

The UCLA Body Project I: Gender and Ethnic Differences in Self-Objectification and Body Satisfaction Among 2,206 Undergraduates

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Abstract This study examined whether objectification theory is useful for understanding gender, body mass, and ethnic differences in body satisfaction among 2,206 US undergraduates who completed a body image survey. Women reported lower body satisfaction than men ($d=.37$) and this was true across the majority of the BMI continuum. Very slender men, however, were less satisfied than very slender women who approached the female thin-ideal. Differences in body satisfaction among White, Asian, and Hispanic participants were small to moderate ($ds=.18$ to $.45$). Consistent with the prediction that self-objectification has particularly negative effects on women who deviate from the slender White ideal, the association between body dissatisfaction and appearance surveillance was strongest for heavier and minority women.

Keywords Body image · Ethnicity · Objectification

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Introduction

Predictors of Body Satisfaction and Appearance Surveillance Among 2,206 Undergraduate White, Asian, and Hispanic Men and Women

Men and women who have negative attitudes about their body and their appearance report a wide array of psychological and health issues. People with a poor body image are more likely to exhibit disordered eating patterns (Cash and Deagle 1997) and are at greater risk for developing potentially life-threatening eating disorders (Stice and Shaw 2002). This link is so strong that low body satisfaction has been described as an “essential precursor” to eating disorders (Polivy and Herman 2002, p. 192). Individuals with poor body image are also more likely to report depression (Noles et al. 1985), poorer self-esteem (Powell and Hendricks 1999; Sondhaus et al. 2001), greater tobacco use and alcohol abuse (Granner et al. 2002), and engaging in more risky sexual behaviors (Littleton et al. 2005).

The vast majority of research on body satisfaction has focused on White women (Striegel-Moore and Smolak 2000). This has resulted in a lack of information about the body satisfaction of White men and ethnic minority men and women. Examining ethnic and gender differences in body satisfaction is important for two reasons. First, from a practical standpoint, it is critical to isolate whether certain groups are at greater risk for experiencing body dissatisfaction so that interventions can be targeted towards these groups. Second, from a theoretical perspective, it is important to examine whether existing theories and constructs that were developed to explain the experiences of White women adequately capture the experiences of ethnic minorities. Further, it is important to consider whether

certain hypothesized causes of body dissatisfaction have especially pernicious effects on minority men and women.

Unfortunately, little research has examined gender and ethnic differences in the association of body mass and appearance surveillance to body satisfaction. The present research examines the nature of gender, body mass, and ethnic differences in body satisfaction and appearance surveillance among 2,206 undergraduates who participated in the “UCLA Body Project I” during 2005 and 2006.

Gender Differences in Body Image

Objectification Theory

Feminists have frequently asserted that the media and many men treat women as objects that exist primarily to provide sexual gratification for men (e.g., Bordo 1993). Objectification theory (Fredrickson and Roberts 1997) proposes that women are more likely than men to receive a lifetime of messages from their parents, peers, men, and the media that their appearance is central to their worth as a person and is routinely scrutinized by others. Because the personal and social consequences of failing to meet appearance standards are so great, women engage in appearance surveillance: the constant monitoring of their appearance and how they appear to others (McKinley and Hyde 1996). Women who engage in high levels of surveillance may be at greater risk of becoming overly concerned with perceived defects in their appearance, leading to lower body satisfaction.

Objectification theory was developed to explain women’s experiences (Fredrickson and Roberts 1997), and has been used to show that women experience greater objectification and engage in more surveillance than men (e.g., Tiggemann and Kuring 2004). We propose that this theoretical framework is also becoming increasingly relevant to men. Although men on average do not experience the frequency and severity of critical scrutiny that women regularly experience, men’s bodies certainly do not escape scrutiny by women or by other men (e.g., Strelan and Hargreaves 2005) and men are exposed to media representations of powerful and muscular male bodies (e.g., Frederick et al. 2005). These and related influences would be expected to increase men’s motivation to engage in appearance surveillance.

Global Gender Differences

Even considering these pressures on men, it is likely that women are more heavily objectified than men and would engage in greater surveillance. This suggests that women would be at far greater risk for developing low body

satisfaction and eating disorders than men. In terms of prevalence of eating disorders, this prediction holds true: women outnumber men by a ratio of roughly 10 to 1 in incidence of both anorexia (Lucas et al. 1991) and bulimia (Carlat and Carmago 1991). Given the strong link between body dissatisfaction and eating disorders (e.g., Polivy and Herman 2002), it follows that women would also experience far less body satisfaction than men. However, direct measures of gender differences in global body satisfaction have typically revealed that gender differences are substantially smaller than one would expect. For example, a recent meta-analysis found only moderate gender differences ($d=.52$) on measures of global body image (Feingold and Mazzella 1998). Why are gender differences in eating disorders large, but the gender differences in global body satisfaction relatively small?

Weight and Gender Differences

Differences between idealized female and male body types may explain why women are much more likely than men to develop eating disorders but are only moderately less satisfied with their bodies. Generally speaking, women experience pressure to obtain the “thin ideal.” This would place women at greater risk for developing restrictive eating and eating disorders that promote thinness, such as anorexia and bulimia. In contrast, an important component of the traditional masculine role is the expectation that men be powerful and socially dominant over others (e.g., Kilmartin 2007), an expectation that we term the masculine “powerful ideal.” Possessing a powerful body type is one way to demonstrate this masculine powerful ideal. A powerful body type could include greater body mass from muscularity or body fat, although very high body fat levels (e.g., obesity) are not likely to appear powerful.

Consistent with this proposal, both qualitative and quantitative studies of men have found that desires to become more muscular are linked to a desire to feel or appear more masculine (e.g., Drummond 2002; McCreary et al. 2005) and endorsement of the traditional male gender role (Frederick et al. 2007). Furthermore, dissatisfaction with muscularity has been repeatedly associated with lower body satisfaction and poorer psychological well-being (for reviews see Cafri and Thompson 2004; Cafri et al. 2005; Labre 2002; McCabe and Ricciardelli 2004; Mishkind et al. 1986).

Differences between the thin ideal and the powerful ideal would be expected to produce gender specific associations between BMI and body satisfaction. That is, the relationship between body satisfaction and BMI would be expected to be linear for women, with heavier women feeling most dissatisfied about their body, and parabolic (inverted-U) for

men (Frederick et al. 2006; McCreary and Sadava 2001; Muth and Cash 1997; Pingitore et al. 1997). Specifically, men who deviate from the powerful ideal (underweight or obese men) would feel more dissatisfied with their body than individuals who better approximate this ideal (healthy weight and moderately overweight men). As a consequence of these different patterns among men and women, we expect that slender women would have higher body satisfaction than slender men, but men would have higher body satisfaction among normal and heavier weight individuals (e.g., Frederick et al. 2006). If these predictions hold true, this would indicate that examining only global gender differences would reveal small to moderate gender differences in body satisfaction, and obscure the large but opposing gender differences that occur at different points on the weight continuum.

Ethnic Differences in Body Image

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), making them more likely to feel objectified and to engage in appearance surveillance. For example, Asian women living in Western cultures may feel insecure about their bodies because their skin color and bone structure differ from White ideals (Hall 1995), and the most common forms of plastic surgery among Asian American women include procedures that are intended to minimize their distinctive facial features (e.g., eyelid surgery; American Society of Plastic Surgeons 2006; Kaw 1993).

Although it seems reasonable to expect that ethnic minorities living in the USA would have an elevated risk of developing low body satisfaction, most existing data does not support our prediction. In a meta-analysis of 98 studies, Grabe and Hyde (2006) found that White women report slightly lower body satisfaction than Black women ($d=.29$), but the body satisfaction of White women did not differ from Hispanic ($d=.09$) and Asian women ($d=.01$). Research on body satisfaction among men is so sparse that it is impossible to determine the nature and extent of ethnic differences among men.

Associations of Surveillance to Body Satisfaction

Because surveillance may increase attention to perceived appearance imperfections, we propose that objectification theory can be extended to state that surveillance may have particularly negative consequences for individuals furthest

from the prevalent body ideals. Consequently, high surveillance may have particularly negative effects on women furthest from the thin ideal (i.e., heavy women) and men furthest from the powerful ideal (i.e., very slender and very heavy men). Similarly, high surveillance, which can be expected to increase awareness of ethnic features that differ from the prevailing norms, may have particularly negative effects on minorities.

Summary of Predictions

Based on the examination of existing literature and the theoretical lens provided by Objectification Theory, the present study was designed to test the following predictions:

- Prediction 1 Overall, and in each ethnic group, men would report greater body satisfaction and less appearance surveillance than women.
- Prediction 2 The association of BMI to body satisfaction would be linear for women, with thinner women feeling more satisfied than heavier women, and curvilinear for men, with underweight men and obese men reporting the least satisfaction. These contrasting patterns would lead men to report less body satisfaction than women in the lower BMI ranges but greater body satisfaction across the rest of the BMI continuum.
- Prediction 3 Based on the reasoning that some non-White individuals may be dissatisfied with their bodies because they depart from the prevalent White ideals, we predicted that ethnic minority men and women would report less body satisfaction than White men and women, respectively. Given that past research has found conflicting findings on this point, however, we acknowledge that this prediction may be tenuous. No predictions were made about ethnic differences in appearance surveillance.
- Prediction 4 We predicted that the association between body satisfaction and appearance surveillance would be strongest for individuals who do not match the prevalent gender-specific ideals because increased surveillance would serve to sharpen an individual's awareness that they deviate from these ideals. For women, we predicted that the link between body satisfaction and appearance surveillance would be strongest for ethnic minority women and women in the heavier BMI groups. For men, we predicted that this link would be strongest for minority men and men in the underweight and obese BMI groups.

Method

Participants

Participants were 1,303 women and 903 men who completed measures of body satisfaction across five different sampling sessions. Participants in samples 1 ($N=327$), 2 ($N=401$), and 3 ($N=474$) were students who were enrolled in introductory psychology classes in the winter, spring, and fall of 2005. Participants were given the opportunity to complete this survey at the end of one of their class periods as part of their course research requirements. Participants who did not wish to complete the survey were given the option of completing a review of a journal article in lieu of participation. Participants in sample 4 ($N=607$) were volunteers who agreed to complete a brief survey on body image after being approached by research assistants at campus hangouts in spring of 2005. Data from sample 5 ($N=397$) were collected during an introductory psychology class in the winter of 2006 as part of a larger study using the same methods described for samples 1–3. Some data from Sample 5 have previously been reported (Forbes and Frederick, submitted for publication).

The majority of women (98%) and men (92%) were between the ages of 18–25. The women ($M=19.65$, $SD=2.89$) were significantly younger than the men ($M=20.83$, $SD=4.06$) by approximately one year on average, $t(2,178)=8.01$, $p<.001$, $d=.34$. There were sufficient numbers of White (359 women, 270 men), Asian (468 women, 338 men), and Hispanic (164 women, 97 men) individuals to conduct meaningful comparisons between ethnic groups. Although more specific ethnic information was not available in all samples, it appears most of the Asian individuals were of Chinese, Taiwanese, Japanese, Vietnamese, and Korean origin (i.e., predominately East Asian) and most of the Hispanic individuals were of Mexican origin. While a limited sample size prohibited analyses of other ethnic groups (Black, Native American, etc.), these participants who were excluded from the ethnic comparisons were included in analyses that were unrelated to ethnicity (e.g., examinations of global gender and BMI differences).

Measure

Appearance Evaluation Scale

Body satisfaction was operationalized as scores on the Appearance Evaluation Scale from the Multidimensional Body–Self Relations Questionnaire (Cash 2000). The appearance evaluation scale was completed by 100% of participants ($N=2206$). This seven-item measure contains items such as “I like my looks just the way they are” and “I like the way I look without my clothes on.” Participants indicated their responses on a 5 point Likert scale (1=definitely disagree; 3=neutral; 5=definitely agree). The

overall Cronbach’s alpha was high (.88), and the alphas exceeded .70 for men and women of each ethnic group.

The items were then averaged to create a single scale score. We then also indicated the percentage of individuals whose mean scores for appearance evaluation indicated they were consistently disagreeing or agreeing with statements on the scale. This was done by examining the percentage of individuals whose mean level of appearance evaluation reflected low appearance evaluation (means=1.00–2.74), neutral appearance evaluation (means=2.75–3.25), or high appearance evaluation (3.26–5.00) according to the Likert scale. This was not done to identify a clinical cut-off score, but rather to more effectively communicate the results and identify those individuals who consistently reported body dissatisfaction across the items. For example, an individual who marked “Definitely Disagree” for all questions would have a mean of 1.0 and would be classified as having “Low Appearance Evaluation” because they are consistently disagreeing with items such as “I like my looks just the way they are.”

Appearance Surveillance Scale

The degree to which individuals survey their appearance was measured with the surveillance scale of the Objectified Body Consciousness Scale (McKinley and Hyde 1996). The surveillance scale was chosen because it has been used as a measure of self-objectification in past research (e.g., Kozee and Tylka 2006). This scale was distributed in samples 3–5 and was completed by 99.9% of those participants ($N=1476$). This eight-item measure contains items such as “I often worry about whether the clothes I am wearing make me look good” and “During the day, I think about how I look many times.” Participants indicated their responses on a 1 (strongly disagree) to 7 (strongly agree) point Likert Scale. The overall Cronbach’s alpha was high (.82), and the alphas exceeded .70 for men and women of each ethnic group.

The items were then averaged to create a single scale score. We also identified the individuals who consistently indicated they agreed with items assessing appearance surveillance by calculating the percentage of individuals whose mean scale scores indicated low appearance surveillance (1.00–3.49), Neutral appearance surveillance (3.50–4.50), or High appearance surveillance (4.51–7.00) according to the Likert scale. This allowed us to identify individuals who indicated that they consistently agreed with the statements on the appearance surveillance scale.

Body Mass Index (BMI)

The BMI is a standard measure used to estimate an individual’s level of body fat, although it can be influenced by other factors (e.g., muscularity). It is calculated by

dividing a person's weight in kilograms by their squared height in meters. The information necessary for calculating BMI was requested in samples 2–5, and obtained from 96.4% of these participants ($N=1812$). BMI scores can be divided into four standard categories endorsed by the National Institute of Health (1998): underweight (14.50–18.49), healthy weight (18.50–24.99), overweight (25.00–29.99), and obese (>30.00). Our unusually large sample afforded us the rare opportunity to examine even more exact subdivisions of these BMI categories, which may better relate to body satisfaction. Thus, seven categories were created: underweight (14.50–18.49), lower healthy (18.50–20.99), middle healthy (21.00–22.99), upper healthy (23.00–24.99), lower overweight (25.00–27.49), upper overweight (27.50–29.99), and obese (30.00–45.00).

Results

We first determined whether there were group differences in BMI that might influence the pattern of results. Second, we determined how gender was related to body satisfaction (appearance evaluation scores), and whether BMI, surveillance, and ethnicity were related to gender differences in body satisfaction. Third, we considered how ethnicity was associated with body satisfaction. Finally, we examined whether the association between appearance surveillance and body satisfaction was greatest among individuals whose bodies were the most discrepant from the prevailing ideal. Because of our large sample size we placed greater emphasis on effect sizes, usually expressed as Cohen's d (Cohen 1988), than on significance levels. In addition, we set the criteria for significance at $p=.001$ or less and described results falling between .05 and .001 as marginally significant.¹

Group Differences in BMI

Nearly half of the women (45%) fell into the two lowest BMI categories compared to only one-fifth of men (22%). The mean BMI scores were significantly lower for women ($M=21.95$, $SD=3.57$) than for men ($M=23.54$, $SD=3.59$), $t(1,810)=9.32$, $p<.001$, $d=.45$. Pairwise comparisons conducted within the context of a one-way ANOVA examined whether there were any group differences in mean BMI among Asian men ($M=23.04$, $SD=3.52$), White men ($M=23.76$, $SD=3.43$), Hispanic men ($M=24.81$, $SD=3.95$), Asian women ($M=21.25$, $SD=2.85$), White women ($M=21.90$,

$SD=3.50$), and Hispanic women ($M=23.55$, $SD=4.97$). Pairwise comparisons revealed the following pattern of significance: Asian women=White women<Asian men=White men=Hispanic women=Hispanic men. Given the large sample size, group differences in BMI are likely characteristics of the sample populations rather than consequences of sampling error. We report the results without controlling for BMI first and then note whether controlling for BMI altered the results.

Gender Differences in Body Image

Global Gender Differences

Consistent with Prediction 1, women had lower body satisfaction than men (see upper portion of Table 1), although the effect size was small ($d=.37$). Compared to men, Chi Square tests revealed that more women (27 vs. 15%) reported low body satisfaction, $\chi^2(df=1, N=2202)=42.99$, $p<.001$, and fewer women (53 vs. 67%) reported high body satisfaction, $\chi^2(df=1, N=2202)=40.12$, $p<.001$.

Also consistent with Prediction 1, women reported a higher level of surveillance than men (see upper portion of Table 2), an effect that was medium in size ($d=.48$). Compared to men, more women (43 vs. 25%) reported high surveillance $\chi^2(df=1, N=1476)=51.08$, $p<.001$, and fewer women (13 vs. 27%) reported low surveillance, $\chi^2(df=1, N=1476)=47.46$, $p<.001$.

Weight and Gender Differences

A 2(gender) $\times$ 7(BMI category) between subjects ANOVA revealed a main effect of gender $F(1, 1791)=46.49$, $p<.001$, partial $\eta^2=.025$, and BMI category $F(6, 1,791)=23.31$, $p<.001$, partial $\eta^2=.072$. There was also a marginally significant Gender $\times$ BMI category interaction $F(2, 1,791)=12.88$, $p=.04$, partial $\eta^2=.041$, indicating that the size of sex differences differed across BMI categories. Polynomial and linear contrasts on the association between BMI and body satisfaction were conducted separately for women and men. Consistent with Prediction 2, these contrasts for women revealed a significant linear association ($p<.001$) but no quadratic association ($p=.08$), with heavier women reporting lower body satisfaction than thinner women. In contrast to the results for women, the quadratic association was significant for men ($p<.001$) and the linear association was marginally significant ($p=.013$). Specifically, men in the middle BMI categories were more satisfied than very slender and very heavy men. Also consistent with Prediction 2, these contrasting patterns for men and women were related to the size and direction of sex differences in body satisfaction across BMI categories. A series of t-tests revealed that underweight men reported lower body satisfaction than underweight women, but men in the middle healthy to upper overweight categories

¹ In a three-way between subjects ANOVA, the interaction of ethnicity $\times$ sex $\times$ BMI was not significant $F(17, 1805)=1.48$, $p>.05$. The interaction of ethnicity $\times$ BMI was also not significant $F(18, 1805)=1.51$, $p>.05$. Therefore, we examined only the global gender differences in body satisfaction and the interactions of gender with BMI and ethnicity.

Table 1 Gender differences in body satisfaction for the total sample and as functions of BMI category and ethnicity.

	Body Satisfaction as Measured by the Appearance Evaluation Scale												
	Gender Differences			Women					Men				
	<i>D</i>	<i>t</i>	<i>Df</i>	<i>M</i>	<i>SD</i>	Low %	Neutral %	High %	<i>M</i>	<i>SD</i>	Low %	Neutral %	High %
Total Sample	.37	8.59***	2200	3.25	.73	27	20	53	3.52	.72	15	18	67
BMI Category													
Obese	.32	1.36	71	2.58	.72	70	9	21	2.84	.85	57	10	33
Upper Overweight	.85	3.48***	71	2.71	.52	53	30	17	3.22	.68	23	19	58
Lower Overweight	.97	6.79***	198	2.80	.76	57	17	26	3.53	.73	15	18	67
Upper Healthy	.94	8.26***	309	3.10	.72	30	29	41	3.75	.66	9	13	78
Middle Healthy	.55	5.94***	498	3.34	.69	24	19	57	3.70	.62	8	14	79
Lower Healthy	.08	.78	513	3.42	.68	18	17	65	3.47	.71	14	23	63
Underweight	−.61	−3.13**	131	3.49	.60	12	17	71	3.08	.75	31	35	34
Ethnicity													
White	.37	4.53***	812	3.38	.74	21	14	65	3.64	.70	11	16	73
Asian	.32	4.50***	625	3.11	.67	31	23	46	3.33	.69	22	22	56
Hispanic	.16	1.29	259	3.25	.72	29	19	52	3.37	.76	20	18	62

Note. Between subjects t-tests were conducted to examine gender differences in body satisfaction as measured by the Appearance Evaluation Scale (Cash 2000). A positive effect size indicates that men reported higher body satisfaction than women. Higher scores indicated higher body satisfaction on the appearance evaluation scale, and possible scores range from 1 to 5 (1 = Definitely Disagree; 3 = Neutral; 5 = Strongly Agree). We also indicated the percentage of individuals whose mean scores for appearance evaluation indicated they were consistently disagreeing or agreeing with statements on the scale (Low Appearance Evaluation = 1.00 – 2.74; Neutral Appearance Evaluation = 2.75 – 3.25; High Appearance Evaluation = 3.26–5.0).

*** $p < .001$; ** $p < .01$; * $p < .05$

reported higher body satisfaction than women in those categories (see Table 1 and Fig. 1).

Associations of Ethnicity to Body Image and Surveillance

We had predicted that White individuals would report higher body satisfaction than Asian and Hispanic individuals (Prediction 3). Pairwise comparisons of ethnic groups

were conducted separately for men and women within the context of one-way ANOVAs.

Women For women, there was a significant main effect of ethnicity on body satisfaction, $F(2, 997) = 14.48$, $p < .001$, partial $\eta^2 = .028$. Consistent with Prediction 3, pairwise comparisons revealed that White women reported significantly higher body satisfaction than Asian women

Table 2 Gender differences in appearance surveillance for the total sample and as functions of ethnicity and gender.

	Surveillance												
	Gender Differences			Women					Men				
	<i>D</i>	<i>t</i>	<i>Df</i>	<i>M</i>	<i>SD</i>	Low %	Neutral %	High %	<i>M</i>	<i>SD</i>	Low %	Neutral %	High %
Total Sample	.48	9.24***	1474	4.44	.88	13	45	43	3.99	.95	27	49	25
Ethnicity													
White	.56	5.90***	492	4.48	.84	12	43	46	3.95	1.06	30	42	28
Asian	.56	6.17***	439	4.42	.84	12	47	41	3.96	.79	24	57	19
Hispanic	.19	1.21	169	4.29	.85	13	53	34	4.13	.90	22	51	28

Note. Between subjects t-tests were conducted to examine gender differences in surveillance. A positive effect size indicates that women reported higher surveillance than men. Higher scores indicate higher levels of surveillance, and possible scores range from 1 to 7 (1 = Strongly Disagree; 4 = Neutral; 7 = Strongly Agree). We also indicated the percentage of individuals whose mean scores for appearance evaluation indicated they were consistently disagreeing or agreeing with statements on the scale (Low Appearance Surveillance = 1.00–3.49; Neutral Appearance Surveillance = 3.50–4.50; or High Appearance Surveillance = 4.51–7.00).

*** $p < .001$; ** $p < .01$; * $p < .05$

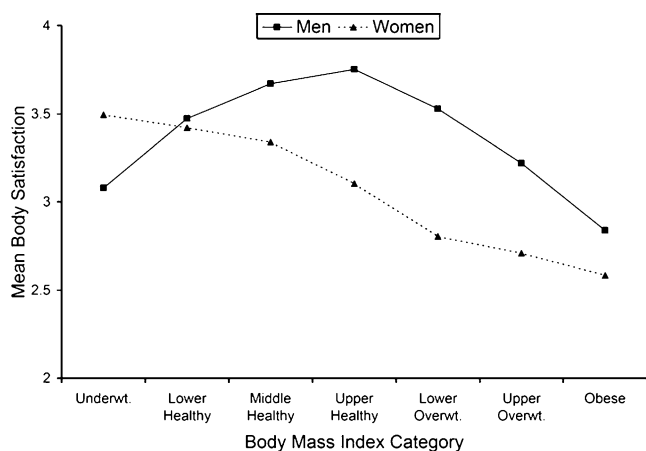


Fig. 1 Gender differences in the association of BMI to body satisfaction. Higher scores indicate better body satisfaction as measured by the appearance evaluation scale (Cash 2000).

($d=.38$; $p<.001$), and marginally higher body satisfaction than Hispanic women ($d=.18$; $p<.05$). Further, Hispanic women reported marginally higher body satisfaction than Asian women ($d=.19$; $p<.05$). When controlling for BMI, the Asian–White difference remained but the difference between White and Hispanic women disappeared ($p=.985$). A one-way ANOVA indicated there were no ethnic differences in surveillance $F(3, 831)=1.32$, $p=.268$, and controlling for BMI did not alter this result.

Men For men, there was a significant main effect of ethnicity on body satisfaction, $F(2, 701)=15.56$, $p<.001$, partial $\eta^2=.043$. Consistent with Prediction 3, pairwise comparisons revealed that White men reported higher body satisfaction than Asian ($d=.45$; $p<.001$) men and Hispanic men ($d=.38$; $p<.001$). Body satisfaction did not differ

between Asian and Hispanic men ($d=.05$; $p>.05$). When controlling for BMI, the same general pattern of means emerged, although the difference between White and Hispanic men was no longer statistically significant ($p=.079$). A one-way ANOVA indicated there were no ethnic differences in surveillance, $F(3, 609)=.862$, $p=.460$, and controlling for BMI did not alter this result.

Associations of Surveillance to Body Satisfaction

As predicted, increased surveillance was related to lower body satisfaction for both men and women (see Table 3). Surprisingly, however, these associations were small ($rs<.20$). There were also a number of intriguing case examples contrary to the general trend. Of the 31 individuals who reported the highest possible score on body satisfaction (5.00), nearly one-third were classified as “high” on surveillance. Similarly, of the 885 individuals who reported high body satisfaction, 265 of them also reported high surveillance.

Weight and surveillance To explore whether the association of surveillance to body satisfaction was dependent on BMI, separate correlations were computed between these measures for each BMI category for both men and women (see lower portion of Table 3). We had predicted that the relationship between surveillance and body satisfaction would be strongest among those who deviated most from their gender-specific body ideal (Prediction 4).

Women Consistent with Prediction 4, the association between surveillance and body satisfaction was stronger in higher BMI categories (i.e., the ones furthest from the thin ideal) than in the lower BMI categories. A Fisher’s z_r

Table 3 Correlates of body satisfaction as a function of gender, ethnicity, and BMI category.

Correlations (r)	Ethnicity							
	Total Sample		White		Asian		Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women
Body Satisfaction								
Surveillance	-.17***	-.18***	-.21**	-.04	-.08	-.22***	-.42***	-.25**
(N)	(483)	(619)	(197)	(242)	(239)	(275)	(69)	(164)
BMI	-.16***	-.32***	-.18**	-.31***	-.17**	-.30***	-.50***	-.44***
(N)	(574)	(820)	(226)	(301)	(270)	(378)	(78)	(102)
BMI Categories								
Body Satisfaction	Under-Weight	Lower Healthy	Middle Healthy	Upper Healthy	Lower Overwt.	Upper Overwt.	Obese	
Surveillance	.06	-.20***	-.19**	-.21**	-.48***	-.46*	-.31	
Women (N)	(83)	(285)	(213)	(103)	(67)	(27)	(25)	
Surveillance	.06	-.31***	-.27**	-.09	-.05	-.38*	-.08	
Men (N)	(24)	(108)	(168)	(145)	(95)	(36)	(34)	

Note. Correlations with body satisfaction as a function of gender, ethnicity, and BMI category are presented. A negative association between body satisfaction and surveillance indicates that individuals who engage in greater surveillance report lower body satisfaction. A negative association between body satisfaction and BMI indicates that individuals with higher BMIs report lower body satisfaction. *** $p<.001$; ** $p<.01$; * $p<.05$

transformation revealed the mean correlation for the lowest three BMI categories ($r=-.16$, $n=581$) was significantly lower than the mean correlation for the highest three categories ($r=-.48$, $n=119$; $Z=3.49$, $p<.001$).

Men Prediction 4 was not strongly supported for men. In contrast to the prediction, the association between surveillance and body satisfaction was not significant in the underweight and obese categories. The association between surveillance and body satisfaction, however, was stronger in the lower healthy and the middle healthy categories than in the categories with heavier-but-not-obese men (upper healthy and lower overweight categories; $r=-.07$). The differences between these correlations reached the marginally significant level, $Z=-2.10$, $p<.05$, and $Z=-2.00$, $p<.05$, respectively.

Ethnicity and surveillance Because surveillance may serve to remind minorities that their bodies differ from the prevalent White norms, we predicted that the relationship between increased surveillance and decreased body satisfaction would be stronger for minorities than for Whites (Prediction 4). To test this prediction, separate correlations between body satisfaction and surveillance were computed for men and women in each ethnic group (see upper portion of Table 3).

Women Contrary to Prediction 4, the correlation between surveillance and body satisfaction was not stronger for Asian or Hispanic women than for White women, $Z=-.14$, $p=.890$ and $Z=-1.31$, $p=.190$, respectively. Because the ethnic groups differed in BMI and our previous analyses demonstrated that BMI changes the association of surveillance to body satisfaction, partial correlations between appearance surveillance and body satisfaction were computed for each ethnic group using BMI as covariate. The partial correlations for White, Asian, and Hispanic women were in the direction proposed in Prediction 4: $pr=-.09$, ns; $pr=-.22$, $p<.001$; $pr=-.32$, $p<.001$; respectively. The difference between White and Asian women approached but did not reach significance, $Z=-1.72$, $p=.086$, and the differences between the White and the Hispanic women were marginally significant, $Z=-2.08$, $p<.05$. Thus, the results were in the predicted direction when controlling for BMI but did not reach significance.

Men Contrary to Prediction 4, the correlation between surveillance and body satisfaction was not stronger for the Asian or Hispanic men than for White men, $Z=-1.37$, $p=.170$ and $Z=1.65$, $p=.099$, respectively. When controlling for BMI, the partial correlations for White, Asian, and Hispanic men were: $pr=-.19$, $p<.05$; $pr=.01$, ns; $pr=-.45$, $p<.001$; respectively. The difference in the size of the partial correlations for White and Asian men, and the

difference in the size of the correlations for Hispanic and White men fell in the marginally significant range, $Z=-2.14$ $p<.05$ and $Z=-2.05$, $p<.05$, respectively.

Discussion

Gender Differences in Body Image

As predicted, and consistent with past research conducted within the framework of Objectification Theory, we found that women reported greater appearance surveillance ($d=.48$) and lower body satisfaction ($d=.37$) than men. More women than men (43 vs. 25%) reported high surveillance and fewer women than men (13 vs. 27%) reported low surveillance. Additionally, more women than men reported low body satisfaction (27 vs. 15%) and fewer reported high body satisfaction (53 vs. 67%).

However, we also found that simple comparisons of body satisfaction in men and women obscured the fact that the size and direction of gender differences in body dissatisfaction are highly dependent on BMI category. Most importantly, our results indicated that the association between body mass and body satisfaction was different for men and women. As predicted, the association between BMI and body satisfaction was linear for women and parabolic (inverted-U) for men. Underweight men reported lower body satisfaction than did underweight women ($d=.61$), but women reported lower satisfaction in four of the seven BMI categories (middle healthy weight through upper overweight). In categories where women reported lower body satisfaction than men, the size of these differences were moderate to large ($ds=.55$ to $.97$). These results indicate that the common practice of using group means to compare body satisfaction among men and women without examining the interaction of BMI and gender provides incomplete and potentially misleading information about both the magnitude and the direction of gender differences.

Ethnic Differences in Body Satisfaction

In contrast to a recent meta-analysis on ethnic differences in body satisfaction (Grabe and Hyde 2006), we found that White women reported greater body satisfaction than Asian ($d=.38$) and Hispanic ($d=.18$) women. However, it should be noted that the difference between Hispanic and White women disappeared when BMI was controlled. Consistent with previous research (Grabe and Hyde 2006), ethnic differences in body satisfaction were not large. Among men, White men had greater body satisfaction than Asian ($d=.45$) or Hispanic men ($d=.38$), but the difference between Hispanic and White men disappeared when BMI was controlled. The difference in body satisfaction between Asian and White women and Asian and White men indicates that further research is needed to identify the sociocultural factors responsible for these results.

Surveillance and Body Satisfaction

Objectification Theory would appear to predict moderate to strong relationships between surveillance and body satisfaction, particularly for women, and the limited available research has been consistent with this expectation. For example, Tylka (2004) reported a correlation of $-.48$ between surveillance and body satisfaction in 373 college women, and Forbes et al. (2006) reported a correlation of $-.48$ between surveillance and weight satisfaction in 123 college women. In contrast to both our expectation and the results of other studies, we found only weak associations for women ($r=.18$) and men ($r=.17$). These differences may be due how body satisfaction is operationalized. For example, Forbes et al. (2006) found that surveillance was related to both weight satisfaction and satisfaction with lower or upper body size, but was not related to satisfaction with bust size or height. Further research is needed to determine which aspects of body image are most impacted by increased surveillance.

Ethnicity and Surveillance

Surveillance may cause some minorities to focus on the aspects of their appearance which deviate from White norms. When BMI was controlled, the relationship between surveillance and body satisfaction was stronger for White women than for Hispanic women and the difference approached ($p<.10$) significance for Asian women. Similarly, the relationship was stronger for Asian and Hispanic men than for White men. These results indicate that surveillance may have a more pernicious effect on ethnic minorities. When BMI was not controlled, however, some of the differences in these associations disappeared, illustrating the importance of controlling for BMI when comparing body satisfaction across groups. Whether this pattern of findings reflects a reliable pattern or is simply a spurious result is an important topic for future research.

BMI and Surveillance

As predicted, the association between high appearance surveillance and low body satisfaction was stronger among women who deviated from the thin ideal than among women in the lower BMI categories. One explanation for these findings is that monitoring how one appears to the outside world has particularly negative consequences for heavier women, for whom appearance surveillance is a reminder that their body weight does not match the thin ideal.

The results for men were less clear than the results for women. As expected, the association between surveillance and body satisfaction was weakest for men whose bodies are closest to the powerful ideal (upper healthy; lower overweight) and were higher among somewhat thinner men (lower

healthy; middle healthy). However, no association was found for men in the underweight and obese categories. The failure to find relationships in these two extreme weight categories is contrary to our predictions because these are the categories where the strongest relationships had been expected.

Implications of our Findings for Objectification Theory

Objectification theory states that surveillance usually leads to lower body satisfaction because it increases self-focused attention and concerns regarding negative evaluations by others. From this perspective, however, our findings that many individuals with high body satisfaction also had high surveillance are puzzling. One potential explanation is that surveillance and self-objectification do not necessarily have negative effects for all individuals. For some individuals, appearance surveillance may confirm that their appearance is largely free of perceived flaws and matches the thin or muscular ideal. For other individuals, surveillance may lead to detection of flaws, but this detection leads to vigorous or invasive measures to successfully enhance their appearance (e.g., dieting, cosmetic surgery, exercise). For some individuals, these efforts will result in more positive responses from others and lead to more positive self-evaluations of their appearance.

In making this argument, we are certainly not advocating an increase in objectification or surveillance. Rather, we are indicating that our results are to some degree contrary to the notion that surveillance always has negative consequences on body image. A future challenge for objectification researchers will be to identify what situational or individual factors might cause surveillance to have particularly negative consequences. The findings of this study suggest that one of these factors for women is deviation from the thin ideal. The results are also suggestive that membership in some minority ethnic groups may exacerbate the negative consequences of surveillance.

Limitations

One limitation of this study was that body satisfaction was only assessed through one dependent measure which focused on global assessments of attractiveness. Body satisfaction is a complex concept that has been measured in many different ways (e.g., Grogan 1999; Thompson 1996), and it is important to examine whether our results using the appearance evaluation scale are replicable with other measures. A second limitation of the study was the use of BMI to estimate body type. BMI is commonly used as a measure of body fat and is highly correlated with other measures of body fat (Strain and Zumoff 1992; Welborn et al. 2000). However, the utility of BMI is somewhat limited because other factors beside body fat level can influence BMI scores (e.g., muscularity). It is important that future studies of male body satisfaction employ measures assessing muscularity and other physical features that may covary with BMI.

A third limitation of this study was that there were too few Black participants in our sample to analyze separately and past research has demonstrated that Black women generally reported less body dissatisfaction than White women (Grabe and Hyde 2006). Furthermore, our broad categories of Asian, White, and Hispanic probably obscured important differences within these groups, and we did not measure the important variable of acculturation (e.g., Davis and Katzmann 1999). A fourth limitation was that this study was limited to young college students. Although this imposes some restrictions on the generalization of our results, this limitation does not lessen the importance of the research because this population is at high risk for low body satisfaction, disordered eating, and maladaptive methods of modifying body shape or size. Finally, because our study was correlational in design, it is difficult to determine whether there is any cause and effect relationship between appearance surveillance and body satisfaction, or whether there is a third variable that links these two factors.

Conclusions

Our large sample size provided a rare opportunity to examine how BMI, gender, and ethnicity are related to body satisfaction. This project stands in sharp contrast to most available research on body satisfaction where samples typically contain few ethnic minorities and study body satisfaction only in women. Our results indicate the importance of recognizing the gender dimorphic nature of body ideals, the thin ideal and powerful ideal, and how departures from these ideals are differentially related to the body satisfaction of men and women. The influences of body size and level of surveillance may have important implications for understanding different factors that might promote low body satisfaction among men and women. Finally, our results suggest the importance of examining both ethnic differences and similarities in predictors of body satisfaction.

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References

- American Society of Plastic Surgeons (2006). Dramatic rise in ethnic plastic surgery. Retrieved on June 26, 2006, from: http://www.plasticsurgery.org/news_room/press_releases/2005-ethnic-stats.cfm.
- Bordo, S. (1993). *Unbearable weight: Feminism, Western culture, and the body*. Berkeley, CA: University of California Press.
- Cafri, G., & Thompson, J. K. (2004). Measuring male body image: A review of the current methodology. *Psychology of Men & Masculinity*, 5, 18–29.
- Cafri, G., Thompson, J. K., Ricciardelli, L., McCabe, M., Smolak, L., & Yesalis, C. (2005). Pursuit of the muscular ideal: Physical and psychological consequences and putative risk factors. *Clinical Psychology Review*, 25, 215–239.
- Carlat, D. J., & Carmago, C. A. (1991). Review of bulimia nervosa in males. *American Journal of Psychiatry*, 148, 831–843.
- Cash, T. F. (2000). *The multidimensional body-self relations questionnaire users' manual: 3rd revision*. Available at <http://www.body-images.com>.
- Cash, T. F., & Deagle, E. A. (1997). The nature and extent of body-image disturbances in anorexia nervosa and bulimia nervosa: A meta-analysis. *International Journal of Eating Disorders*, 22, 107–125.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn.). Hillsdale, NJ: Erlbaum.
- Davis, C., & Katzman, M. A. (1999). Perfection as acculturation: Psychological correlates of eating problems in Chinese male and female students living in the United States. *International Journal of Eating Disorders*, 25, 65–70.
- Drummond, M. J. N. (2002). Men, body image, and eating disorders. *International Journal of Men's Health*, 1, 89–103.
- Feingold, A., & Mazzella, R. (1998). Gender differences in body image are increasing. *Psychological Science*, 9, 190–195.
- Forbes, G. B., Jobe, R. L., & Revak, J. A. (2006). Relationship between dissatisfaction with specific body characteristics and the Sociocultural Attitudes Toward Appearance Scale–3 and the Objectified Body Consciousness Scale. *Body Image*, 3, 295–300.
- Frederick, D. A., Buchanan, G. M., Sadeghi-Azar, L., Peplau, L. A., Haselton, M. G., Berezovskaya, A., & Lipinski, R. E. (2007). Desiring the muscular ideal: Men's body satisfaction in the United States, Ukraine, and Ghana. *Psychology of Men & Masculinity* (in press).
- Frederick, D. A., Fessler, D. M. T., & Haselton, M. G. (2005). Do representations of male muscularity differ in men's and women's magazines? *Body Image*, 2, 81–86.
- 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*, 3, 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.
- Granner, M. L., Black, D. R., & Abood, D. A. (2002). Levels of cigarette and alcohol use related to eating-disorder attitudes. *American Journal of Health Behavior*, 26, 43–55.
- Grogan, S. (1999). *Body image: Understanding body dissatisfaction in men, women, and children*. New York: Routledge.
- Hall, C. C. I. (1995). Asian eyes: Body image and eating disorders of Asian and Asian American women. *Eating Disorders*, 3, 8–19.
- Kaw, E. (1993). Medicalization of racial features: Asian American women and cosmetic surgery. *Medical Anthropology Quarterly*, 7, 74–89.
- Kilmartin, C. T. (2007). *The masculine self*, 3rd edn. New York: Sloan Publishing: Cornwall-on-Hudson.
- Kozee, H. B., & Tylka, T. L. (2006). A test of objectification theory with lesbian women. *Psychology of Women Quarterly*, 30, 348–357.
- Labre, M. P. (2002). Adolescent boys and muscular male body ideal. *Journal of Adolescent Health*, 30, 233–242.

- Littleton, H., Breitkopf, C. R., & Berenson, A. (2005). Body image and risky sexual behaviors: An investigation in a tri-ethnic sample. *Body Image*, 2, 193–198.
- Lucas, A., Beard, M., Kurland, L., & O'Fallon, M. (1991). 50-year trends in the incidence of anorexia nervosa in Minnesota: A population-based study. *American Journal of Psychiatry*, 148, 917–922.
- McCabe, M. P., & Ricciardelli, L. A. (2004). Body image dissatisfaction among males across the lifespan: A review of past literature. *Journal of Psychosomatic Research*, 56, 675–685.
- McCreary, D. R., & Sadava, S. W. (2001). Gender differences in relationships among perceived attractiveness, life satisfaction, and health in adults as a function of body mass index and perceived weight. *Psychology of Men and Masculinity*, 2, 108–116.
- McCreary, D. R., Saucier, D. M., & Courtenay, W. H. (2005). The drive for muscularity and masculinity: Testing the associations among gender-role traits, behaviors, attitude, and conflict. *Psychology of Men & Masculinity*, 6, 83–94.
- McKinley, N. M., & Hyde, J. S. (1996). The Objectified Body Consciousness Scale: Development and validation. *Psychology of Women Quarterly*, 20, 181–215.
- Mishkind, M. E., Rodin, J., Silberstein, L. R., & Striegel-Moore, R. H. (1986). The embodiment of masculinity: Cultural, psychological, and behavioral dimensions. *American Behavioral Scientist*, 29, 545–562.
- Muth, J. L., & Cash, T. F. (1997). Body-image attitudes: What difference does gender make? *Journal of Applied Social Psychology*, 27, 1438–1452.
- National Institute of Health (1998). *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults*. September 1998 (No. 98-4083). Bethesda, MD: Author.
- 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.
- Noles, S. W., Cash, T. F., & Winstead, B. A. (1985). Body image, physical attractiveness, and depression. *Journal of Consulting and Clinical Psychology*, 53, 88–94.
- Pingitore, R., Spring, B., & Garfield, D. (1997). Gender differences in body satisfaction. *Obesity Research*, 5, 402–409.
- Polivy, J., & Herman, C. P. (2002). Causes of eating disorders. *Annual Review of Psychology*, 53, 187–213.
- Powell, M. R., & Hendricks, B. (1999). Body schema, gender, and other correlates in nonclinical populations. *Genetic, Social, and General Psychology Monographs*, 125, 33–41.
- Root, M. P. P. (1990). Disordered eating in women of color. *Sex Roles*, 22, 525–536.
- Sondhaus, E. L., Kurtz, R. M., & Strube, M. J. (2001). Body attitude, gender, and self-concept: A 30-year perspective. *Journal of Psychology: Interdisciplinary and Applied*, 135, 413–429.
- 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.
- Strain, G. W., & Zumoff, B. (1992). The relationship of weight–height indices of obesity to body fat content. *Journal of the American College of Nutrition*, 11, 715–718.
- Strelan, P., & Hargreaves, D. (2005). Women who objectify other women: The vicious circle of objectification? *Sex Roles*, 52, 707–712.
- Striegel-Moore, R. H., & Smolak, L. (2000). The influence of ethnicity on eating disorders in women. In R. M. Eisler, & M. Hersen (Eds.), *Handbook of gender, culture, and health* (pp. 227–253). Mahwah, NJ: Erlbaum.
- Thompson, J. K. (1996). Assessing body image disturbance: Measures, methodology, and instrumentation. In J. K. Thompson (Ed.), *Body image, eating disorders, and obesity* (pp. 49–81). Washington, DC: American Psychological Association.
- Tiggemann, M., & Kuring, J. K. (2004). The role of body objectification in disordered eating and depressed mood. *British Journal of Clinical Psychology*, 43, 299–311.
- Tylka, T. L. (2004). The relation between body dissatisfaction and eating disorder symptomatology: An analysis of moderating variables. *Journal of Counseling Psychology*, 51, 178–191.
- Welborn, T. A., Knuiman, M. W., & Vu, H. T. (2000). Body mass index and alternative indices of obesity in relation to height, triceps skinfold and subsequent mortality: The Busselton health study. *International Journal of Obesity Related Metabolic Disorders*, 24, 108–115.