*, 985–993.
- Tantleff-Dunn, S., & Thompson, J. K. (2000). Breast and chest size satisfaction: Relation to overall body image and self-esteem. *Eating disorders, 8*, 241–246.
- Thompson, K. J., & Tantleff, S. (1992). Female and male ratings of upper torso: Actual, ideal, and stereotypical conceptions. *Journal of Social Behavior and Personality, 7*, 345–354.
- U. S. Census Bureau (2001). Census 2000-PHC-T-11. Male-female ratio by race alone or in combination and Hispanic or Latino origin for the United States: 2000. Downloaded from <http://www.census.gov/population/www/cen2000/phc-t11.html> October 18, 2007.
- Yalom, M. (1997). *A history of the breast*. New York: Ballantine.
- World Health Organization (1995). *Physical status: The use and interpretation of anthropometry*. WHO Health Association: Geneva, Switzerland.