



Published in final edited form as:

Body Image. 2018 March ; 24: 5–12. doi:10.1016/j.bodyim.2017.10.005.

Self-objectification, body shame, and disordered eating: Testing a core mediational model of objectification theory among White, Black, and Hispanic women

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Abstract

Objectification theory asserts that self-objectification, which manifests as self-surveillance, leads to increased body shame and subsequent eating pathology. Although evidence supports the core mediational model, the majority of this work utilizes primarily White samples, limiting generalizability to other ethnic groups. The current study examined whether the core tenets of objectification theory generalize to Black and Hispanic women. Participants were 880 college women from the United States (71.7% White, 15.1% Hispanic, 13.2% Black) who completed self-report measures of self-surveillance, body shame, and disordered eating. Multivariate analysis of variance tests indicated lower levels of self-surveillance and disordered eating among Black women. Moreover, body shame mediated the relationship between self-surveillance and disordered eating for White and Hispanic women, but not for Black women. These analyses support growing evidence for the role of body shame as a mediator between body surveillance and eating pathology, but only for women in certain ethnic groups.

Keywords

Objectification theory; Objectified body consciousness; Body image; Eating pathology; Race/ethnicity

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1. Introduction

Although cultural myths about eating disorders assert that these concerns occur among upper class White girls (National Institute of Mental Health, 2014), research indicates that women from diverse racial and cultural backgrounds are susceptible to these distressing and debilitating disorders (Grabe & Hyde, 2006; Roberts, Cash, Feingold, & Johnson, 2006). Indeed, data suggest that disordered eating among Hispanic and White women may occur at comparable rates, while levels of disordered eating among Black women may be only marginally lower (Grabe & Hyde, 2006; Shaw, Ramirez, Trost, Randall, & Stice, 2004). As the majority of research examining eating disorder etiological processes has utilized primarily White samples (e.g., Calogero, 2009; Tylka & Hill, 2004), investigators have sought to examine the generalizability of validated etiological models among women from diverse ethnic backgrounds. Although findings are varied, this work suggests possible ethnic differences in proposed risk factors including thin-ideal internalization, body dissatisfaction, and social comparison (Alegria et al., 2007; Fitzsimmons & Bardone-Cone, 2011; Schaefer, Thibodaux, Krenik, Arnold, & Thompson, 2015; Wildes, Emery, & Simons, 2001). Given evidence that disordered eating and associated risk factors may vary across ethnicity, continued investigation of proposed etiological processes among women from diverse ethnic backgrounds may shed light on potential shared or distinct etiological mechanisms.

Objectification theory (Fredrickson & Roberts, 1997) is a contemporary framework that offers a sociocultural perspective on the development and maintenance of mental health risks in women. The theory proposes that women in Western societies are commonly sexually objectified across interpersonal situations (Macmillan, Nierobisz, & Welsh, 2000; Swim, Hyers, Cohen, & Ferguson, 2001) and media-based encounters (Aubrey & Frisby, 2011; Reichert & Carpenter, 2004). Examples of sexually-objectifying situations include leering, sexually suggestive comments, sexual assault, and exposure to hyper-sexualized media images of women. Over time, women who encounter recurrent sexual objectification come to view themselves as objects rather than subjects, prioritizing their external appearance over their internal experience, a perspective known as self-objectification. The adoption of this external vantage point on the self is theorized to manifest behaviorally in the habitual monitoring of one's appearance, known as self-surveillance.² This continual monitoring of one's appearance is then theorized to lead to increased body shame when women perceive their bodies as discrepant with feminine beauty ideals (Calogero, Boroughs, & Thompson, 2007; Moradi & Huang, 2008). Objectification theory posits that disordered eating, as well as depression and sexual dysfunction, may emerge as women seek to minimize body shame by managing how their bodies appear to others (Fredrickson & Roberts, 1997).

Existing experimental and correlational research largely supports the proposed associations between self-objectification and its behavioral manifestation self-surveillance, body shame,

²Although the terms self-objectification and self-surveillance (i.e., body surveillance) are sometimes used interchangeably in the literature and are theorized to represent the same underlying psychological processes, researchers have noted their potential distinctiveness (Calogero, 2011). In order to maintain clarity and precision in our discussion of the extant literature, we utilize the term self-objectification when referring to studies utilizing the Self-Objectification Questionnaire (Noll & Fredrickson, 1998) and the term self-surveillance when referring to studies utilizing the Surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996).

and disordered eating (Calogero, Tantleff-Dunn, & Thompson, 2011; Moradi & Huang, 2008; Tiggemann, 2013). In particular, there is considerable support for the core mediational model proposed by objectification theory, wherein body shame mediates the association between self-objectification and eating pathology (Calogero, 2009; Calogero, Davis, & Thompson, 2005; Dakanalis et al., 2015; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Tiggemann & Williams, 2012; Tylka & Hill, 2004). Yet, the generalizability of this research to diverse groups of women is limited, as the predominant focus has been on White women (Moradi & Huang, 2008). Fredrickson and Roberts (1997) argue that despite women's shared vulnerability to sexual objectification by virtue of possessing a mature female body, ethnicity may influence one's experiences of sexual objectification and the impact of those experiences on one's own self-concept or behavior. For example, experiences of sexual objectification among Black women may be shaped in part by particular racist ideologies and stereotypes that do not apply to White women, and therefore may produce different responses in terms of self-objectification, body shame, and disordered eating (Watson, Robinson, Dispenza, & Nazari, 2012). Indeed, although existing research supports the salience of objectification processes (e.g., self-objectification, self-surveillance, body shame) in women of diverse backgrounds, there is also suggestion that ethnicity may influence these processes and their impact (Breitkopf, Littleton, & Berenson, 2007; Fitzsimmons & Bardone-Cone, 2011; Hebl, King, & Lin, 2004).

A growing body of work has examined self-objectification experiences among Hispanic women, with findings yielding somewhat inconsistent results. Some studies suggest higher levels of objectification processes among Hispanic women compared to women from other ethnic backgrounds (Hebl et al., 2004), while other studies suggest comparable (Boie, Lopez, & Sass, 2013) or even lower levels of objectification processes among Hispanic women (Breitkopf et al., 2007). For example, within an experimental paradigm in which men and women were either exposed to an objectifying experience (i.e., wearing a swimsuit) or a non-objectifying experience (i.e., wearing a sweater), Hispanic participants reported higher levels of self-objectification and body shame compared to White, Black, and Asian American participants, regardless of the experimental condition (Hebl et al., 2004). Conversely, among a sample of low-income women, Hispanic and Black women reported similarly reduced levels of self-surveillance compared to White women, and no ethnic group differences were observed for body shame (Breitkopf et al., 2007). Finally, among a sample of college women, Hispanic and White respondents were found to report comparable levels of self-surveillance and body shame (Boie et al., 2013). Despite possible differences in *levels* of self-surveillance and body shame, researchers examining the proposed pathways between self-surveillance, body shame, and disordered eating, provide consistent support for objectification theory's core mediational model among Hispanic women (Boie et al., 2013; Montes de Oca 2006; Velez, Campos, & Moradi, 2015).

Research examining objectification theory among Black women presents a similarly complex picture. Although a number of cross-sectional studies suggest lower levels of self-surveillance (e.g., Breitkopf et al., 2007; Moradi & Huang, 2008) and body shame (e.g., Higgins, Lin, Alvarez, & Bardone-Cone, 2015) among Black women compared with White women, some studies suggest equivalent levels of self-surveillance (e.g., Fitzsimmons & Bardone-Cone, 2011; Watson, Matheny, Gagné, Brack, & Ancis, 2013) and body shame

(e.g., Bretkopft et al., 2007) among these groups. Studies examining the pathways proposed by objectification theory have demonstrated support for the hypothesized connection between body surveillance and body shame (e.g., Buchanan, Fischer, Tokar, & Yoder, 2008; Watson et al., 2012) and between body shame and disordered eating symptoms (e.g., Higgins et al., 2015), though some research suggests that the connection between self-surveillance and disordered eating may not be supported in Black women (e.g., Fitzsimmons & Bardone-Cone, 2011).

In sum, research consistently supports a core mediational model whereby the relationship between self-objectification and disordered eating is mediated by body shame within predominantly White samples (e.g., Calogero et al., 2005; Tylka & Hill, 2004). Although an admirable body of work has been conducted to examine objectification among women of diverse ethnic backgrounds, results have been somewhat equivocal, and no study to date has utilized multigroup modeling to examine the core objectification model among White, Black, and Hispanic women within the same analysis. Multigroup analyses represent an important contribution to the existing literature in that this approach allows for direct comparisons of model pathways between ethnic groups. Therefore, the goal of the current study was to (a) examine differences in levels of self-surveillance, body shame, and disordered eating among White, Hispanic, and Black women; (b) compare the strength of model pathways among each group; and (c) test body shame as a mediator of the relationship between self-surveillance and disordered eating within each ethnic group. In light of existing work, body shame was hypothesized to operate as a mediator for White and Hispanic women, but not for Black women.

2. Method

2.1. Participants

Participants were 880 female college students from a university in the southern United States who self-identified as White ($n = 631$, 71.7%), Hispanic ($n = 133$, 15.1%), or Black ($n = 116$, 13.2%). Mean participant body mass index (BMI; kg/m^2) in the overall sample was 24.27 ($SD = 5.56$). Participants ranged from 19 to 55 years old, with a mean age of 21.19 years ($SD = 4.57$).

2.2. Measures and Procedure

Participants were recruited using the university's research participant pool to take part in a study examining individuals' "appearance attitudes and behaviors." Measures were completed online in a fixed order, with the assessment of objectification variables preceding the assessment of disordered eating, as part of a larger study. The study was designed to be completed within 20–30 min, and students were only able to participate once. Upon completion of the study, students received extra course credit as compensation.

2.2.1. Demographics—Participants self-reported age, ethnicity, height, and weight. Height and weight information was used to calculate participant BMI.

2.2.2. Self-surveillance—Self-surveillance was assessed using the Surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996). The Surveillance subscale consists of eight items scored on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with a “not applicable” option for items that do not apply to the individual respondent. Items assess the extent to which the respondent views her body from an outside observer perspective and engages in body monitoring (e.g., “I often worry about whether the clothes I am wearing make me look good”). Appropriate items are reverse-scored before creating an average subscale score. Higher scores indicate higher levels of self-surveillance. In the current study, scores were internally consistent for the total sample (Cronbach’s $\alpha = .82$) and for each ethnic group (White $\alpha = .83$; Hispanic: $\alpha = .78$; Black: $\alpha = .76$). Although the self-surveillance subscale has not undergone formal psychometric testing in Black or Hispanic women, studies utilizing the scale in Black and Hispanic samples support the reliability and validity of its scores in these populations (e.g., Breitkopf et al., 2007; Fitzsimmons & Bardone-Cone, 2011).

2.2.3. Body shame—The 8-item Body Shame subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996) was used to assess feelings of shame associated with believing that one’s appearance or appearance-related behaviors (e.g., exercise, weight control) do not meet personal and cultural standards (e.g., “When I’m not the size I think I should be, I feel ashamed”). Items are scored on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with a “not applicable” option for items that do not apply to the individual respondent. Appropriate items are reverse-scored before creating an average subscale score. Higher subscale scores indicate higher levels of body shame. In the current study, scores were internally consistent for the total sample (Cronbach’s $\alpha = 0.78$) and for each ethnic group (White $\alpha = .80$; Hispanic: $\alpha = .73$; Black: $\alpha = .75$). Although the body shame subscale has not undergone formal psychometric testing in Black or Hispanic women, studies utilizing the scale in these populations support the reliability and validity of its scores (e.g., Hebl et al., 2004; Higgins et al., 2015).

2.2.4. Eating disorder symptomatology—The Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 2008) was used to assess eating disorder symptomatology. The EDE-Q is a 28-item self-report questionnaire that measures eating disordered attitudes and behaviors from the past 28 days (e.g., “Has your weight influenced how you think about (judge) yourself as a person?”). The scale is comprised of four subscales representing Dietary Restraint, Shape Concerns, Weight Concerns, and Eating Concerns. The global score is calculated as a mean of the subscale scores. Items are rated on a 7-point Likert-type scale ranging from 0 (*no days/not at all*) to 6 (*everyday/markedly*). In the current study, global scale scores were internally consistent for the full sample (Cronbach’s $\alpha = 0.95$) and for each ethnic group (White $\alpha = 0.95$; Hispanic: $\alpha = 0.96$; Black: $\alpha = 0.95$). Existing work supports the reliability and validity of the EDEQ in Black and Hispanic women (Franko, Jenkins, et al., 2012; Kelly, Cotter, & Mazzeo, 2012; Lydecker, White, & Grilo, 2016).

2.3. Statistical Analyses

Multivariate analysis of variance (MANOVA) was used to examine between group differences on age, BMI, self-surveillance, body shame, and disordered eating. Effect size was assessed via partial eta-squared. An effect of .01 was considered small, .06 was medium, and .14 was large (Cohen, 1988). Pairwise comparisons were analyzed using a Bonferroni correction. Bivariate associations between self-surveillance, body shame, and disordered eating within the full sample and each ethnic group were assessed via Pearson product-moment correlation coefficients. A correlation of .10 was considered small, .30 was medium, and .50 or more was large (Cohen, 1988). Analyses were conducted using SPSS version 24.0. Missing data were generally minimal (5% for BMI, 1% for all other variables) and handled using listwise deletion, which is the default in SPSS.

A multi-group analysis was conducted to analyze the core mediational model by ethnic group. First, data were analyzed for normality based on suggestions for regression-based analyses with skewness < 3 and kurtosis < 10 indicating acceptable levels (Kline, 2011). Then, three parcels were created (Russell, Kahn, Spoth, & Altmaier, 1998) using item-to-construct balance (Little, Cunningham, Shahar, & Widaman, 2002) for the self-surveillance, body shame, and disordered eating scales. For each scale, items were averaged for each parcel to obtain three total parcel scores (Augustus-Horvath & Tylka, 2011). The total parcel scores were used to construct the measurement models, the structural models, the multi-group analysis models, and the mediation analysis in Mplus 7.0. In the first step of the multi-group analysis, all structural paths were free to vary for each ethnicity, and factor loadings were held constant. In the second step, all structural paths and factor loadings were held constant. A chi-square difference test was used to determine whether the invariant (first step) or variant (second step) model differed in model fit. Should model fit differ, it would indicate that at least one of the structural pathways differed by ethnicity. Models were considered to have acceptable fit if they met the following criteria: comparative fit index (CFI) .90, standardized root-mean-square residual (SRMR) .10, and root-mean-square error of approximation (RMSEA) .10 (Hu & Bentler, 1999). Models were considered to have good fit if indexes were as follows: CFI .95, SRMR .08, and RMSEA .06 (Hu & Bentler, 1999).

Mediation analysis using bootstrapping with replacement and 1000 bootstrap samples was utilized in order to estimate the indirect effect of self-surveillance on disordered eating via body shame (Shrout & Bolger, 2002). This method of assessing mediation estimates the sampling distribution of the indirect effect and generates a confidence interval (CI) for the estimated indirect effect. If the confidence interval does not contain zero, the indirect effect is statistically significant. The bootstrapping approach is argued to possess advantages over traditional approaches (e.g., Baron & Kenny, 1986), as it allows for non-normality and maximizes power to detect mediation (Fritz & MacKinnon, 2007; Preacher & Hayes, 2004). Complete mediation occurs when the relationship between the variables is no longer significant in the presence of the mediator. Missing data in the mediational analysis were handled using maximum likelihood estimation, which is the default for Mplus.

3. Results

Table 1 presents the descriptive statistics for age, BMI, self-surveillance, body shame, and disordered eating across groups. Results from the MANOVA indicated significant group differences in BMI, self-surveillance, and disordered eating, which were small in magnitude (see Table 1). Age and body shame were not significantly different across groups. The average BMI for Black and Hispanic women in the sample was significantly higher than the average BMI for White women, which is consistent with population-level data indicating that Black and Hispanic women in the United States are generally heavier than their White peers (Flegal, Kruszon-Moran, Carroll, Fryar, & Ogden, 2016; Ogden, Carroll, Kit, & Flegal, 2014). Therefore, we did not control for BMI in subsequent analyses as the differences by ethnicity are not anomalies of the sample, but instead mirror actual differences found in the population. Although mean levels of self-surveillance did not differ significantly between White and Hispanic women or between Hispanic and Black women, Black women reported significantly lower levels of self-surveillance compared to White women. Black women also reported significantly lower levels of disordered eating compared to White and Hispanic women.

Table 2 presents the zero-order correlations among self-surveillance, body shame, and disordered eating for the full sample and each group. A moderate correlation was observed between self-surveillance and body shame for the full sample, and the strength of this association varied by group. Self-surveillance and body shame were moderately correlated among White women, but only weakly correlated among Hispanic women, and not significantly correlated among Black women. The same pattern was observed for the association between self-surveillance and disordered eating in the full sample and among each group. In contrast, a strong correlation was observed between body shame and disordered eating for the full sample and among all three groups.

Data met normality assumptions with skewness and kurtosis values ranging from 0.10 to 0.44 and -0.73 to -0.30 , respectively. The measurement model using confirmatory factor analysis for each construct evidenced acceptable to good fit (CFI = .96, SRMR = .05, RMSEA = .10). Parcel factor loadings were significant for each scale ($p < .001$). Standardized loadings for each parcel ranged from .63 to .88 for self-surveillance, .67 to .83 for body shame, and 0.93 to 0.96 for disordered eating. As model fit was acceptable and factor loadings significant, the structural model for the full sample was examined. All pathways were significant. Model fit was acceptable to good, CFI = .96, SRMR = .05, and RMSEA = .10. In the multi-group analysis, the invariant model evidenced acceptable to good fit, $\chi^2(102, N = 880) = 383.80, p < .001, CFI = .95, SRMR = .09, RMSEA = .10$. All parcel factor loadings and structural pathways were significant for each ethnic group ($ps < .05$). The variant model also evidenced acceptable to good fit, $\chi^2(96, N = 880) = 367.71, p < .001, CFI = .95, SRMR = .07, RMSEA = .10$. For White and Hispanic women, all parcel factor loadings and structural pathways were significant ($ps < .05$). For Black women, all were significant except self-surveillance did not significantly predict disordered eating. A chi-square difference test indicated the variant model provided better fit than the invariant model, $\chi^2_{\text{difference}}(6, N = 880) = 16.09, p = .013$. Therefore, to determine which path(s) were significantly different between each ethnic group, an invariant model was compared

with models that relaxed one pathway at a time for (a) Black vs. White women, (b) Hispanic vs. White women, and (c) Black vs. Hispanic women.

Structural path comparisons of Black and White women identified the path from self-surveillance to body shame was significantly stronger for White women than Black women, $\chi^2_{\text{difference}}(1, N = 747) = 5.07, p = .024$. The path from self-surveillance to disordered eating was also significantly stronger for White women than Black women, $\chi^2_{\text{difference}}(1, N = 747) = 8.83, p = .003$. However, Black and White women did not differ significantly in the path between body shame and disordered eating. There were no significantly different pathways for Hispanic women compared to White women. Black and Hispanic women did not differ significantly on the path from self-surveillance to body shame. However, Black and Hispanic women differed significantly on the path from body shame to disordered eating, $\chi^2_{\text{difference}}(1, N = 249) = 4.92, p = .027$ and from self-surveillance to disordered eating, $\chi^2_{\text{difference}}(1, N = 249) = 6.18, p = .013$. In both, the path was stronger for Hispanic women compared to Black women.

Mediation analyses indicated that body shame partially mediated the relationship between self-surveillance and disordered eating among White women, 95% CI [.31–.51]. Fig. 1 presents the pathways for this mediation model. Body shame fully mediated the relationship between self-surveillance and disordered eating among Hispanic women, 95% CI [.12–.62], as the direct pathway between self-surveillance and disordered eating was no longer significant when body shame was considered in the analysis. For Black women, there was no significant direct pathway from self-surveillance to body shame or disordered eating, and body shame did not mediate the relationship between self-surveillance and disordered eating in this group, 95% CI [–.02–.41].³

4. Discussion

Although a growing body of research supports the tenets of objectification theory in primarily White samples, fewer studies have explored the generalizability of this model to women of color. Limited work in this area suggests possible ethnic differences in levels of body surveillance and body shame (Breitkopf et al., 2007; Higgins et al., 2015), as well as differences in the associations among variables implicated in the model (Fitzsimmons & Bardone-Cone, 2011). However, no study had yet directly compared the core mediation model of objectification theory whereby self-surveillance is proposed to contribute to disordered eating via body shame among White, Black, and Hispanic women. In the present study, Black women endorsed lower levels of disordered eating than Hispanic and White women, which is consistent with previous research (Grabe & Hyde, 2006; Quick & Byrd-Bredbenner, 2014; Roberts et al., 2006; Wildes et al., 2001). In addition, Black women experienced lower levels of self-surveillance than White women, which also aligns with previous work (Breitkopf et al., 2007; Fitzsimmons & Bardone-Cone, 2011; Moradi &

³Given conceptual overlap between the OBCS Body Shame scale and the EDEQ Weight and Shape Concerns subscales, all analyses were also conducted using only the EDEQ Dietary Restraint and Eating Concerns subscales as the indicators for disordered eating. Although slight differences emerged, the general pattern of findings was replicated using this approach. Specifically, body shame continued to relate strongly to disordered eating for all women, and mediated the relationship between self-surveillance and disordered eating for White and Hispanic women only. Results from these analyses can be obtained from the corresponding author.

Huang, 2008). Although Hispanic and White women reported similar mean levels of self-surveillance, and Black and White women differed on this measure, self-surveillance scores were not statistically different between Hispanic and Black women. Body shame was the only variable that did not vary by ethnicity, with similar levels reported by all groups. In addition to experiencing heightened levels of self-surveillance and disordered eating, White women also demonstrated moderate to large associations among self-surveillance, body shame, and disordered eating. In contrast, although Hispanic women demonstrated a strong association between body shame and disordered eating, self-surveillance was only weakly associated with body shame and disordered eating in this group. Among Black women, self-surveillance was not significantly correlated with body shame or disordered eating; however, body shame was strongly associated with disordered eating. Thus, although self-surveillance and disordered eating were generally lower among Black women compared to White and Hispanic women, body shame was comparable across ethnic groups. Moreover, body shame was highly related to disordered eating attitudes and behaviors for groups, suggesting the universal importance of this experience in relation to eating pathology.

Mediational analyses confirmed that the pattern of relations within the core mediational model varies by ethnicity with body shame mediating the relationship between self-surveillance and disordered eating for both White and Hispanic women, but not for Black women. In particular, the pathways from self-surveillance to body shame and disordered eating were not significant for Black women. This finding may be interpreted in light of research indicating that Black women tend to have more flexible and multifaceted definitions of attractiveness, as well greater acceptance of larger body sizes (Breitkopf et al., 2007). Given this more inclusive definition of appearance ideals among Black women, observing one's body may be less likely to produce negative cognitive, emotional, and behavioral responses in this group of women as a wider variety of appearances would be deemed acceptable. Conversely, young White and Hispanic women within the United States often report more narrow appearance ideals, reflecting a greater emphasis on thinness and low body weight (Rakhkovskaya & Warren, 2014). Therefore, appearance monitoring may be more likely to elicit body shame among White and Hispanic women, as relatively few women meet these narrowly prescribed ideals (Calogero et al., 2011). Further, disordered eating may emerge as women seek to reduce perceived discrepancies between their own appearance and their ideal (Mason et al., 2016).

In addition, qualitative work suggests that objectification experiences and self-monitoring among Black women may be impacted by historical influences of slavery and racism (Watson et al., 2012). Consequently, researchers have suggested that Black women living within the United States may expect to be judged based on their skin tone, in addition to their body shape and size (Buchanan et al., 2008). Consistent with objectification theory's original propositions, women may begin to anticipate an external observer's reactions to their skin tone and increasingly monitor this aspect of their appearance. Culture-specific models of objectification processes among Black women have sought to include skin tone monitoring as a predictor of self-objectification and body shame (Buchanan et al., 2008). Results from this work indicate moderate associations between skin-tone surveillance and measures of overall appearance surveillance, self-objectification, and body shame among Black women. Further, skin-tone surveillance and overall appearance surveillance each

predicted unique variance in body shame, suggesting that both forms of appearance monitoring may contribute to experiences of body shame in Black women (Buchanan et al., 2008). As research has not yet examined associations of skin tone surveillance with disordered eating, future investigations may seek to understand whether this culturally-specific variable enhances prediction of disordered eating by way of body shame among Black women. Further, it would be of great interest to determine what other factors predict body shame that are linked to disordered eating in this group.

In the current study, Hispanic women reported elevated levels of self-surveillance and disordered eating, similar to White women. Moreover, body shame mediated the relationship between self-surveillance and disordered eating as predicted by objectification theory. Although some work suggests that Hispanic culture, which is traditionally more accepting of curvier figures among women, may offer protection against eating disorder risk (Franko, Coen, et al., 2012; Viladrich, Yeh, Bruning, & Weiss, 2009), many Hispanic women living within the United States report experiencing strong pressures for thinness (Shaw et al., 2004) and seek to obtain a thinner figure (Cachelin, Rebeck, Chung, & Pelayo, 2002; Viladrich et al., 2009). Further, rates of disordered eating among Hispanic women within the United States appear to be similar to rates among White women (Alegria et al., 2007). The current study suggests that objectification processes may help to explain disordered eating among Hispanic women within the United States. Notably, research indicates that level of acculturation to United States culture, may moderate the influence of sociocultural risk factors among Hispanic women (Perez, Ohrt, & Hoek, 2016). Therefore, future work may seek to examine the role of acculturation in objectification processes among Hispanic women.

In addition to considering the potential for women's experiences of objectification to be informed by their ethnic background, examination of the OBCS Surveillance and Body Shame items may provide insight further into observed ethnic differences. Examination of Surveillance items reveals that the scale broadly assesses monitoring of one's clothes or how one looks throughout the day. Given Black women's generally more comprehensive definition of beauty, it is possible that Surveillance items are interpreted in a similarly broad way, incorporating numerous aspects of appearance, style, and overall demeanor (Parker et al., 1995). In contrast, White and Hispanic women, whose appearance ideals appear to be more intimately connected with body size and weight, may be more likely to interpret Surveillance items in a similarly narrow fashion such that one's "looks" may be more tightly connected with one's weight and shape. This raises the question of whether items more directly assessing weight and shape surveillance may reduce ambiguity and improve prediction of body shame and disordered eating among Black women.

Conversely, Body Shame items and EDEQ items more directly target thoughts, emotional experiences, and behaviors related to weight and size, and thus the experiences being reported are also more tightly connected. Recognizing the conceptual overlap among these scales, it is important to note that the scales differ in the problematic features around weight and shape that are emphasized within each scale. Body Shame items reflect emotional responses to a perceived discrepancy between one's current appearance, weight, or exercise behaviors and one's ideal. The Weight and Shape Concerns subscales of the EDEQ reflect

how often over the past month participants have been dissatisfied or upset by their weight and shape, preoccupation with weight and shape, and fear of weight gain and being evaluated based on weight. Moreover, the Body Shame items are meant to represent the experience of body shame outside the context of disordered eating, whereas the Weight and Shape Concerns items consistently link weight and shape concerns to disordered eating behavior. Although we did not observe markedly different patterns of results when the EDEQ scores were analyzed without the Weight and Shape subscale items included, it was important to confirm that these constructs were distinct and not redundant with each other. Future research might consider alternative measures of body shame, especially experiential indicators of this phenomenon that assess how women feel in their bodies and not only what women think about their bodies (e.g., wanting to hide or disappear because of one's body weight and shape), to further distinguish the construct both conceptually and operationally from other types of body concerns within the context of disordered eating.

Although this study has a number of strengths, including a large sample size and the use of validated measures of objectification processes, there are several limitations that should be considered. Participants in the current study were drawn from a university research participant pool, which restricted the variability of the sample in terms of age and education. Indeed, it is possible that differences in sample age may have contributed to the mixed findings in the extant literature. Compared to younger White women, older White women tend to report significantly lower levels of self-objectification and body shame (Tiggemann & Lynch, 2001), but whether or not age is protective against self-objectification for women in other ethnic groups has not been examined. Future work may seek to more carefully examine the impact of age on objectification experiences in ethnically diverse women. Additionally, the current study was limited to White, Hispanic, and Black women. Although these represent the largest ethnic groups within the United States (United States Census Bureau, 2015), the sample is still restricted in terms of ethnic diversity. Further, ethnic minorities were not oversampled, resulting in unequal samples sizes among groups. Future research may extend this work by examining the relationships between self-surveillance, body shame, and disordered eating with other ethnic groups (e.g., Asian, Native American). Regarding methodological limitations, all measures were presented in a fixed order, introducing the possibility of method effects. Finally, the current study utilizes cross-sectional data, which may produce biased parameter estimates and does not allow for causal inferences (Maxwell & Cole, 2007). Future work may seek to examine the mediational model of objectification theory using longitudinal approaches.

In sum, our findings suggest that a core mediational model of objectification theory linking self-objectification, body shame, and disordered eating varies by ethnicity. Specifically, although experiences of body shame appear to be universal among White, Black, and Hispanic women, levels of self-surveillance may be lower among Black women and not associated with either body shame or disordered eating. These patterns are consistent with Fredrickson and Roberts' (1997) observation that culturally-specific experiences linked to ethnic background may differentially shape women's experiences of sexual- and self-objectification. Importantly, women from all three groups reported moderate levels of body shame, which was consistently and strongly associated with disordered eating for all women. This finding suggests that body shame is a shared experience to which all women are

vulnerable, regardless of ethnic background. The current study further suggests that the specific contributors to body shame may vary among women from different ethnic backgrounds. Given the universally pernicious effect of body shame, continued study of both universal and culture-specific drivers of this experience is recommended. Additional research is needed to better understand to what extent objectification theory applies to women across a range of ethnicities, and how it may differentially operate in terms of vulnerability and resilience to disordered eating and other mental health risks.

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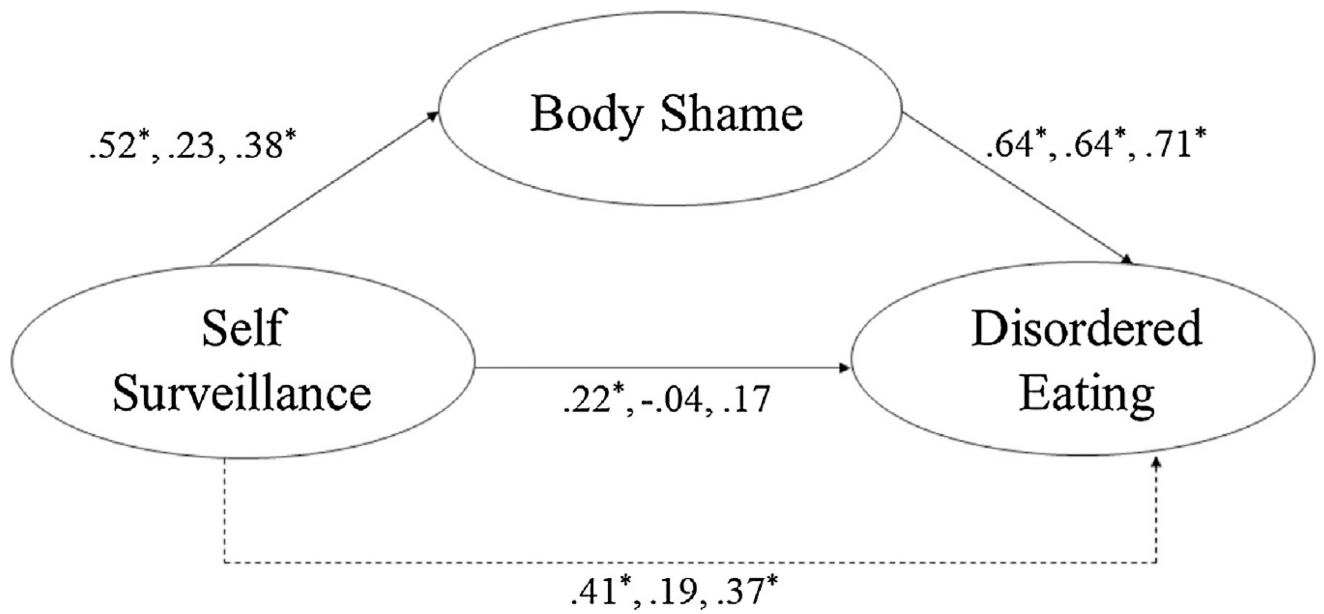


Fig. 1. Core mediational model of objectification theory among White, Black, and Hispanic women. Solid lines indicate direct pathways, while the dashed line indicates the indirect pathway. Standardized path coefficients for White women are located on the left, Black women in the middle, and Hispanic women on the right. $*p < .05$.

Table 1
Means, Standard Deviations, and MANOVA Results for All Variables among Racial/Ethnic Groups.

Variables	White <i>M (SD)</i>	Hispanic <i>M (SD)</i>	Black <i>M (SD)</i>	<i>F (df)</i>	<i>p</i>	Partial η^2	Pair-Wise Comparisons
Age	21.14 (4.58)	20.99 (4.50)	21.58 (4.81)	$F(2, 829) = 0.52$.596	.00	–
BMI	23.68 (4.96)	25.05 (6.17)	26.67 (7.06)	$F(2, 829) = 15.06$	< .001	.03	B, H > W
Self-Surveillance	4.68 (1.15)	4.68 (1.09)	4.37 (0.94)	$F(2, 829) = 3.58$.028	.01	W > B
Body Shame	3.57 (1.27)	3.49 (1.24)	3.34 (1.09)	$F(2, 829) = 1.58$.207	.00	–
Disordered Eating	1.95 (1.34)	1.92 (1.44)	1.32 (1.19)	$F(2, 829) = 10.27$	< .001	.02	W, H > B

Note. Pairwise comparisons were performed using a Bonferroni correction. BMI = body mass index; W = White; H = Hispanic; B = Black. All pairwise comparisons listed were significant at least at $p < .05$.

Table 2

Correlations between Self-Surveillance, Body Shame, and Disordered Eating.

	1	2	3
Full Sample			
1. Self-Surveillance	–		
2. Body Shame	.33 ^{***}	–	
3. Disordered Eating	.40 ^{***}	.61 ^{***}	–
White Women			
1. Self-Surveillance	–		
2. Body Shame	.38 ^{***}	–	
3. Disordered Eating	.45 ^{***}	.63 ^{***}	–
Hispanic Women			
1. Self-Surveillance	–		
2. Body Shame	.22 [*]	–	
3. Disordered Eating	.28 ^{**}	.57 ^{***}	–
Black Women			
1. Self-Surveillance	–		
2. Body Shame	.12	–	
3. Disordered Eating	.11	.56 ^{***}	–

Note.

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