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Self-Objectification and the Use of Body Image Coping Strategies: The Role of Shame in Highly Physically Active Women

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We investigated the mediating role of body shame in the relationship between self-objectification and body image coping strategies in highly physically active university women. Bivariate correlations revealed body shame was positively related to self-objectification, appearance fixing, and avoidance coping but unrelated to positive rational acceptance. In addition, self-objectification was positively related to appearance fixing and avoidance coping but unrelated to positive rational acceptance. Mediation analyses showed that body shame partially mediated the relationship between self-objectification and avoidance and appearance fixing coping but did not mediate the relationship between self-objectification and positive rational acceptance. Future research should examine other potential mediators or moderators in this relationship and explore the role of positive body image framed within self-objectification theory.

KEYWORDS: sexual objectification, coping, psychological health, women

The experience of growing up as a woman may involve being treated as a sexual object to be evaluated by others (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998). Researchers have begun to elucidate the negative effect this type of socialization has on the psychological and physical health of women. One framework researchers have used to understand this process is objectification theory (Fredrickson & Roberts, 1997). According to objectification theory, experiences of sexual objectification socialize young girls and women to behave as though their bodies are objects to be evaluated solely by their appearance. Bartky (1990) stated that sexual objectification occurs when a woman's body is separated from her as an individual, as if her body's parts alone may be representative of her. According to objectification theory, sexual objectification leads to self-objectification, the internalization of an observer's perspective on one's own body. It is characterized by habitual monitoring of the body's outer appearance (i.e., body surveillance). According to objectification theory, self-objectification and associated body surveillance lead to psychological consequences such as shame, anxiety, decreased flow states (i.e., fewer peak motivational states of deep enjoyment, creativity, and total involvement with life; Csikszentmihalyi, 1990), and insensitivity to bodily cues, which in turn increase one's risk of mental health problems (e.g., disordered

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eating, depression, and sexual dysfunction; Fredrickson & Roberts, 1997).

In a pivotal study to test the contentions of objectification theory, Fredrickson et al. (1998) manipulated levels of self-objectification and examined the impact of manipulated self-objectification on several psychological and behavioral outcomes. The authors distinguished between trait and state self-objectification. Trait self-objectification is the varying degree to which certain individuals are predisposed to internalizing observers' perspectives on their bodies. Objectification theory predicts relatively stable individual differences in self-objectification. For example, some individuals (particularly women) are more expected to be chronically preoccupied with their appearance than others. Self-objectification can also be induced by certain situations depending on contextual factors (i.e., state objectification). For example, situations that are public, mixed-sex, and unstructured are examples of where women's bodies have been found to be most salient to evaluative commentary by others (Gardner, 1980).

To examine both trait and state self-objectification, Fredrickson et al. (1998) randomly assigned women to try on a swimsuit (used to elicit self-objectification) or try on a sweater (used to minimize self-objectification). They found the women in the swimsuit condition reported higher levels of body shame, general shame, and body-related thoughts compared with women who were asked to try on a sweater, with the greatest levels being among the women with high trait self-objectification. In addition, heightened trait and state self-objectification were related to higher body shame, which in turn predicted restrained eating of cookies. These authors also showed that heightened state self-objectification interfered with peak mental states; with baseline math ability controlled, women in the swimsuit condition performed more poorly on an assessment of mathematical ability than those in the sweater condition. Quinn, Kallen, and Cathey (2006) used the same sweater versus swimsuit paradigm and found that the effects of heightened self-objectification (increased body-related thoughts) from trying on a swimsuit lasted beyond the immediate situation, after women redressed. Shame was found in this study to mediate the relationship between self-objectification and lingering body-related thoughts. In other words, the more shame the women experienced during their condition, the more likely they were to report body-related thoughts after redressing.

Other research has provided support for objectification theory. For example, Noll and Fredrickson (1998) tested the contention that body shame mediates the relationship between self-objectification and mental health risks, specifically disordered eating, and found support for this hypothesized mediation model. In addition, these authors found a direct relationship between self-objectification and disordered eating. Generally, this body of research has shown that self-objectification is related to depression, lower subjective well-being, restrained eating and bulimia symptoms (Choma, Shove, Busseri, Sadava, & Hosker, 2009; Miner-Rubino, Twenge, & Fredrickson, 2002; Moradi & Huang, 2008), and overall quality of physical performance (e.g., softball throwing; Fredrickson & Harrison, 2005).

One outcome that may be important to understand with respect to self-objectification is body image coping. Coping can be defined as the cognitions, emotions, and behaviors used as adaptations for managing a situation perceived as potentially threatening (Folkman & Lazarus, 1988; Lazarus & Folkman, 1984). In the body image literature, an inventory developed by Cash, Santos, and Williams (2005), the Body Image Coping Strategies Inventory, has allowed researchers to systematically examine body image coping and associated outcomes (e.g., Cash et al., 2005; Choma et al., 2009; Kowalski, Mack, Crocker, Niefer, & Fleming, 2006; Sabiston, Sedgwick, Crocker, Kowalski, & Mack, 2007). Three specific categories of coping strategies have been identified: avoidance (attempts to elude threats to one's body by disengaging in potential body image threat situations), appearance fixing (efforts to change one's outer appearance by means of concealment or methods to correct features perceived to be flawed), and positive rational acceptance (mental and behavioral activities that emphasize the use of positive self-care and rational self-talk). The use of avoidance and appearance fixing strategies are considered maladaptive because such strategies have been linked with lowered self-esteem, disordered eating behaviors, and lower quality of life related to body image (Cash et al., 2005). By contrast, positive rational acceptance is considered adaptive because it has been associ-

ated with lower self-evaluative salience of physical appearance and abnormal eating concerns and higher self-esteem, perceived social support, and quality of life related to body image (Cash et al., 2005).

To the researchers' knowledge only one published study has examined body image coping framed within objectification theory (Choma et al., 2009). These authors examined the moderating and mediating effects of body image coping in the relationship between self-objectification and well-being in white female university students. Their findings showed that avoidance and appearance fixing (considered maladaptive), but not positive rational acceptance (considered to be adaptive), partially mediated the relationship between self-objectification and subjective well-being, depression, and disordered eating attitudes. In addition, avoidance and appearance fixing coping partially mediated the relationship between body shame and subjective well-being, depression, and disordered eating attitudes; however, no body image coping strategies moderated the relationship between body shame and health outcomes (depression, disordered eating, and subjective well-being). Overall, these findings provide preliminary evidence of the role body image coping may play in the relationship between self-objectification and health-related outcomes in women.

Given the evidence of the negative impact of self-objectification on health-related outcomes and limited understanding of body image coping within self-objectification theory (Choma et al., 2009), the present study had two objectives. The first objective was to examine the relationships between body shame, self-objectification, and body image coping strategies. Unlike Choma et al., we specifically examined this relationship in a highly physically active group for three reasons. First, it has been consistently found that physical activity is related to more positive body image (see Campbell & Hausenblas, 2009), and therefore we were particularly interested in the relationship between self-objectification and body shame and positive rational acceptance (the adaptive coping strategy), an indicator of positive body image within the behavioral dimension of body image. For example, in highly physically active women, a more adaptive coping strategy (e.g., positive rational acceptance) could act as a protective mechanism in the relationship between self-objectification, shame, and maladaptive coping strategies. Second, women willing to participate in exercise may be able to do so because they use more adaptive rather than maladaptive coping strategies (e.g., avoidance). Third, women who are physically active are likely to put themselves in situations of high body image threat in physical activity settings, which may then help them cope more adaptively (e.g., positive rational acceptance) to other types of body image threats. That is, coping with physical activity settings may provide them with the coping skills necessary to manage other types of body image threats. Choma et al. (2009) found inconsistent relationships across their two samples of university women between body shame, self-objectification, and positive rational acceptance coping. Thus, it was hypothesized that body shame and self-objectification would be positively related to maladaptive coping strategies (avoidance and appearance fixing). Furthermore, given the inconsistent relationships for positive rational acceptance, no specific hypothesis was made about the relationship between self-objectification and body shame and adaptive body image coping (positive rational acceptance).

The second objective was to examine the potential mediating effects of body shame between self-objectification and body image coping strategies. In line with objectification theory, we evaluated body shame as a mediator, but unlike Choma et al. (2009), we treated body image coping as an outcome of self-objectification as it reflects the behavioral dimension of body image. It was hypothesized that body shame would be a significant mediator between self-objectification and the maladaptive coping strategies (avoidance and appearance fixing). Because of inconsistent relationships reported between self-objectification and body shame and positive rational acceptance (Choma et al., 2009), no specific hypothesis was made about the mediating role of body shame in the relationship between self-objectification and positive rational acceptance.

EXPERIMENT

METHOD

Participants

University women were recruited because body image concerns and self-objectification are especially

relevant for this group. For example, a review by Moradi and Huang (2008) concluded that most available data on self-objectification suggest women and girls report higher levels of self-objectification, body surveillance, and body shame than men. We classified activity level based on participants' total metabolic equivalent of the task (MET) as assessed through a measure of leisure time physical activity (LTPA). Previous research has classified women attaining physical activity levels of 35 or more METs to be sufficiently active to receive health benefits from physical activity (Bengoechea, Spence, & McGannon, 2005). In the present study, our sample reported LTPA scores of 53.87 METs (*SD* = 22.8). A physically active sample was targeted to extend the findings of Choma et al. (2009) to a new sample, because as previously noted, physical activity may be one variable relevant to body image coping.

This study included 104 female students attending a university in southern Ontario. Exclusion criteria included (self-reported) diagnosis of or treatment for an eating disorder, because women with an eating disorder may have a more negative body image than other women (Hesse-Biber, 2007). The sample had a mean age of 20.42 years (*SD* = 2.85) and a mean body mass index of 23.34 (*SD* = 3.26). The sample was made up primarily of Caucasian women (*n* = 89). Most students were enrolled in kinesiology or physical education as their major (*n* = 69) and were in the second year of their studies (*n* = 58).

Procedures

Upon university ethics clearance, participants were recruited through announcements made in physical education and kinesiology classes and posters placed around campus, including the campus fitness center. Data were collected as part of a larger study examining psychological and heart rate responses to an imagined social evaluative body image threat in women. Interested participants contacted a member of the research team. After indicating interest, participants were provided with a letter of invitation via e-mail, and study requirements were described. Participants who were eligible scheduled a time for participation. All testing was completed individually and took place in a private laboratory on a university campus. Upon arrival at the laboratory, participants provided informed consent and then completed a demographic questionnaire. Then, participants were asked to complete measures of LTPA, self-objectification, body shame, and body image coping strategies. Participants were offered the opportunity to enter a drawing to win one of ten $20 gift cards for Tim Horton's. At the conclusion of the study, participants were debriefed.

Materials

The participants' self-reported demographic information included age, height, weight, ethnicity, and year in school. Participants also completed a measure of their LTPA, trait body shame, self-objectification, and body image coping.

LEISURE TIME PHYSICAL ACTIVITY.

The Godin Leisure-Time Physical Activity Questionnaire (Godin & Shephard, 1985) was used to estimate LTPA levels over the past 7 days. Self-reported weekly frequencies of strenuous, moderate, and mild intensity activities were multiplied by their estimated value in METs (nine, five, and three, respectively). Total weekly LTPA was calculated by adding the products of the separate components. Evidence of validity and reliability has been shown in college samples (Jacobs, Ainsworth, Hartman, & Leon, 1993).

SELF-OBJECTIFICATION.

The Self-Objectification Questionnaire (Fredrickson et al., 1998; Noll & Fredrickson, 1998) was used to assess the extent to which a participant views her body in appearance-based terms, which are observable, compared with competence-based terms, which are not observable, regardless of her level of satisfaction with each aspect. Participants ranked, in order, 10 body attributes by how important each was to her own physical self-concept from 0 (*least impact*) to 9 (*greatest impact*). The scores ranged from –25 to 25, with higher scores indicating greater self-objectification. The Self-Objectification Questionnaire demonstrates satisfactory validity, correlating with scales that measure similar constructs, including the Appearance Anxiety Questionnaire ($r = .52$, $p < .01$) and the Body Image Assessment ($r = .46$, $p < .01$; Noll & Fredrickson, 1998).

BODY SHAME.

The Body Shame subscale from the Weight and Body-Related Shame and Guilt Scale (Conradt et al., 2007) assessed body shame. Six items assess the frequency with which a participant feels shame about her body (e.g., "When I am in a situation where others can see my body (e.g., pool, changing room), I feel ashamed"). Items are rated on a 5-point scale ranging from 0 (*never*) to 4 (*always*). The score is calculated by averaging all the item scores, with a higher score indicating higher body shame. Previ-

ous evidence has shown satisfactory internal consistency and convergent and discriminant validity for the Weight and Body-Related Shame and Guilt Scale subscale (Conradt et al., 2007). Internal consistency for the present study was deemed satisfactory for this measure (α = .73).

BODY IMAGE COPING.

The 29-item Body Image Coping Strategies Inventory (Cash et al., 2005) was used to assess coping strategies women use during an event that can negatively affect their body image. Participants responded to each item on a 4-point scale ranging from 0 (*definitely not me*) to 3 (*definitely me*). Nine of these items measured avoidance (e.g., "I withdraw and interact less with others"), 10 items measured appearance fixing (e.g., "I spend extra time trying to fix what I don't like about my looks"), and 10 items measured positive rational acceptance (e.g., "I tell myself there are more important things than what I look like"). The Body Image Coping Strategies Inventory has demonstrated good internal consistency and test–retest reliability (Cash & Grasso, 2005; Melnyk, Cash, & Janda, 2004) and convergent validity (Cash et al., 2005). Scores were calculated by averaging the items for each subscale, with higher scores representing greater use of that coping strategy. Internal consistency was deemed satisfactory for all subscales in this measure for the present study (αs ranged from .75 to .87).

RESULTS

Before data analysis, the dataset was examined to determine whether it met the assumptions of data analyses. Specifically, variables were normally distributed and no missing data were present. There were also no instances of multicollinearity (i.e., $r > .90$).

Before mediation analyses, the relationships between self-objectification, body shame, and body image coping strategies were examined through Pearson correlations. Body shame was significantly positively related to self-objectification, appearance fixing, and avoidance coping but was unrelated to positive rational acceptance coping. In addition, self-objectification was significantly positively related to appearance fixing and avoidance coping but unrelated to positive rational acceptance coping. The correlation matrix can be found in Table 1.

All mediation followed the procedures suggested by Field (2013). First, a regression analysis was conducted to see whether the predictor variable (i.e., self-objectification) significantly predicted the outcome variable (i.e., body image coping). Second, a regression analysis was conducted to see whether the predictor variable significantly predicted the mediator (i.e., body shame). Finally, a regression analysis was conducted where both the predictor and mediating variable predicted the outcome variable. If the effect of the predictor (in terms of its unstandardized coefficient) is less in the final model than in the first model, then *partial* mediation is present. If the effect is 0 in the final model, then *complete* mediation is present. Three models were run, with a different coping strategy as the outcome in each one. Self-objectification and body shame were the predictor

TABLE 1. Means, Standard Deviations, and Bivariate Correlations for Study Variables

Variable	1	2	3	4	5
1. Body shame	—	.26**	.42**	.56**	–.12
2. Self-objectification		—	.26**	.49**	–.04
3. Avoidance coping			—	.37**	–.03
4. Appearance fixing coping				—	–.02
5. Positive rational acceptance coping					—
Mean (standard deviation)	1.32 (0.81)	–4.73 (12.20)	1.73 (0.53)	2.62 (0.60)	2.42 (0.51)

Note. *Body shame scores range from 0 to 4, with a higher score indicating higher body shame; self-objectification scores range from –25 to 25, with higher scores indicating greater self-objectification; coping subscales range from 0 to 3, with higher scores indicating higher use of that coping strategy; correlations are two-tailed.*
***p < .01.*

and mediating variables, respectively, in all three models.

The model for positive rational acceptance revealed no significant prediction of coping by self-objectification, $F(1, 100) = 1.37$, $p > .05$, $B = -0.002$, so no mediation was present. For both avoidance and appearance fixing, there was evidence of mediation. Because the effect of the predictor on the outcome variable was reduced, but not to zero, in both cases, both models displayed partial mediation, as opposed to full mediation. Bootstrapping was conducted on both mediation models. The 95% confidence intervals for both direct and indirect pathways in both models did not contain zero. These results are summarized in Figures 1 and 2, respectively.

DISCUSSION

To date, research has shown that self-objectification is related to a number of negative health-related consequences (e.g., eating disorders, depression, lowered subjective well-being, lowered mental and physical performance; Choma et al., 2009; Fredrickson & Harrison, 2005; Fredrickson & Roberts, 1997; Miner-Rubino et al., 2002; Moradi & Huang, 2008). Research has also provided evidence of the mediating role of body shame in the relationship between self-objectification and mental health risk (Noll & Fredrickson, 1998). The present study examined body image coping framed within objectification theory. Our findings show that consistent with our hypothesis, body shame and self-objectification were positively related to maladaptive coping strategies but were unrelated to adaptive coping. In addition, our findings provide evidence of the partial mediating role of body shame in the relationship between self-objectification and maladaptive body image coping strategies.

Our findings that body shame and self-objectification were unrelated to positive rational acceptance are interesting because it would be presumed that more positive rational acceptance would be present among a highly physically active sample, acting as a protective mechanism in body image situations. However, it should be noted that our sample reported higher use of all body image coping strate-

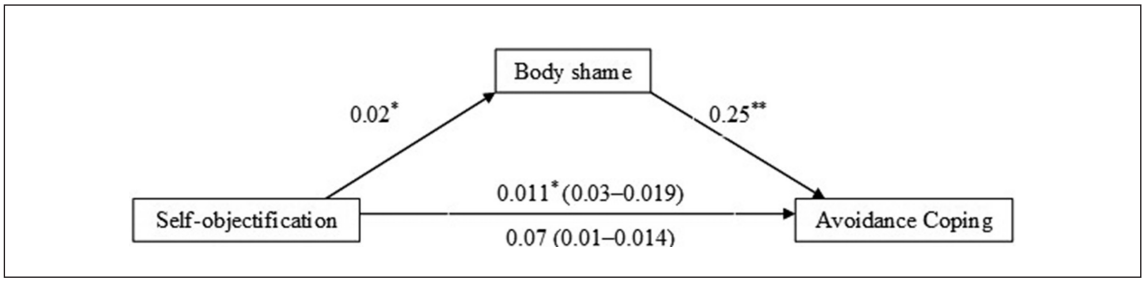

FIGURE 1. Path analysis for the mediating effect of body shame on the relationship between self-objectification and avoidance coping. All values reported are standardized residuals. Values above the line from predictor to outcome variable are for the direct relationship; values below the line are for the mediated relationship. *$p < .01$; **$p < .001$; 95% confidence intervals in parentheses

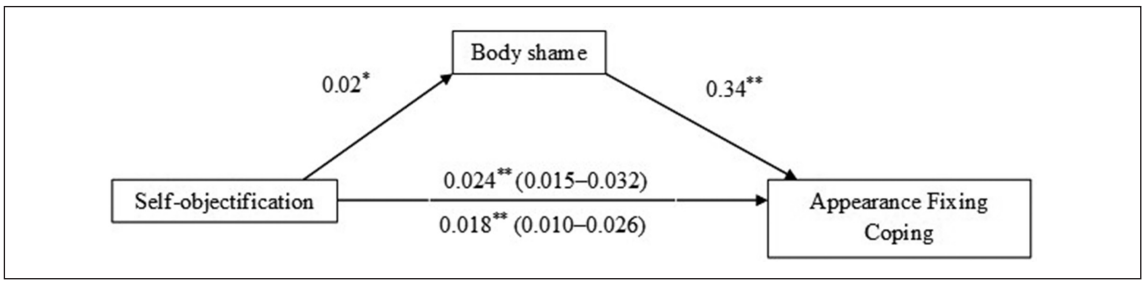

FIGURE 2. Path analysis for the mediating effect of body shame on the relationship between self-objectification and appearance fixing coping. All values reported are standardized residuals. Values above the line from predictor to outcome variable are for the direct relationship; values below the line are for the mediated relationship. *$p < .01$; **$p < .001$; 95% confidence intervals in parentheses

gies than those in previous research (Cash et al., 2005; Choma et al., 2009). Perhaps because our sample was a highly physically active group, they may be subjected to more social evaluative situations related to the body (e.g., fitness facilities). It is possible that highly physically active women report higher levels of coping (of all types) because they experience situations that require coping more frequently. Exercise settings are a salient threat to body image, inducing self-objectification (e.g., social comparisons related to the body, evaluations by others, and the presence of mirrors), so finding ways to minimize this effect is crucial. This may be particularly important in light of the present findings showing that highly physically active women do not necessarily use positive rational acceptance over maladaptive coping strategies, even though there is strong evidence that exercise is related to more positive body image (Campbell & Hausenblas, 2009; Hausenblas & Fallon, 2006; Reel et al., 2007). A study by Daubenmier (2005) found that yoga practitioners reported more body responsiveness, more body awareness, lower self-objectification, greater body satisfaction, and fewer disordered eating attitudes than those participating in aerobic or nonaerobic exercise. Body responsiveness and, to some extent, body awareness significantly explained the group differences in self-objectification, body satisfaction, and disordered eating attitudes. Prichard and Tiggemann (2008) found self-objectification to be positively related to the use of cardiovascular machines. In contrast, participation in yoga-based fitness classes was related to lower self-objectification and exercising for health and fitness reasons (see also Impett, Daubenmier, & Hirschman, 2006). Lastly, appearance-based reasons for exercise mediated the relationship between exercise types and self-objectification. Therefore, it is plausible that exercise type or reason and not merely physical activity level alone may be related to positive body image coping strategies in women.

Our findings showed that body shame partially mediated the relationship between self-objectification and avoidance and appearance fixing coping strategies, supporting our hypotheses. Thus, women higher in self-objectification reported higher body shame, which in turn was associated with greater avoidance and appearance fixing coping strategies. These findings add to the growing evidence supporting objectification theory, which posits that shame plays a mediating role in the relationship between self-objectification and associated negative outcomes such as disordered eating (Choma et al., 2009; Fredrickson et al., 1998; Noll & Fredrickson, 1998). The present study extends these negative outcomes to negative coping strategies.

Our study replicates previous findings by Choma et al. (2009) showing that shame mediated trait self-objectification and avoidance and appearance fixing coping strategies, but not positive rational acceptance coping. In fact, positive rational acceptance was unrelated to both self-objectification and body shame. In their study, Choma and colleagues found that correlations between positive rational acceptance and self-objectification and body shame across two separate samples were inconsistent: In Sample 1, positive rational acceptance was negatively related to self-objectification but unrelated to body shame, whereas positive rational acceptance was negatively related to body shame but unrelated to self-objectification in Sample 2. Our null findings with respect to positive rational acceptance indicate that someone reporting low body shame or low self-objectification does not necessarily use more adaptive coping strategies. Our findings along with existing inconsistent evidence (Choma et al., 2009) may highlight the lack of understanding of positive indicators of body image in the literature. For example, there is still much to be known about positive body image because the literature lacks positive body image measures, other than the Body Appreciation Scale–2 (Tylka & Wood-Barcalow, 2015), that may better explain relationships with positive rational acceptance coping.

Finally, only partial mediation was found for both avoidance and appearance fixing coping strategies, indicating that self-objectification was still a significant predictor of these coping strategies. This finding reinforces the negative impact self-objectification may have on health-related and behavioral (coping) outcomes in women. It also suggests that other mediators may also be important to investigate; for example, objectification theory also suggests that the process of self-objectification can lead to psychological outcomes including feelings of anxiety, reduced peak motivational states (i.e., flow), and a lack of awareness of internal body sensations. It is possible that these variables may also mediate the relationship

between self-objectification and body image coping strategies (Fredrickson & Roberts, 1997; Fredrickson et al., 1998).

Researchers in the area of self-objectification have begun to strategize ways to treat self-objectification, particularly in girls and women. Tylka and Augustus-Horvath (2011) suggested some of the following ways self-objectification could be treated: raising awareness that body comparison is harmful and how to recognize and stop this type of cognitive process (perhaps using cognitive–behavioral modification techniques); promoting media literacy by exploring and critiquing media portrayals of the body, and particularly how women are sexually objectified in the media, such as through clothing, facial expressions, or body positioning; and providing embodied experiences by promoting a functional view of the body (e.g., through exercise). Now that there is growing evidence of the harmful effects self-objectification has on health, intellectual, and behavioral outcomes, it is important to treat those affected.

Limitations and Future Directions

This study has a cross-sectional design, and therefore causality cannot be inferred. Furthermore, cross-sectional mediation analyses tend to overestimate true population parameters (Maxwell & Cole, 2007). Also, the current findings can be generalized only to healthy college women who are highly active. Although it was particularly relevant to sample women because it has been found that they typically display higher levels of self-objectification than men (Aubrey, 2006), research has shown men also have body image concerns (Muth & Cash, 1997; Westmoreland-Corson & Andersen, 2002). It should also be noted that women with body dysmorphic disorder were not specifically excluded from the study; however, all means and standard deviations for body image variables were within a typical range for university women based on past literature. Moreover, additional research is needed to test the tenets of self-objectification in more diverse samples, which has been recognized as a current limitation in the field (Moradi & Huang, 2008).

Because body shame was found to be only a partial mediator of this relationship, other mechanisms in this relationship should be explored. For example, the presence of anxiety may play an important role because it is identified in objectification theory as a psychological consequence of self-objectification (Fredrickson et al., 1998). In other words, women who are more prone to high-anxiety states may use more avoidance and appearance fixing strategies to immediately reduce these negative feelings of shame. However, other emotions outside those identified in objectification theory may play an important role, particularly those that are self-conscious in nature (e.g., guilt, envy). Future research should also assess the potential mediating effects of positive indicators of body image, such as pride or body appreciation, to gain a more complete understanding of the complex relationship between self-objectification and associated outcomes. Future research may also explore the potential moderating effects physical activity has on self-objectification, shame, and body image coping outcomes. With respect to coping, the perceived effectiveness of coping strategies and the reasons why women choose one strategy over another should be examined. Finally, interventions designed to promote adaptive coping strategies (e.g., positive rational acceptance) should be evaluated. Finding ways to improve adaptive coping may have practical applications in clinical populations.

NOTES

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