

Roles of Sexual Objectification Experiences and Internalization of Standards of Beauty in Eating Disorder Symptomatology: A Test and Extension of Objectification Theory

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This study extends the literature on eating disorder symptomatology by testing, based on extant literature on objectification theory (B. L. Fredrickson & T. Roberts, 1997) and the role of sociocultural standards of beauty (e.g., L. J. Heinberg, J. K. Thompson, & S. Stormer, 1995), a model that examines (a) links of reported sexual objectification experiences to eating disorder-related variables and (b) the mediating roles of body surveillance, body shame, and internalization of sociocultural standards of beauty. Consistent with hypotheses, with a sample of 221 young women, support was found for a model in which (a) internalization of sociocultural standards of beauty mediated the links of sexual objectification experiences to body surveillance, body shame, and eating disorder symptoms, (b) body surveillance was an additional mediator of the link of reported sexual objectification experiences to body shame, and (c) body shame mediated the links of internalization and body surveillance to disordered eating.

Keywords: objectification theory, eating disorders, sexism, body image, self-objectification

Research, theory, treatment, and prevention of eating disorder symptomatology have been important foci for counseling psychologists (Kashubeck-West & Mintz, 2001). Identifying contextual and intrapersonal variables linked to eating disorder symptoms is crucial for understanding how to prevent and treat such symptoms. Indeed, a perspective that attends to contextual and intrapersonal variables in understanding mental health is a defining feature of counseling psychology (American Psychological Association, 1999). Using such a perspective to understand eating disorder symptomatology among college age women is important given the high prevalence of such symptoms in this population. Studies focusing on undergraduate women suggest that as many as 64% have engaged in disordered eating behaviors or attitudes (Mintz & Betz, 1988). More recently, Tylka and Subich's (2002) data suggested that more than half of college women skipped meals (59%); approximately one third restricted calorie intake (37%), eliminated fats (30%), and eliminated carbohydrates (27%); and about one fourth fasted for more than 24 hr (26%).

Objectification theory (Fredrickson & Roberts, 1997) represents a major advancement in eating disorder scholarship that integrates extant theory and research and attends to contextual and intrapersonal variables that might play a role in the development of eating

disorder symptomatology. More specifically, objectification theory posits that women's life experiences and gender socialization routinely include experiences of sexual objectification that reduce women to their bodies, body parts, or body functions. Similarly, Bartky (1988, 1990) defined sexual objectification as the reduction of a woman's body to its parts or functions, including the misperception that those parts or functions are capable of representing the woman as a whole. Consistent with this definition, Fredrickson and Roberts (1997) argued that sexual objectification occurs "whenever a woman's body, body parts, or sexual functions are separated out from her person, reduced to status of mere instruments, or regarded as if they were capable of representing her" (p. 175). A frequently cited and subtle example of sexual objectification is the objectifying gaze that can occur in interpersonal and social encounters and media representations (Fredrickson & Roberts, 1997; Goffman, 1979; Kilbourne & Jhally, 2000). Swim, Hyers, Cohen, and Ferguson's (2001) series of diary studies with college women and men supported the routine occurrence of sexual objectification of women. In these studies, sexual objectification of women (e.g., whistles or cat calls, sexual comments about body parts, inappropriate sexual comments or advances) emerged as a unique category of daily experiences of sexism that participants reported having observed or experienced.

Objectification theory (Fredrickson & Roberts, 1997) posits that routine sexual objectification experiences socialize girls and women to treat themselves as objects to be looked upon and evaluated such that their bodies become objects for others (Bartky, 1988, 1990; de Beauvoir, 1952; McKinley, 1998; Spitzack, 1990). This internalization of an observer's perspective upon one's own body is called self-objectification and is manifested by persistent body surveillance. As such, a woman's relationship to her body comes to parallel an observer's relationship to an object; essentially, women's bodies become objects even to themselves (McKinley, 1998; Noll & Fredrickson, 1998). Within the objectifica-

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tion theory framework, self-objectification in turn is theorized to lead to greater levels of body shame and anxiety, reduce awareness of internal bodily states, and prevent or disrupt peak motivational states or flow experiences (Csikszentmihalyi, 1982, 1990) for women. These experiences then contribute to depression, sexual dysfunction, and eating disorder symptomatology, each of which is more prevalent among women than among men (see Figure 1).

The variables highlighted in objectification theory are proposed to originate from women's gender role socialization and from experiences of sexual objectification and share a role in shaping women's symptomatology. Nevertheless, there are some important conceptual distinctions among these variables. More specifically, self-objectification manifested by body surveillance is the act of consistently measuring oneself against some internalized or cultural standard, whereas body shame is the emotion that results from measuring oneself against such a standard and coming up short. Anxiety includes the anticipation of danger or threats to one's safety and fear about when and how one's body will be looked at and evaluated. Peak motivational states are optimal experiences or "rare moments during which we feel we are truly living, uncontrolled by others, creative and joyful" (Fredrickson & Roberts, 1997, p. 183). Finally, awareness of bodily states refers to the ability to detect and accurately interpret physiological sensations such as heartbeat, stomach contractions, and physiological sexual arousal.

Within the larger framework of objectification theory, Noll and Fredrickson (1998) identified self-objectification and body shame as the key predictors of eating disorder symptomatology (see Figure 1). Consistent with this conceptualization, much of the extant empirical research on objectification theory has focused on self-objectification and body shame and their links to eating disorder symptoms. Overall, this research has yielded results that support the propositions of objectification theory. For example, Fredrickson, Roberts, Noll, Quinn, and Twenge (1998) experimentally manipulated the salience of self-objectification by having college age women try on a swimsuit or a sweater in front of a full-length mirror. They found a significant interaction of experimental condition (swimsuit or sweater) by self-objectification in

predicting body shame such that self-objectification was related more strongly to body shame for women who tried on swimsuits than for women who tried on sweaters. Body shame in turn was related to restrained eating, measured by the amount of cookies that participants ate. Similar results emerged in a second sample of college age women. More specifically, self-objectification and body shame each predicted greater restrained eating, and these relationships emerged with body mass index (weight divided by height squared) controlled as a covariate.

In another study, Noll and Fredrickson (1998) found support for the mediating role of body shame posited by objectification theory. Across two samples of college age women, they found that body shame partially mediated the positive relationship between self-objectification and disordered eating. In other words, self-objectification was related to greater body shame, which in turn was related to greater eating disorder symptomatology. Beyond this indirect relationship, there was also a direct positive relationship between self-objectification and disordered eating. These findings emerged with body mass index controlled as a covariate and regardless of whether symptoms of bulimia or anorexia were examined.

Tiggemann and Slater (2001) examined the replicability of this mediational model with a sample of classical ballet dancers and a second sample of nondancers. Their results for both samples were quite similar to those reported by Noll and Fredrickson (1998). More specifically, Tiggemann and Slater examined both general self-objectification and the more specific manifestation of self-objectification as body surveillance and found that body shame mediated partially the positive link of body surveillance to eating disorder symptoms for ballet dancers and mediated fully this link for nondancers. These authors also examined but found no significant unique links of appearance anxiety, flow experiences, or awareness of internal bodily states to eating disorder symptoms beyond the links of body surveillance and body shame. Thus, these variables did not emerge as predictors of eating disorder symptoms nor mediators of the self-objectification–eating disorder link, reinforcing the proposition that self-objectification and body shame are the key contributors to eating disorder symptoms within the

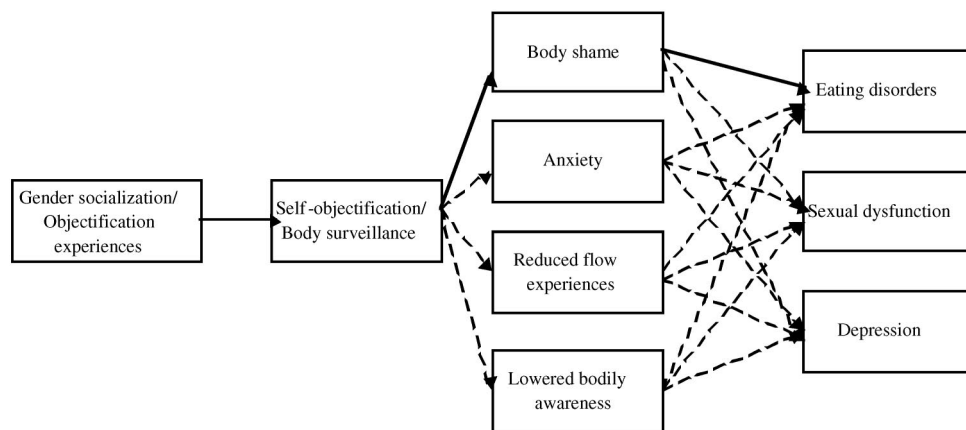


Figure 1. Predictors of eating disorder symptomatology in the context of objectification theory. This model represents objectification theory in its entirety and does not reflect the model examined in the present study. Solid lines indicate key conceptual and empirically supported links for eating disorder symptomatology. Dashed lines indicate other links proposed in the model.

objectification theory framework. Furthermore, Tiggeman and Slater found that although participants' scores on measures of general self-objectification and body surveillance overlapped substantially ($r = .61$), the specific manifestation of self-objectification as body surveillance and not general self-objectification was linked uniquely to all other variables. In other words, general self-objectification did not account for unique variance beyond that accounted for by body surveillance in any of the other eating disorder-related constructs. Thus, in addition to providing further support for Noll and Fredrickson's mediational model, Tiggeman and Slater's findings highlighted the importance of assessing specifically body surveillance as the manifestation of self-objectification.

Across these studies then, support has mounted for links among self-objectification, body shame, and eating disorder symptoms. The critical role of sexual objectification experiences as the precursor to these links, however, has received very limited attention in research on objectification theory. In fact, we identified only one published study that began to address this gap. Morry and Staska (2001) assessed college women's exposure to beauty magazines as one specific type of sexual objectification experience. These authors found that women's self-reported exposure to beauty (but not fitness) magazines was related to greater levels of (a) self-objectification and (b) eating disorder symptomatology. In each case, however, the link was mediated fully by internalization of sociocultural standards of beauty. In other words, greater exposure to beauty magazines was related to greater internalization of cultural beauty standards, and this internalization in turn was related to self-objectification and eating disorder symptoms. Consistent with other findings, these authors also found a positive correlation between self-objectification and eating disorder symptoms. These findings provide preliminary support for the role of sexual objectification experiences proposed in objectification theory. In addition, Morry and Staska's findings indicate that internalization of sociocultural standards of beauty, a variable not explicitly included in objectification theory, is important to consider in research on objectification theory. Unfortunately, these authors did not analyze concomitantly the links among sexual objectification experiences, internalization of sociocultural standards of beauty, self-objectification, and disordered eating. Also, they did not include the role of body shame in the links they examined.

Thus, an important next step in extending the literature on objectification theory as applied to understanding eating disorder symptoms is to empirically examine a model that includes relationships among sexual objectification experiences, self-objectification (assessed specifically as body surveillance), body shame, and eating disorder symptoms. Furthermore, Morry and Staska's (2001) findings and other theoretical and empirical literature on the relation of internalization of sociocultural standards of beauty suggest that internalization might mediate links of sexual objectification experiences to body surveillance, body shame, and eating disorder symptoms. For example, body shame is posited to result from the internalization of unachievable idealized standards of beauty (Bartky, 1988, 1990; McKinley & Hyde, 1996). In addition, internalization of sociocultural standards of beauty has been shown to be related to body surveillance, body shame, and eating disorder symptomatology (e.g., Cashel, Cunningham, Landeros, Cokley, & Muhammad, 2003; Griffiths et al., 1999, 2000;

Heinberg et al., 1995; McKinley & Hyde, 1996). These conceptual and empirical links are consistent with Baron and Kenny's (1986) definition that a variable functions as a mediator "to the extent that it accounts for the relation between the predictor and criterion. Mediators explain how external physical events take on internal psychological significance" (p. 1176). Consistent with this definition, internalization of cultural standards of beauty might be a critical mechanism that translates sexual objectification experiences (external events) into body surveillance, body shame, and eating disorder symptoms (internal psychological variables).

Thus, on the basis of the literature reviewed here and the prevalence of eating disorder symptomatology among young women (Mintz & Betz, 1988; Tylka & Subich, 2002), the present study tested a model that examines the following hypotheses with a sample of college age women:

Hypothesis 1: Reported sexual objectification experiences are related to greater levels of internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms. (Support for this hypothesis is a precondition for Hypothesis 2.)

Hypothesis 2: Links of reported sexual objectification experiences to body surveillance, body shame, and eating disorder symptomatology are mediated by internalization of sociocultural standards of beauty. (Given limited research in this area, we explore both partial and full mediation.)

Hypothesis 3: Consistent with prior findings, body shame mediates partially the link of body surveillance to eating disorder symptomatology.

The model testing these hypotheses is depicted in Figure 2. Consistent with prior research and to provide a more stringent test of the hypotheses, we controlled body mass index as a covariate in tests of these hypotheses.

Method

Participants

Participants were 221 undergraduate women at a large southeastern U.S. university and ranged in age from 17 to 45 years ($M = 20.42$, $Mdn = 20.0$, $SD = 2.75$). Sixty-four percent of the sample identified as White, 11% Latina or Hispanic, 8% African American or Black, 8% Asian American or Pacific Islander, 1% Native American, and 8% as multiracial or other. Overall, 43% of the participants were in their third year of college, 28% in their fourth year, 19% in their second year, 9% in their first year, and 1% in graduate school. Thirty-seven percent of the women reported that they were married or in a committed relationship, and 63% were single. In terms of family social class, 43% of the sample identified as upper middle class, 41% middle class, 11% working class, 3% upper class, and 1% lower class. Ninety-one percent of the sample identified as exclusively heterosexual, 5% mostly heterosexual, 3% bisexual, and less than 1% exclusively homosexual. (Some of the descriptive percentages may not add to 100% because of rounding and a few missing responses.)

Procedures

Undergraduate women from a variety of courses were invited to participate in a survey study on women's life experiences and well-being. Persons willing to participate attended scheduled sessions of up to 5

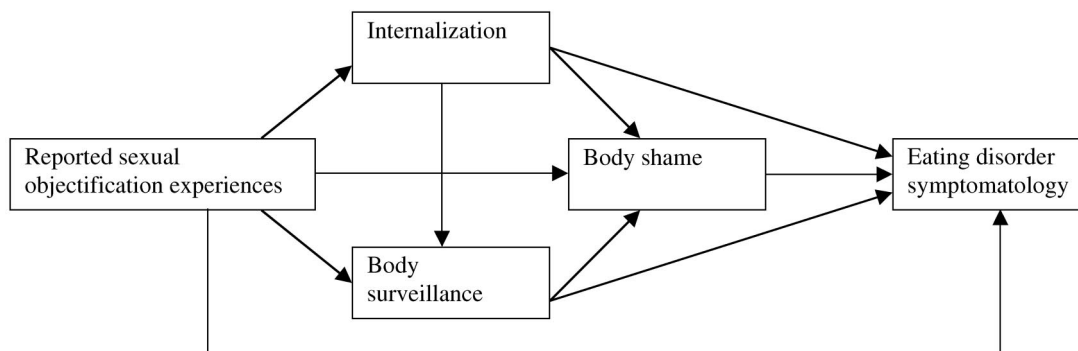


Figure 2. Model for testing stated hypotheses.

persons per session and received extra credit toward their course grade in the classes from which they were recruited. Procedures were described to participants, and written consent was obtained. Participants then completed a survey packet that included the following instruments and a demographic questionnaire. The order of instruments in the survey packets was counterbalanced. A multivariate analysis of variance with order as the independent variable and sexual objectification experience, internalization, body surveillance, body shame, and eating disorder symptomatology scores as dependent variables revealed no significant order effects.

Instruments

Reported sexual objectification experiences. The sexual objectification subscale of Swim, Cohen, and Hyers's (1998) 25-item measure of daily sexist events was used to assess participants' reported sexual objectification experiences. This subscale consists of seven self-report Likert-type (1 = *never* to 5 = *about two or more times a week during the last semester*) items that assess the frequency of reported sexual objectification experiences. Items for the subscale were based on events observed or experienced by women and men in a diary study of everyday sexist events. Sample items include "Had people shout sexist comments, whistle, or make cat-calls at me" and "Had sexist comments made about parts of my body or clothing." Item ratings are averaged to yield a subscale score, with higher scores indicating more frequent reported sexual objectification experiences. In terms of validity, Swim et al. (2001) found that women reported more sexual objectification experiences than did men, and these and other sexist events were related more strongly to anxiety for women than for men but were independent of levels of neuroticism. The alpha internal consistency reliability for the sexual objectification subscale with the present sample was .87.

Internalization of sociocultural standards of beauty. The Internalization scale of Heinberg et al.'s (1995) Sociocultural Attitudes Toward Appearance Questionnaire is an eight-item Likert-type (1 = *completely disagree* to 5 = *completely agree*) measure that assesses how much an individual accepts and internalizes societal standards of beauty (e.g., "I wish I looked like a swimsuit model" and "Music videos that show thin women make me wish that I were thin"). Item ratings are averaged to obtain subscale scores, with higher scores indicating greater levels of internalization of sociocultural standards of beauty. Adequate reliability for Internalization scores has been demonstrated across a variety of samples. In the development of the scale, Heinberg et al. reported an alpha of .88 with undergraduate women. More recently, Morry and Staska (2001) obtained an alpha of .85 with women in their study. In terms of validity, Internalization scores have been shown to be largely independent of the awareness of sociocultural standards of beauty (Heinberg et al., 1995) but related positively to body dissatisfaction (Griffiths et al., 2000), abnormal eating attitudes (Griffiths et al., 1999), restrained eating (Griffiths et al., 2000),

and body image preoccupation (Morry & Staska, 2001). Alpha internal consistency reliability estimate with the present sample was .88.

Self-objectification manifested as body surveillance. The Body Surveillance (McKinley & Hyde, 1996) subscale of the Objectified Body Consciousness Scale is an eight-item instrument that measures how much a woman thinks of her body in terms of how it looks rather than how it feels (i.e., self-objectification). Questions include "I rarely worry about how I look to other people" and "I think more about how my body feels than how my body looks." Participants respond to items on a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*) and indicate *NA* (not applicable) if the item does not apply to them. Consistent with McKinley and Hyde's (1996) recommendation, the few "not applicable" responses for the subscale were coded as missing. Appropriate items are reverse coded, and nonmissing item ratings are averaged to yield a scale score, with higher scores indicating greater levels of self-objectification. With regard to validity, consistent with objectification theory, women scored higher than men on Body Surveillance (McKinley, 1998). Furthermore, Body Surveillance scores were correlated as expected but were not redundant with other relevant constructs. More specifically, McKinley and Hyde's exploratory and confirmatory factor analyses indicated that body surveillance emerged as a factor that was distinct from body shame and control beliefs (i.e., belief that one can control one's appearance). Furthermore, McKinley and Hyde found that a three-factor solution with body surveillance, body shame, and control beliefs as separate factors fit their data significantly better than a two-factor structure that modeled body surveillance and body shame as a single factor. Nevertheless, as expected, Body Surveillance scores were correlated negatively with body esteem and were correlated positively with body shame and control beliefs (McKinley, 1998). Alpha internal consistency reliability estimates have ranged from .76 to .89 with undergraduate and middle-aged women (McKinley, 1999; McKinley & Hyde, 1996). McKinley and Hyde reported a 2-week test-retest reliability of .79 for Body Surveillance scores. Alpha with the present sample was .82.

Body shame. The Body Shame subscale is an eight-item subscale of McKinley and Hyde's (1996) 24-item Objectified Body Consciousness Scale that measures how much a woman feels like a "bad person" when she believes that her body does not achieve cultural body standards. Questions for the subscale include "When I cannot control my weight, I feel like there must be something wrong with me" and "When I'm not the size I think I should be, I feel ashamed." Participants respond to items on a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*) and circle *NA* (not applicable) if the item does not apply to them. Consistent with McKinley and Hyde's recommendation, the few "not applicable" responses for the subscale were coded as missing. Appropriate items are reverse coded, and nonmissing item ratings are averaged to yield a scale score, with higher scores indicating greater levels of body shame. As indicated previously, McKinley and Hyde found that Body Shame scores were

correlated as expected but were not redundant with other relevant constructs. More specifically, body shame emerged as a factor that is distinct from body surveillance and control beliefs, and as expected, Body Shame scores were correlated positively with body surveillance and negatively with body esteem (McKinley, 1998). Alpha internal consistency reliability estimates for Body Shame scores ranged from .70 to .84 across samples of undergraduate and middle-aged women (McKinley, 1999; McKinley & Hyde, 1996). McKinley and Hyde reported a 2-week test-retest reliability of .84 for Body Shame scores. Alpha with the present sample was .81.

Eating disorder symptomatology. Garner, Olmstead, Bohr, and Garfinkel's (1982) Eating Attitudes Test (EAT-26) was used to measure the broad range of disordered eating behaviors and attitudes among participants. The EAT-26 has 26 items that are scored on a 6-point Likert-type scale (1 = *always* to 6 = *never*). Questions assess disordered eating attitudes such as "Feel that food controls my life" and "Feel extremely guilty after eating" and disturbed eating behaviors such as "Avoid eating when I am hungry" and "Vomit after I have eaten." Following Kashubeck-West, Mintz, and Saunders's (2001) recommendation, continuous scores were used to reflect the continuum of eating problems. Item ratings were averaged to yield a scale score. For ease of interpretation, we reverse scored items so that higher scores indicated more maladaptive eating behaviors and attitudes (Mintz & O'Halloran, 2000). The EAT-26 is one of the most widely used measures of disordered eating (Garner, 1997). In their review of eating disorder measures, Kashubeck-West et al. reported alphas for the EAT scores ranging from .79 to .94 across samples. They also reported that EAT scores were related to other measures of eating disorder symptomatology as expected and differentiated between clinical and non-clinical groups. These authors recommended use of the EAT as a continuous measure of disordered eating in research. Alpha in the present sample was .92.

Body mass index. Participants reported their height and weight, and these self-reports were used to compute body mass index, which was controlled as a covariate in the analyses.

Results

Descriptive Information for the Present Sample

Levels of sexual objectification experiences, internalization, body surveillance, body shame, and eating disorder symptoms for our sample were generally close to the midrange of possible scores on each instrument (see Table 1), and these scores were comparable to those in studies that used the same instruments with samples of undergraduate women. More specifically, the present sample's means and standard deviations for sexual objectification experiences ($M = 2.30, SD = 0.80$), internalization ($M = 3.27, SD = 0.91$), body surveillance ($M = 4.81, SD = 1.03$), body shame ($M = 3.36, SD = 1.12$), and eating disorder symptomatology ($M = 2.45, SD = 0.76$) were comparable to those reported by Swim et al. (1998) for sexual objectification experiences ($M =$

$2.05, SD = 0.73$), Griffiths et al. (2000) for internalization ($M = 3.12, SD = 0.83$), McKinley and Hyde (1996) for body surveillance ($M = 4.22, SD = 0.91$) and body shame ($M = 3.24, SD = 1.04$), and Mazzeo (1999) for eating disorder symptoms ($M = 2.49, SD = 0.67$).

In the present sample, none of the variables of interest were related to age, relationship status, year in school, family social class, or sexual orientation when body mass index was controlled (alpha adjusted to $.05/25 = .002$). However, a multivariate analysis of covariance, with body mass index entered as a covariate, suggested that White participants ($n = 142$) scored significantly differently from non-White participants ($n = 78$) on the set of variables of interest, $F(5, 213) = 3.40, p < .01, \eta_p^2 = .07$. (Because of very small sample sizes for some racial or ethnic groups, non-White participants were combined for this analysis.) Follow-up univariate analyses of variance indicated that non-White participants had lower internalization, $F(1, 217) = 14.10, p < .001, \eta_p^2 = .06$; surveillance, $F(1, 217) = 7.47, p < .01, \eta_p^2 = .03$; and eating disorder symptomatology scores, $F(1, 217) = 11.68, p < .01, \eta_p^2 = .05$; than did White participants. Effect sizes for these significant differences suggested that White versus non-White group status accounted for 3% to 6% of the variability in these scores.

Primary Analyses

Partial correlations (holding body mass index as a covariate) among the variables of interest are reported in Table 1. Partial correlations among all of the variables of interest were significant and in the expected directions. Consistent with Hypothesis 1, with body mass index controlled, reported sexual objectification experiences were correlated positively with internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms.

To test the mediations proposed in Hypotheses 2 and 3, we followed Baron and Kenny's (1986) procedures. These authors indicated that for a variable to be tested as a mediator, there must be a significant relationship between the predictor and the mediator and between the mediator and the criterion variable. Both of these conditions were satisfied for our proposed mediators (i.e., internalization, body shame). More specifically, with regard to Hypothesis 2, partial correlations presented in Table 1 indicated that reported sexual objectification experiences (i.e., the predictor) were correlated significantly with internalization (i.e., the potential mediator), which in turn was correlated significantly with body surveillance, body shame, and eating disorder symptoms (i.e., the

Table 1
Summary Statistics and Partial Intercorrelations Among Variables of Interest With Body Mass Index Controlled

Variable	1	2	3	4	5	Possible range	Sample range	<i>M</i>	<i>SD</i>	α
1. Sexual objectification experiences	—					1–5	1.00–4.86	2.30	0.80	.87
2. Internalization of beauty standards	.25*	—				1–5	1.00–5.00	3.27	0.91	.88
3. Body surveillance	.27*	.54*	—			1–7	1.25–6.88	4.81	1.03	.82
4. Body shame	.16*	.45*	.50*	—		1–7	1.00–6.25	3.36	1.12	.81
5. Eating disorder symptoms	.21*	.58*	.51*	.59*	—	1–6	1.00–5.00	2.45	0.76	.92

Note. Higher scores reflect higher levels of the construct assessed.
* $p < .05$.

criterion variables). With regard to Hypothesis 3, body surveillance (i.e., the predictor) was correlated significantly with body shame (i.e., the mediator), which in turn was correlated significantly with disordered eating (i.e., the criterion variable).

When these conditions are satisfied, a variable is a mediator to the extent that it accounts for the relationship between the predictor and the criterion. To test this, we used Amos 4.01 (Arbuckle, 1999) to conduct a path analysis of a model in which all possible direct and indirect paths were estimated (i.e., the model presented in Figure 2). Again, we entered participants' body mass index as a covariate in the model. We used maximum likelihood estimation with the covariance matrix of the variables of interest as input. Values for the goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), normed fit index (NFI), and nonnormed fit index (NNFI, also known as the Tucker–Lewis index) all were 1.0 (given that the model tested was fully saturated), and the model accounted for 50% of the variance in eating disorder symptomatology, 35% of variance in body shame, 34% of variance in body surveillance, and 6% of the variance in internalization of cultural standards of beauty. As indicated in Figure 3, standardized path coefficients all were significant and in the expected direction with the exception of the nonsignificant direct links of sexual objectification experiences to body shame and eating disorder symptomatology. More specifically, reported sexual objectification experiences were related directly to body surveillance and internalization of sociocultural standards of beauty; internalization was related directly to body surveillance, body shame, and eating disorder symptomatology; body surveillance was related directly to body shame and eating disorder symptomatology; and body shame was related directly to eating disorder symptomatology.

The model also suggested a number of indirect links. Significant indirect effects through the proposed mediators (i.e., internalization and body shame) would suggest significant mediator effects. We multiplied indirect standardized path coefficients to compute indirect effects (Cohen & Cohen, 1983) and used Sobel's formula (see Baron & Kenny, 1986) to determine whether indirect effects were significantly different from zero. Through internalization of cultural standards of beauty, reported sexual objectification experiences had significant indirect links of .13 ($.25 \times .50$; $z = 3.38$, $p < .001$), .06 ($.25 \times .24$; $z = 2.61$, $p < .01$), and .09 ($.25 \times .34$; $z = 3.04$, $p < .01$) to body surveillance, body shame, and eating disorder symptoms, respectively. As mentioned previously, sexual

objectification experiences also had a significant direct link to body surveillance but not to body shame or eating disorder symptoms. Thus, consistent with Hypothesis 2, internalization of socio-cultural standards of beauty partially mediated the link of reported sexual objectification experiences to body surveillance and fully mediated the link of reported sexual objectification experiences to body shame and eating disorder symptoms. Body surveillance had a significant indirect link of .13 ($.36 \times .37$; $z = 4.22$, $p < .001$) through body shame to eating disorder symptoms and a significant direct link of .14 to such symptoms. Thus, consistent with Hypothesis 3, body shame partially mediated the link of body surveillance to eating disorder symptoms.

In addition to these tests of our hypotheses, the significant direct link of reported sexual objectification experiences to body surveillance and the significant direct links of body surveillance to body shame and eating disorder symptoms allowed us to explore body surveillance as an additional mediator of the links of sexual objectification experiences to body shame and eating disorder symptoms. Again, we multiplied standardized path coefficients and used Sobel's formula, and we found that through body surveillance, reported sexual objectification experiences had a significant indirect link of .05 ($.14 \times .36$; $z = 2.45$, $p < .05$) to body shame but no significant indirect link to eating disorder symptoms. Thus, in addition to the mediating role of internalization, body surveillance simultaneously mediated the link of reported sexual objectification experiences to body shame but did not mediate that link to eating disorder symptoms.

Similarly, the significant direct link of internalization to body shame and the significant direct link of body shame to eating disorder symptomatology allowed us to explore body shame as an additional mediator of the internalization–eating disorder symptoms link. We found that, in addition to the direct link between internalization and eating disorders symptoms, there was a significant indirect link of .09 ($.24 \times .37$; $z = 3.14$, $p < .01$), through body shame, between these variables. Thus, body shame partially mediated the link of internalization to eating disorder symptoms.

Next, we compared the fit of the fully saturated model to that of an alternative trimmed model that eliminated the nonsignificant direct paths from reported sexual objectification experiences to body shame and eating disorder symptoms. The change in the chi-square statistic was not statistically significant, and fit index values for this model were all above acceptable cutoffs (GFI = 1.0, AGFI = .99, CFI = 1.0, NFI = 1.0, NNFI = 1.0) and similar

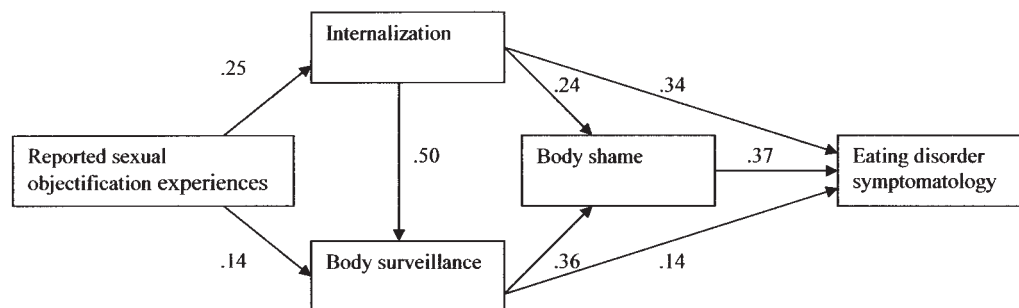


Figure 3. Trimmed model for examining links among variables of interest. Values reflect standardized coefficients. All paths depicted are significant at $p < .05$.

to those for the original model. The amount of variance accounted for in each of the criterion variables and the magnitude of the significant paths in the trimmed model were identical to those in the original model (see Figure 3). Thus, the trimmed model was more parsimonious but equally appropriate as the fully saturated model.

Discussion

Objectification theory (Fredrickson & Roberts, 1997) and other theoretical and empirical literature on eating disorder symptomatology (e.g., Cashel et al., 2003; Griffiths et al., 1999, 2000; Heinberg et al., 1995; McKinley & Hyde, 1996) have identified sexual objectification experiences and internalization of sociocultural standards of beauty as important correlates of eating disorder-related variables. To date, however, no study has examined concomitantly the roles of these variables in tests of objectification theory. The present study addressed this important gap and extended the literature on objectification theory as applied to understanding eating disorder symptomatology (Fredrickson & Roberts, 1997) by (a) providing the first examination of the role of reported sexual objectification experiences in a model of eating disorder symptomatology based on objectification theory and (b) concomitantly examining the mediating roles of body surveillance (manifestation of self-objectification), body shame, and internalization of sociocultural standards of beauty in that model.

Although reported experiences of sexual objectification have received limited attention in research on eating disorder symptomatology, the present findings highlight the importance of including such experiences when examining contextual and intrapersonal variables that might be related to disordered eating. Correlations of reported sexual objectification experiences with internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms all were significant and positive. Furthermore, direct and indirect relations of reported sexual objectification experiences with other variables in the model are consistent with and build upon prior literature.

For example, the direct links of reported sexual objectification experiences to internalization and body surveillance in the present study are consistent with objectification theory's proposition that women's experiences of sexual objectification are an important correlate of self-objectification manifested as body surveillance (Fredrickson & Roberts, 1997) and with Morry and Staska's (2001) finding of a link between sexual objectification experiences and internalization of sociocultural standards of beauty. Furthermore, the results of our mediational analyses highlight a number of potential mechanisms for the translation of sexual objectification experiences to eating disorder symptoms and their correlates. More specifically, we found that body surveillance and internalization of sociocultural standards of beauty simultaneously mediated the link of reported sexual objectification experiences to body shame. In addition, internalization of sociocultural standards of beauty mediated the links of sexual objectification experiences to body surveillance and eating disorder symptoms. These findings point to internalization and body shame as potential key mechanisms in translating sexual objectification experiences into eating disorder symptoms and their precursors outlined in objectification theory.

Thus, our findings extend the literature on objectification theory, as applied to eating disorders, by providing support for the

proposed direct and indirect roles of sexual objectification experiences in eating disorder symptomatology and their correlates. The direct and indirect roles of sexual objectification experiences, in turn, suggest that an important area for prevention of eating disorder symptoms and their precursors is the continuation of work targeted toward reducing the prevalence of sexual objectification of women in the media and in private and public interpersonal contexts. Furthermore, assessing and attending to women's experiences of sexual objectification in counseling/therapy is critical given the evidence that such experiences might set the stage for internalization of sociocultural standards of beauty, body shame, body surveillance, and eating disorder symptomatology.

In addition, the mediating roles of internalization and body surveillance in the links of sexual objectification experiences to eating disorder-related variables suggest that attending to the meaning that women make of their experiences of sexual objectification is important in clinical work. Particularly, consistent with objectification theory, our data suggest that women might be at risk for experiencing greater body shame and eating disorder symptomatology to the extent that they internalize sexual objectification experiences and translate these experiences into personal endorsement of sociocultural standards of beauty and body surveillance. Clearly, a critical area for further research is identifying contextual and intrapersonal variables that might prevent or reduce the occurrence of this process. Such research can inform counselors'/therapists' use of interventions designed to disrupt the translation of sexual objectification experiences into internalization of sociocultural standards of beauty and self-objectification.

The general sexist events literature might serve as one guide for identifying such buffers. For example, Moradi and Subich (2004) found that self-esteem moderated the link of reported experiences of sexist events to psychological distress, such that the link was positive for women with low self-esteem but nonsignificant for women with high self-esteem. Similarly, Moradi and Subich (2003) found that recent reported sexist events were related more strongly to psychological distress for women with high passive acceptance feminist identity development attitudes (denial of sexism and unexamined acceptance of traditional gender roles) than for women with low levels of such attitudes. Thus, self-esteem, gender-related identity and attitudes, and other variables identified as buffers of stressful events (e.g., social support) might also serve as moderators in the links of sexual objectification experiences to internalization of sociocultural standards of beauty and body surveillance. Research on potential moderators can inform interventions that prevent women from internalizing sexual objectification experiences, and such interventions ultimately might reduce women's risk for developing eating disorder symptoms.

Our results also replicate prior findings that support the role of body shame as a mediator in the link of body surveillance to eating disorder symptoms (e.g., Noll & Fredrickson, 1998; Tiggemann & Slater, 2001). Our results extend prior work on objectification theory as applied to eating disorder symptomatology by demonstrating that body shame also mediated the link of internalization of cultural standards of beauty to eating disorder symptoms. Thus, reducing level of body shame might be another important area for prevention and intervention in counseling/therapy with women experiencing or at risk for developing eating disorder symptoms. Relatedly, a promising area for research is the exploration of contextual and intrapersonal variables that might buffer the trans-

lation of internalization and self-objectification into body shame and disordered eating.

Another striking finding of our study is that the variables included in our model accounted for 50% of the variance in eating disorder symptomatology, a very large effect in correlational research (Cohen, 1988; Wampold & Freund, 1987). Thus, our findings support a more comprehensive framework for research on objectification theory that extends prior work and includes examination of reported sexual objectification experiences and internalization of sociocultural standards of beauty. Furthermore, the magnitude of the variance that the variables in the model accounted for in eating disorder symptomatology highlights the importance of attending to these variables in future research, prevention, and treatment of eating disorder symptomatology with young women. This point must be tempered, however, by the possibility that present results reflect measurement overlap in addition to meaningful conceptual overlap among variables of interest.

Although the findings of the present study contribute to advancing research and practice related to eating disorders, several limitations must be considered when evaluating and interpreting the present findings. First, our correlational data are consistent with, but do not directly evaluate, the directions of causality proposed in theoretical conceptualizations on which the model we tested was based. More specifically, objectification theory (Fredrickson & Roberts, 1997; Noll & Fredrickson, 1998) suggests that experiences of sexual objectification foster self-objectification, which in turn leads to body shame and then to eating disorder symptoms. Furthermore, extant theoretical conceptualizations suggest that internalization of sociocultural standards of beauty leads to eating disorder-related symptoms (e.g., Bartky, 1988, 1990; McKinley & Hyde, 1996; Morry & Staska, 2001). Experimental and longitudinal studies are needed to extend our findings and test directly the causal and directional relations implicit in these conceptualizations. Identifying causal or directional links would facilitate focusing limited time and resources on key mechanisms and so prove invaluable for designing therapy/counseling interventions and prevention programs.

The reliance on self-report measures to assess eating disorder-related attitudes and behaviors is also a limitation. Such reports might be influenced by factors such as social desirability and memory recall. Self-reports of sexual objectification experiences might be particularly affected by recall and differential perceptions of events. For example, two of the seven items that assessed sexual objectification experiences asked about "sexist comments." Respondents' perceptions of comments as sexist are likely to vary on the basis of a number of intrapersonal and contextual variables such as perpetrators' gender and race, intensity and impact of the event, and the target person's knowledge about prejudice (Barrett & Swim, 1998). These complexities raise an interesting question about whether sexual objectification experiences that are not perceived or labeled as such will be related to self-objectification, internalization, and their correlates. Thus, exploring the potential differential consequences of perceiving or not perceiving an event as sexual objectification is an important area for future research.

An additional limitation is that our study, and much of the extant research on objectification theory, has focused primarily on women who are young, White, heterosexual, and middle to upper class college students. Thus, the generalizability of our findings is

restricted to such women. There is a need to empirically test the model examined in the present study and the propositions of objectification theory with different populations such as noncollegiate women and women who represent various geographic regions, racial or ethnic backgrounds, and sexual orientations.

Our results indicated small but significant differences between White and non-White women on internalization, body surveillance, and eating disorder symptomatology, with body mass index controlled. These findings are consistent with prior findings that some eating disorder-related attitudes and behaviors might have lower prevalence rates among women of color than among White women (Gilbert, 2003). Nevertheless, the differences found in the present study were very small (effects sizes of .03 to .06), and the paucity of research on eating disorder-related attitudes and behaviors among women of color suggests that much more scholarship is needed in this area before clear conclusions can be made (Striegel-Moore & Cachelin, 2001). Similarly, theoretical and empirical work is needed to advance understanding of eating disorder-related symptoms among men of various ages, sexual orientations, racial or ethnic and other backgrounds. Research with more diverse populations would provide needed information about the generalizability of objectification theory and the present findings. Integrating population-specific risk factors (e.g., experiences of racism and heterosexism or homophobia) and protective factors (e.g., positive cultural identity and connection with lesbian or gay, Latina or Latino, African American, and other minority cultural values) in such research is also important for advancing the literature on objectification theory and eating disorders.

The present study provides one more step in the accumulating body of research that has tested aspects of objectification theory related to eating disorder symptomatology and contributed to the broader literature on eating disorders. Our study extends prior research by testing a more comprehensive framework that included the roles of reported sexual objectification experiences and internalization of sociocultural standards of beauty in objectification theory. Additional work to replicate and extend our findings to broader populations is needed. Furthermore, research that begins to explore potential buffers in the links identified in our study is needed to advance research and practice with women who are experiencing or at risk for developing eating disorder symptoms.

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