Journal of Communication ISSN 0021-9916

RESEARCH ARTICLE

Effects of Sexually Objectifying Media on Self-Objectification and Body Surveillance in Undergraduates: Results of a 2-Year Panel Study

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This study used objectification theory (B. L. Fredrickson & T.-A. Roberts, 1997) to predict that the media's insidious practice of objectifying bodies socializes individuals to take an outsider's perspective on the physical self (i.e., self-objectify) and to habitually monitor their appearance (i.e., engage in body surveillance). To test these hypotheses, a 2-year panel study using an undergraduate sample was conducted. Cross-lagged path models showed that exposure to sexually objectifying television measured during Year 1 increased trait self-objectification (trait SO) during Year 2 for both women and men. At the same time, trait SO during Year 1 decreased exposure to sexually objectifying television during Year 2, suggesting that both male and female participants selectively avoided sexually objectifying television based on antecedent trait SO. Moreover, exposure to sexually objectifying television and magazines increased body surveillance for men only. The discussion focuses on the process by which the media create body-focused perceptions.

doi:10.1111/j.1460-2466.2006.00024.x

The relationship between the body and sex is unambiguously portrayed in contemporary media. Conforming to a thin body ideal is crucial to sexual attractiveness. We see this message in a variety of ways and in a variety of media, especially in popular magazines and television programs. For example, women's magazine covers often place weight loss messages next to messages about one's sex life, implying weight loss will lead to a better sex life (Malkin, Wornian, & Chrisler, 1999). In one issue, "Drop 8 Pounds this Month" was on the same cover as "25 Ways to Make Your Marriage Hot Again," and in another, "Stay Skinny" was on the same cover as "What Men Want Most" (Malkin et al., 1999). Moreover, teen and women's magazines regularly feature articles on attracting the opposite sex interspersed with advertisements for beauty care products and fashion merchandise (Carpenter, 1998; Durham, 1998).

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Finally, in television shows popular with adolescents, the *most common* sexual theme is that women are judged as romantic or sexual partners based on their physical appearance (Ward, 1995).

Perhaps the most insidious way that the media emphasize physical attractiveness is by *objectifying* bodies (Fredrickson & Roberts, 1997). Sexual objectification has been conceptualized as the separating of a person's body, body parts, or sexual functions from his or her person, reducing them to the status of mere instruments, or regarding them as if they were capable of representing him or her (Bartky, 1990). Content analyses have operationally defined sexual objectification as instances in which the focus is on isolated body parts, such as a bare stomach, buttocks, cleavage, or a bare chest, in the absence of a focus on the rest of the person (Kolbe & Albanese, 1996; Rudman & Hagiwara, 1992; Sommers-Flanagan, Sommers-Flanagan, & Davis, 1993). A general conclusion from this content-analytic work is that the media often focus on bodies and appearance as the most important components of sexual desirability. However, there are gender differences in how the media use sexual objectification. Some research has suggested that the difference in how the bodies of men and women are portrayed is by the face-to-body proportions. For men, a "face-ism" bias exists, whereby men's heads and faces are shown in greater detail than they are for women (Archer, Iritani, Kimes, & Barrios, 1983). The corresponding bias for women is "body-ism"; the focus is usually on women's bodies or body parts, sometimes eliminating their heads altogether (Unger & Crawford, 1996). Still, it should not be assumed that men are *never* objectified. For example, one content analysis of photographs in six male-oriented magazines (e.g., *GQ*, *Rolling Stone*) found that there was a wide range in the frequency of images that focused on male sexual body parts (Kolbe & Albanese, 1996). For example, in *Playboy*, 21.6% of the images of men focused on a bare chest, whereas only 8.2% of images in *Esquire* focused on a bare chest.

The effects of exposure to sexual objectification in the media on audiences' self-images are largely unexplored. Although much research has found that thin-ideal media exposure is linked to body dissatisfaction (see Groesz, Levine, & Murnen, 2002, for a meta-analysis), the "thin ideal" is not the same as sexual objectification. After all, a person might not conform to the thin ideal but nevertheless be objectified. Similarly, some experimental studies have claimed to manipulate sexual objectification by varying physical attractiveness, but such a manipulation clearly conflates physical attractiveness with sexual objectification (Cattarin, Thompson, Thomas, & Williams, 2000; Lavine, Sweeney, & Wagner, 1999).

To examine the effects of sexually objectifying media exposure on viewers' body perceptions, objectification theory (Fredrickson & Roberts, 1997) was used as a theoretical framework. The theory's main contention is that women in particular can be acculturated to "internalize a viewer's perspective as a primary view of their physical selves" (p. 173), a perspective called self-objectification. Self-objectifying individuals come to view themselves as objects or "sights" to be appreciated by others. Self-objectification is the tendency to define the self in terms of how the body appears to

others, rather than what the body can do or how the body feels. Closely related to self-objectification is body surveillance (McKinley & Hyde, 1996). Vigilance about monitoring one's appearance is necessary to comply with sociocultural body standards and to avoid negative judgments.

In conceptualizing objectification theory, Fredrickson and Roberts (1997) focused on the consequences of self-objectification, and as such, most of the empirical research has examined the outcomes of self-objectification, including depleted task performance, lower self-efficacy, lower intrinsic motivation, negative body emotions, and eating disorder symptomatology (e.g., Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Noll & Fredrickson, 1998; Roberts & Gettman, 2004; Tiggemann & Lynch, 2001). In contrast, the current study focuses on an *antecedent* to self-objectification. Although influences on self-objectification might include a variety of interpersonal, social, cultural, and even biological factors, an aggressive purveyor of sexual objectification is undoubtedly the mass media (Fredrickson & Roberts, 1997). Thus, it stands to reason that media exposure that is high in sexual objectification can socialize individuals to treat their own bodies as objects. Individuals who continuously see others' bodies being objectified in the media learn the importance of the body, which could encourage individuals to view *themselves* as objects to be looked at by others. A theoretical explanation for this link is based on cultivation theory (Gerbner, Gross, Morgan, & Signorielli, 1994). Whereas cultivation theory purports that television teaches audiences to adopt certain "cultivated" views of the world around them, the current study predicts that sexually objectifying media content can teach audiences to adopt a certain perspective of the self, one that places primary importance on physical appearance (Harrison & Fredrickson, 2003).

Although research has not yet investigated the media's role in socializing individuals to self-objectify in the long term, a recent experiment demonstrated that sports media stimuli enhanced self-objectification in adolescent girls in the short term (Harrison & Fredrickson, 2003). Exposure to sports clips featuring lean women athletes activated a state level of self-objectification for European American girls, whereas exposure to sports clips featuring nonlean women athletes activated a state level of self-objectification in girls of color. In addition, another recent study has implications for the media's influence on self-objectification. Roberts and Gettman (2004) had participants unscramble sentences with objectification-related words (e.g., sexiness, weight) or body competence–related words (e.g., health, fitness). The college-aged women and men who unscrambled the sentences with objectification words reported more state self-objectification than those who unscrambled sentences with body competence words. If self-objectification can be primed by such a subtle task—merely encountering words that highlight the body's physical appearance—then it is likely that the media's overt emphasis on the body will also activate self-objectification, perhaps even more strongly than unscrambling sentences.

The predictions based on objectification theory are conceptualized to be applicable to women primarily. A central assumption of the theory is that *women* exist in a culture in which their bodies are "looked at, evaluated, and always potentially

objectified" (Fredrickson & Roberts, 1997, p. 177). Again, however, the theory is focused on the outcomes of self-objectification. The question of whether the media's impact on self-objectification only applies to women is still unanswered. Thus, both men and women were included in this study for three main reasons. First, experimental research has found that it is possible to induce self-objectification in both men and women. For example, in a study ostensibly on consumer behaviors, both men and women who tried on a swimsuit reported more self-objectification than those who tried on a sweater (Fredrickson et al., 1998), and again, unscrambling sentences with objectification-related words produced more self-objectification for both men and women than neutral words (Roberts & Gettman, 2004). Second, there seems to be an increased emphasis on the objectification of men in the media across time (e.g., Thompson, 2000). Ubiquitous advertisements for men's appearance-related products, television programs focusing on "making over" men's appearance (e.g., *Queer Eye for the Straight Guy*), and the introduction of the word "metrosexual" (i.e., a slang word for a male who spends a great deal of time and money on his appearance) into everyday vocabulary could be indicators that male appearance is increasingly visible and important. Third, most studies that have examined media's impact on body image have focused on restrictive eating and drive for thinness as outcomes, which are undoubtedly more relevant to women than to men (McCabe & Ricciardelli, 2001). Based on this research, men are considered to be exempt from the negative effects of media on the body, even though research has generally ignored male-relevant media content and outcomes. After all, manipulating "thinness" (e.g., Kalodner, 1997) is undoubtedly less damaging to men than manipulating muscularity, for instance (McCabe & Ricciardelli, 2001). In short, the research that has thus far been conducted on men does not rule out the possibility that the media can socialize men to self-objectify.

The main hypothesis is that exposure to sexually objectifying media (either magazines or television) will increase self-objectification for both women and men. Furthermore, it is predicted that the relationship will hold after controlling for variables that, according to previous research, are also likely to influence self-objectification, such as a strong sociocultural attitude about appearance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), self-esteem (e.g., Befort et al., 2001), body mass index (BMI; e.g., McLaren & Gauvin, 2002), race (e.g., Gluck & Geliebter, 2002), age (Tiggemann & Lynch, 2001), and parents' education (McLaren & Gauvin, 2002). The opposite direction in the hypothesis was also explored: Will self-objectification influence whether individuals select sexually objectifying media in the first place?

Method

Design and procedure

A longitudinal approach to test these hypotheses was fruitful for two main reasons. First, it permitted an examination of the long-term relationships between

nonmanipulated media habits and self-objectification, as opposed to the short-term effects of experimenter-selected media stimuli. Second, it permitted an examination of the order of the variables in the relationship, examining whether media exposure increases self-objectification or whether self-objectification drives the selection of sexually objectifying media. For these reasons, all measures were taken at two time points. The design was a two-wave panel study.

Participants

In total, 226 undergraduate participants from a large, Midwestern U.S. university took part in both waves of the study. Participants were 65.9% ($n = 149$) women and 34.1% ($n = 77$) men. In the first wave, the participants were on average 19.6 years old ($SD = .76$), and in the second wave, they were 20.6 years old ($SD = .75$). In total, 70.2% ($n = 158$) identified themselves as European American, 16.4% ($n = 37$) Asian American, 5.3% ($n = 12$) African American, and 2.7% ($n = 6$) Latino. The remaining 5.3% ($n = 12$) did not identify with any category.

For the first wave, 41.6% ($n = 94$) of the participants completed the questionnaire to satisfy a requirement for an introductory communication studies course, and 58.4% ($n = 132$) of the participants received $7 as compensation for completing the questionnaire. For the second wave, all participants were recontacted 1 year after they first completed the questionnaire and received $7 for participating. The questionnaire was administered via a web interface, which was used because research has shown that research participants are more likely to report sensitive behaviors, such as smoking, drinking, and drug use, via computer-assisted questionnaires than via face-to-face interviews or paper-and-pencil, self-administered questionnaires (e.g., Wright, Aquilino, & Supple, 1998).

The retention rate between the waves was 58.9%. Assuming there is always attrition in panel research, the critical issue is whether the participants who completed both waves of measurement differed from those who dropped out after the first wave. In examining the Wave 1 means for the participants who stayed in versus the ones who dropped out, the only significant difference regarded gender: 65.4% of women originally recruited for this study came back for Wave 2, whereas 50.3% of men who were recruited for Wave 1 came back for Wave 2, $\chi^2 = 9.98$ ($p < .01$). For all remaining variables, no significant differences were found. Overall, then, the difference between participants who came back for Wave 2 and those who dropped out after Wave 1 was relatively unsystematic.

One year was chosen as the interval between waves of data collection because there is likely to be a considerable amount of variance in issues related to the body during a 1-year interval. This assumption was based on research showing that college in particular and emerging adulthood in general represent developmental periods when individuals typically grapple with issues related to weight and appearance (e.g., Bishop, Bauer, & Becker, 1998).

Measures

Exposure to sexually objectifying television and magazines

A procedure similar to the one described by Harrison (2000) was used for measuring and calculating exposure to sexually objectifying television and magazines. This procedure has three steps. First, participants reported their habitual exposure to popular television shows and magazines. Second, a separate, impartial sample of "judges" (not research participants) rated each show and magazine according to how sexually objectifying they perceived them to be. Third, the mean ratings supplied by the judges were multiplied by participants' frequency-of-viewing scores for each show or magazine, and these cross products were averaged. The resulting variables reflect both frequency of viewing and extremity of sexual objectification in the shows and magazines.

Frequency of viewing (0 = *never*; 5 = *always*) was measured for 77 popular and current television shows and 61 popular and current magazines. A separate questionnaire was given to 13 judges who were enrolled in an upper-level undergraduate seminar on mass communication. In the seminar, the judges learned about objectification theory and ways to conceptualize and operationalize sexual objectification, but they were not briefed on the specific goals of the current study. Reflecting the gender composition of the seminar, all but one of the judges was female. The gender breakdown was not ideal because it does not rule out the possibility that women assess sexual objectification differently from men. However, because the judges were specifically trained on how to detect sexual objectification from the standpoint of objectification theory, any differences in their judgments that were inherent to their gender were hopefully minimized.

The judges rated each show and magazine on an 11-point scale for how often sexual objectification occurred (0 = *never*; 10 = *all the time*). If the judges had never seen or had difficulty assessing the show or magazine, they marked a box designated "never seen or don't know." Only shows and magazines that had relatively definite sexual objectification ratings were included in the final measure. To that end, shows and magazines with widely varying ratings were eliminated, and only shows and magazines that had five or more judges (out of a possible 13) rating them were included in the final measure. Given these criteria, only 26 magazines and 26 programs were used in the final measure.[1]

The resulting variables were fairly stable across the two waves. For television, the Time 1 and Time 2 measures were correlated at .51 ($p < .001$) for women and .60 ($p < .001$) for men. For magazines, the Time 1 and Time 2 measures were correlated at .52 ($p < .001$) for women and .43 ($p < .001$) for men.

Trait self-objectification

The Trait Self-Objectification Questionnaire (Noll & Fredrickson, 1998) asked individuals to rank body attributes in order of how important they were to their physical self-concept. Ten items were included; five were appearance based (physical

attractiveness, weight, sex appeal, measurements, and muscle tone), and the other five were competence based (muscular strength, physical coordination, stamina, health, and physical fitness). Scores were computed by summing the ranks for the appearance and competence attributes separately, and then computing a difference score. The scores ranged from +25 (highest rating of self-objectification) to −25 (lowest rating of self-objectification). For women, the Time 1 and Time 2 measures of trait self-objectification (trait SO) were highly correlated at .62 ($p < .001$), but for men, the Time 1 and Time 2 measures were only correlated at .22 ($p = .08$). Thus, it appears that for women, trait SO was highly stable between waves, but for men, trait SO might be susceptible to situational factors and not best measured as a trait.

Body surveillance

A symptom of self-objectification is body monitoring (Fredrickson & Roberts, 1997). Conceptually, body surveillance and trait SO are similar in that they both tap a concern about appearance. However, it makes sense to think of body surveillance as a cognitive (e.g., thinking and worrying about appearance) and behavioral (e.g., primping) outcome of trait SO. For this reason, trait SO and body surveillance were assumed to measure similar yet nonequivalent constructs. In support of this assumption, trait SO and body surveillance were correlated at .28 ($p < .001$) in Wave 1, and at .42 ($p < .001$) in Wave 2.

Body surveillance was measured with the Surveillance Sub-Scale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996). The scale comprised eight items (e.g., "During the day, I think about how I look many times"). Participants indicated their agreement on a 5-point scale (0 = *strongly disagree*; 4 = *strongly agree*). Cronbach's alpha for Wave 1 was .61 for women and .64 for men, and the alpha for Wave 2 was .83 for women and .81 for men. Again, the stability of the measures was quite different by gender. This time, however, Time 1 and Time 2 measures of body surveillance were more highly correlated for men ($r = .56$, $p < .001$) than for women ($r = .31$, $p < .001$).

Sociocultural attitudes about appearance

The Internalization Sub-Scale of the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ, Heinberg, Thompson, & Stormer, 1995) was used to measure internalization of sociocultural beliefs of attractiveness. The items assessed the extent to which participants accept the body ideals portrayed in the media (e.g., "I tend to compare my body to TV and movie stars"). Cronbach's alpha during Wave 1 was .82 for both men and women, and .85 for women and .76 for men in Wave 2. The Wave 1 and Wave 2 measures were correlated at .66 ($p < .001$) for women and .55 ($p < .001$) for men.

Global self-esteem

For the Rosenberg Self-Esteem Scale (Rosenberg, 1965), participants were asked to indicate their level of agreement with nine items (e.g., "I feel that I have a number of

good qualities"), using a 4-point scale (1 = *strongly disagree*; 4 = *strongly agree*). The Wave 1 Cronbach's alpha for women was .88 and .80 for men; in Wave 2, it was .86 for women and .88 for men. The Wave 1 and Wave 2 correlation was .66 ($p < .001$) for women and .55 ($p < .001$) for men.

Other demographic variables

Several other control variables were measured, including BMI (weight in kg/height in m^2), age (in years), race,[2] and parental education (1 = *less than high school* to 6 = *graduate degree completed*).

Results

Table 1 reports the summary statistics for the primary predictor and criterion variables. Differences by gender were evident. Women reported more exposure to sexually objectifying television and more exposure to sexually objectifying magazines than men. In addition, as expected, women reported more self-objectification and more body surveillance than men. This gender difference is in support of objectification theory's contention that women are more self-conscious of their bodies than men (Fredrickson & Roberts, 1997).

Correlations of sexually objectifying media exposure with trait SO and body surveillance

The zero-order correlations between the Time 1 predictor variables and Time 2 criterion variables were examined for women and men separately. The results are shown in Table 2.

Exposure to sexually objectifying television at Time 1 was significantly correlated with trait SO at Time 2 for women. Although the strength of the correlation did not substantively differ between men and women, the correlation did not reach significance for men, due to the smaller sample size of male participants. Moreover, Time 1 exposure to sexually objectifying magazines was *not* significantly correlated with Time 2 trait SO for men or women.

Sexually objectifying media exposure (both television and magazines) was more strongly correlated with body surveillance for men than for women. For men, the correlation between Time 1 exposure to sexually objectifying television and Time 2 body surveillance was positive and highly significant, whereas it was only marginally significant for women. Similarly, Time 1 exposure to sexually objectifying magazines was correlated with Time 2 body surveillance for men, but not at all correlated with body surveillance for women.

Path models between exposure to sexually objectifying media and trait SO, body surveillance

To further investigate the relations between the main variables, the data were analyzed using cross-lagged path analyses with the Analysis of Moment Structures

program (AMOS). First, the question of gender was addressed. The zero-order correlations suggested that there was not a substantive gender difference for the correlations involving trait SO, but there was a considerable gender difference in the correlations involving body surveillance. Thus, it appears that the model between exposure to sexually objectifying television and trait SO should be run for all participants, whereas the model between exposure to sexually objectifying media (television and magazines) and body surveillance should be run separately by gender.

To confirm this reasoning, gender differences were checked by first running an "unconstrained" path model in which the cross-lagged parameters between exposure to sexually objectifying television and trait SO were allowed to differ for male and female participants (Byrne, 2001). This model was compared to a "constrained" model, in which the cross-lagged parameters were constrained to be equivalent for male and female participants. As expected, the fit of the model that constrained the cross-lagged parameters versus the constrained model did not significantly differ, $\chi^2_{\text{difference}}(2) = .96$, $p = .62$, suggesting that the paths of interest did *not* differ by gender.[3] Thus, in order to best represent the results of the path model investigating the relations between exposure to sexually objectifying television and trait SO,

Table 1 Descriptive Statistics of Predictor and Criterion Variables, by Gender

	Females		Males		*t*
	M (*SD*)	Range	*M* (*SD*)	Range	
Time 1 exposure to sexually objectifying television	7.94 (3.77)	0 to 21.04	6.43 (3.25)	0 to 14.43	3.04**
Time 2 exposure to sexually objectifying television	6.91 (4.16)	0 to 41.13	4.49 (2.62)	.29 to 10.86	4.58***
Time 1 exposure to sexually objectifying magazines	5.85 (4.50)	0 to 42.48	3.49 (2.66)	0 to 12.73	4.20***
Time 2 exposure to sexually objectifying magazines	5.45 (4.49)	0 to 42.48	3.10 (2.57)	0 to 14.74	4.22***
Time 1 trait self objectification	1.73 (11.63)	−25.00 to 25.00	−3.19 (11.78)	−25.00 to 25.00	2.72**
Time 2 trait self objectification	1.75 (12.23)	−25.00 to 25.00	−2.47 (12.64)	−25.00 to 25.00	2.38*
Time 1 body surveillance	2.68 (.54)	.88 to 3.88	2.37 (.69)	.88 to 3.75	3.72***
Time 2 body surveillance	2.62 (.74)	.13 to 4.00	2.12 (.69)	.63 to 3.50	4.95***

Note: T statistic based on independent sample *t* test.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2 Correlations Between Predictor and Criterion Variables

	1	2	3	4	5	6	7	8
Female Participants								
1. Time 1 exposure to sexually objectifying television	1.00							
2. Time 2 exposure to sexually objectifying television	.45***	1.00						
3. Time 1 exposure to sexually objectifying magazines	.57***	.33***	1.00					
4. Time 2 exposure to sexually objectifying magazines	.26**	.74***	.52***	1.00				
5. Time 1 trait self-objectification	.09	−.13	−.01	−.10	1.00			
6. Time 2 trait self-objectification	.19*	.01	.05	.02	.62***	1.00		
7. Time 1 body surveillance	.08	.03	.00	.04	.30***	.21*	1.00	
8. Time 2 body surveillance	.14†	.07	.04	.10	.52***	.38***	.31***	1.00
Male Participants								
1. Time 1 exposure to sexually objectifying television	1.00							
2. Time 2 exposure to sexually objectifying television	.60***	1.00						
3. Time 1 exposure to sexually objectifying magazines	.41***	.21†	1.00					
4. Time 2 exposure to sexually objectifying magazines	.35**	.43***	.43***	1.00				
5. Time 1 trait self-objectification	.11	−.08	.10	−.14	1.00			
6. Time 2 trait self-objectification	.16	.11	.09	.14	.22†	1.00		
7. Time 1 body surveillance	.18	.17	.14	.24*	.18	.26*	1.00	
8. Time 2 body surveillance	.39**	.31**	.31**	.30**	.39**	.45***	.56***	1.00

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

a two-group path model was run, in which the cross-lagged paths between the predictor and criterion were constrained to be equal between men and women, and all other paths in the model were unconstrained. The results are presented in Figure 1.

For both men and women, the path coefficient between Time 1 exposure to sexually objectifying television and Time 2 trait SO was positive and significant, suggesting that exposure to sexually objectifying television in the first wave of the study predicted an *increase* in trait SO in the second wave of the study. The corresponding coefficient between trait SO at Time 1 and exposure to sexually objectifying television at Time 2 was statistically significant and *negative*, suggesting that trait SO at Time 1 predicted a *decrease* in exposure to sexually objectifying television at Time 2. One plausible explanation for this negative effect is that individuals who exhibit a high trait level of self-objectification attempt to *avoid* sexually objectifying television. One might think of this as "selective avoidance" of potentially damaging television content.

In examining the gender differences in the model between exposure to sexually objectifying television and body surveillance, χ^2 difference tests comparing the

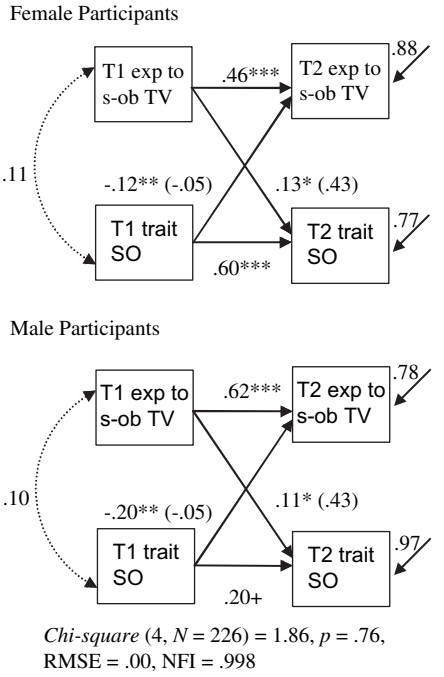

Figure 1 Path models predicting direct effects between exposure to sexually objectifying television and trait self-objectification (two-group model constraining cross-lagged paths between males and females).

The unstandardized path coefficients are shown in parentheses. Exp to s-ob TV = exposure to sexually objectifying television; trait SO = trait self-objectification. † $p < .10$. * $p < .05$. ** $p < .001$.

unconstrained model versus the constrained model were again examined. This time, the results suggested that separate models for males and females were needed, $\chi^2_{\text{difference}}(7) = 38.85$, $p < .001$.[4] For women, exposure to sexually objectifying television at Time 1 was not related to body surveillance at Time 2, nor did Time 1 body surveillance predict exposure to sexually objectifying television at Time 2. However, for men, the path between Time 1 exposure to sexually objectifying television and Time 2 body surveillance was positive and significant, suggesting that early exposure to sexually objectifying television predicted an increase in later body surveillance. The models are shown in Figure 2.

The χ^2 difference test suggested that the path model relating exposure to sexually objectifying magazines to body surveillance also should be examined separately for men and women, $\chi^2_{\text{difference}}(7) = 35.83$, $p < .001$. Because the correlations showed that women's exposure to sexually objectifying magazines was

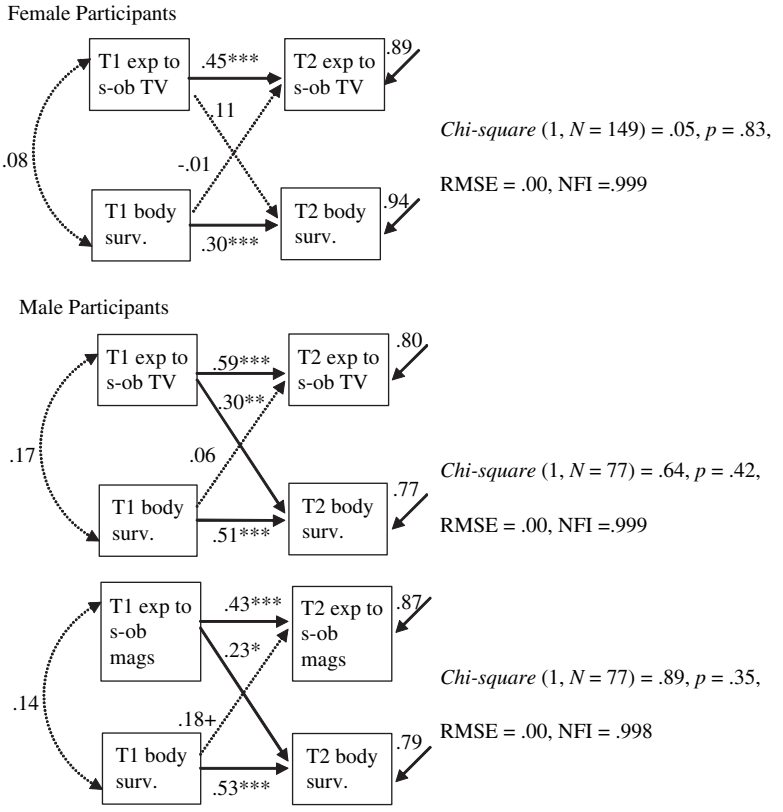

Figure 2 Path models predicting direct effects between exposure to sexually objectifying media and body surveillance.

Path coefficients are standardized estimates. Exp to s-ob TV = exposure to sexually objectifying television; exp to s-ob mags = exposure to sexually objectifying magazines; body surv. = body surveillance. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

not related to body surveillance, the path model was run for men only and is presented in Figure 2. Time 1 exposure to sexually objectifying magazines predicted an increase in Time 2 body surveillance for men. In addition, the corresponding path coefficient between Time 1 body surveillance and Time 2 exposure to sexually objectifying magazines was positive and marginally significant. Men's exposure to sexually objectifying magazines predicted an increase in body surveillance, and body surveillance also predicted an increase in exposure to sexually objectifying magazines at a marginal level of significance.

Controlling for key "third" variables

Although the models show some significant longitudinal relations between the predictor and criterion variables, they leave open the question as to whether the results might be due to some "third" variable that is related to both. To test for this possibility, the structural models were recomputed, controlling for possible other influences on trait SO and body surveillance.

Each control variable was introduced into the structural equation models shown in Figures 1 and 2, with paths of influence leading to all variables.

Controlling for two "self"-related variables (SATAQ and global self-esteem) and four demographic variables (BMI, parents' education, race, and age) did not diminish the path from early TV viewing to later trait SO for men or women, as the significant z values in Table 3 indicate. Although some of the paths between the control variables and the predictor and criterion variables were substantive, they did not account for the cross-lagged longitudinal relations. For example, the path coefficient from Time 1 SATAQ to Time 2 trait SO was .12 ($p = .09$) for women and .20 ($p = .08$) for men. However, these relationships did not substantively reduce the path from Time 1 exposure to sexually objectifying television and Time 2 trait SO (from .13 to .12 for women and from .11 to .10 for men). In addition, the corresponding paths between Time 1 trait SO and Time 2 exposure to sexually objectifying television were not substantively altered by the introduction of the self or demographic variables.

The procedure of entering in the control variables was replicated for the models in Figure 2, and the results are also presented in Table 3. All path coefficients predicting Time 1 exposure to sexually objectifying television to Time 2 body surveillance remained statistically significant after controlling for the self and demographic variables. Likewise, the introduction of the control variables did not substantively alter the relationship between Time 1 exposure to sexually objectifying magazines and Time 2 body surveillance in all cases, with one exception. The exception occurred when SATAQ was introduced; the strength of the coefficient was reduced from .23 to .16, a large enough change to reduce the coefficient to marginal significance ($p = .09$). Overall, though, the major implication of these models is that the longitudinal relations were largely unaltered by the introduction of the control variables.

Table 3 Structural Models' Cross-Lagged Path Coefficients After Controlling for Self and Demographic Variables

	Time 1 Exposure to Sexually Objectifying Television → Time 2 Trait Self-Objectification			Time 1 Trait Self-Objectification →Time 2 Exposure to Sexually Objectifying Television		
	Original	Control	*z*	Original	Control	*z*
SATAQ						
Females	.13	.12	2.06*	−.12	−.14	−2.79**
Males	.11	.10	2.06*	−.20	−.21	−2.79**
Global SE						
Females	.13	.13	2.27*	−.12	−.11	−2.35*
Males	.11	.11	2.27*	−.20	−.18	−2.35*
BMI						
Females	.13	.13	2.10*	−.12	−.14	−2.76**
Males	.11	.10	2.10*	−.20	−.21	−2.76**
Parents' education						
Females	.13	.14	2.32*	−.12	−.12	−2.61**
Males	.11	.11	2.32*	−.20	−.19	−2.61**
Race						
Females	.13	.10	1.75†	−.12	−.12	−2.62**
Males	.11	.08	1.75†	−.20	−.19	−2.62**
Age						
Females	.13	.14	2.49*	−.12	−.12	−2.49*
Males	.11	.11	2.34*	−.20	−.19	−2.49*

(continued)

Table 3 *Continued*

Males Only	Time 1 Exposure to Sexually Objectifying Television → Time 2 Body Surveillance			Time 1 Body Surveillance → Time 2 Exposure to Sexually Objectifying Television		
	Original	Control	*z*	Original	Control	*z*
SATAQ	.30	.25	2.87**	.06	.02	.18
Global SE	.30	.30	3.23**	.06	.06	.60
BMI	.30	.30	3.27**	.06	.06	.66
Parents' education	.30	.30	3.28**	.06	.07	.78
Race	.30	.28	3.13**	.06	.06	.65
Age	.30	.31	3.33**	.06	.06	.64
Males Only	Time 1 Exposure to Sexually Objectifying Magazines → Time 2 Body Surveillance			Time 1 Body Surveillance → Time 2 Exposure to Sexually Objectifying Magazines		
	Original	Control	*z*	Original	Control	*z*
SATAQ	.23	.16	1.70†	.18	.19	1.70†
Global SE	.23	.25	2.68**	.18	.18	1.74†
BMI	.23	.23	2.40*	.18	.18	1.82†
Parents' education	.23	.24	2.54*	.18	.19	1.92†
Race	.23	.24	2.57*	.18	.19	1.87†
Age	.23	.24	2.55*	.18	.19	1.83†

Note: The *z* statistic tests the significance of the control coefficients. SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire; Global SE = Global self-esteem; BMI = body mass index.
† $p < .10$. * $p < .05$. ** $p < .01$.

Journal of Communication **56** (2006) 366–386 © 2006 International Communication Association

Discussion

As expected, exposure to sexually objectifying television during Year 1 predicted an increase in trait SO during Year 2 for both women and men. Surprisingly, exposure to sexually objectifying television predicted an increase in body surveillance for men only. In addition, trait SO predicted an avoidance of sexually objectifying television for both men and women. Sexually objectifying magazine exposure, on the other hand, predicted an increase in body surveillance for men only, and, at a level approaching significance, body surveillance also predicted an increase in exposure to sexually objectifying magazines for men.

A benefit of a longitudinal approach is that it offers some credibility in interpreting temporal order in the relationships. Still, although critical self and demographic variables were controlled, it is possible these variables did not account for all alternative hypotheses. Thus, the results of this study can be interpreted as suggestive of a causal connection, but a firm conclusion on causality awaits further research.

A main finding is that exposure to sexually objectifying television shows was associated with an increase in viewers' definitions of their physical selves in terms of externally perceivable traits (i.e., how the body appears) rather than internal traits (i.e., what it can do). One explanation for this process is that exposure to televised objectification cultivates a particular view of the self, a view that emphasizes the importance of physical appearance. Another way of thinking about this process is to think of exposure to sexually objectifying television as activating self-objectification in the short term, much like what one would expect from a priming process (e.g., Bargh, Chen, & Burrows, 1996). Although priming is generally conceived to be a short-term effect, one must consider the television diet of a typical college student. An average daily dose of television might include reality television programs, soap operas, talk shows, music videos, and, of course, lots of advertising. Throughout this viewing, an individual might be exposed to objectification "dozens if not hundreds of times" (Harrison & Fredrickson, 2003, p. 229). Thus, the most important question in judging the media's influence on self-objectification is not how long a media-induced state of self-objectification lasts, but how frequently it is induced (Harrison & Fredrickson, 2003). If exposure to sexual objectification in television *continuously* activates self-objectification, then the overall picture of a college student's life is chronic, trait-like self-objectification.

However, the results of this study suggest that exposure to televised objectification does not necessarily translate to a *sea change* in audiences' perceptions of the self. Rather, the results have much in common with the results of other cultivation studies; the measurable effects are modest but should not be dismissed as theoretically insignificant (Gerbner et al., 1994). After all, "it takes but a few degrees shift in the average temperature to have an ice age or global warming" (p. 26). Similarly, it takes only a bit of self-objectification for a person's view of his or her body to be fundamentally different from a person who does not chronically self-objectify (Fredrickson & Roberts, 1997).

A surprising finding in this study was the lack of a gender difference in this relationship. This is consistent with experimental evidence that has shown that self-objectification can be primed in both men and women (Fredrickson et al., 1998; Roberts & Gettman, 2004); thus, this study adds that the long-term influence of media on self-objectification might also applicable to both men and women. While Fredrickson and Roberts (1997) argue that objectification theory is about the lived experience of women, the theory emphasizes the consequences of self-objectification and does not focus on explicating the origins of self-objectification. This study suggests that there is relative gender equity in the media's ability to cultivate self-objectification.

In fact, judging that exposure to sexually objectifying television and magazines at Year 1 increased body surveillance at Year 2 for men but not for women, one might conclude that the media's ability to increase body surveillance was *stronger* for men than for women. One possible explanation for this surprising gender difference is that for women, body monitoring is normative and thus not as susceptible to influence by media exposure as it is for men. Indeed, because body monitoring activities are considered deeply socialized components of femininity (McKinley & Hyde, 1996), it might be more influenced by interpersonal sources, such as friends, family, and significant others.

Although exposure to sexually objectifying television enhanced trait SO for both men and women, the stronger effect of media exposure for men was on body surveillance. In addition, trait SO was a more stable construct for women, whereas body surveillance was a more stable construct for men. Overall, then, one might conclude that trait SO was a more relevant construct for women than for men, whereas body surveillance was a more relevant construct for men than for women. Further consideration of the conceptual differences between body surveillance and trait SO helps to better understand these gender differences. First, body surveillance basically taps a concern over how one appears to others. In contrast, trait SO measures a deeply *internalized definition* of the self. A second conceptual difference between trait SO and body surveillance is that trait SO measures an implicit trade-off between appearance and body competence, whereas body surveillance explicitly measures the trade-off between appearance and comfort. Thus, the trade-off implied by body surveillance is less serious because it does not compromise the body's well-being, such as the case when participants choose appearance over body competence. Based on these differences between trait SO and body surveillance, it appears that for women, the internalized message is the possibly more serious and more damaging "you are your body." For men, the message appears to be the less serious need to adhere to a certain appearance standard that will yield positive evaluations by others.

Some provocative results were found for the impact of trait SO on participants' viewing of sexually objectifying television. Trait SO during Year 1 predicted avoidance to sexually objectifying television during Year 2, at the same time that exposure to sexually objectifying television during Year 1 increased trait SO during Year 2.

How do these two relationships complement each other? One plausible explanation is that individuals who exhibit a high level of trait SO attempt to avoid sexually objectifying television. One might think of this as selective avoidance of potentially damaging television content. However, sexually objectifying programs on television are rather prevalent and popular, especially among young audiences (e.g., Collins, 1998); thus, despite the attempt to avoid sexually objectifying television, inevitable exposure to programs high in sexual objectification might still have the effect of increasing trait SO.

In addition to the selective avoidance effect, body surveillance during Year 1 increased exposure to sexually objectifying magazines during Year 2 (at a level approaching significance) for men. This finding is akin to arguing that violent media causes aggression, but also aggressive individuals seek violent media. These relationships can be regarded as complementary. In this case, men who are concerned about their appearance are drawn to sexually objectifying magazines.

Limitations and future directions

Participants were recruited on a volunteer basis. Strictly speaking, then, this study's sample cannot be extrapolated to a larger population. Moreover, the attrition of women was less than the attrition of men. It is possible that some of the men who participated in the first wave did not want to participate in the second wave because by then, they knew what kinds of questions were on the questionnaire and were not interested in responding to what they might have considered de facto "women's issues." In addition, given that women in general score higher on measures of altruism than men (Phares, 1984), it is possible that the female participants were more amenable to "helping out" the researcher. Although unequal attrition is not ideal, it should be noted that besides gender, the participants who stayed in the study for both waves and the dropouts did not differ significantly on any of the measured variables.

A limitation of the measures of exposure to sexually objectifying media is that the judges who evaluated the degree of sexual objectification in the television programs and magazines were almost exclusively women, a consequence of the upper-level mass communication seminar, in which the judges trained to detect sexual objectification were almost exclusively women. It is possible that if an almost exclusively male sample of judges evaluated the content, the results would be substantively different. Despite this limitation, it is still argued that this trained group of mostly women was more desirable than a gender-balanced group of novice judges. Sexual objectification can have multiple conceptual or operational meanings; these differences in definitions were hopefully minimized by training judges on what to look for.

Another limitation of this measure is that it did not allow inferences about what specific characteristics of the media enhance self-objectification; this is a topic for future research. Also, it did not distinguish between the person who consumes a lot of moderately sexually objectifying media from the person who consumes a little of highly sexually objectifying media.

A future avenue of research could include a closer examination of how the media affect self-objectification for men. For example, this study did not delineate a difference between media that objectified women's bodies and media that objectified men's bodies. One possibility is that objectification of men's bodies is so rare that men are especially sensitized to these images. For men, there might be a "drench" effect, whereby even a small dose of objectification of men's bodies has a relatively large effect (Greenberg, 1988). In contrast, there might be a cumulative, "drip, drip" effect for women because they are constantly inundated with objectified females in the media.

Notes

1 A complete list of the shows and magazines, with their corresponding ratings, is available from the author.

2 Race was coded as a dummy variable, one category for European Americans and the other category for non–European Americans.

3 First, a model in which all parameters were allowed to differ for male and female participants was compared to a model in which all parameters were constrained to be equal for male and female participants (Byrne, 2001). The χ^2 difference test was significant, $\chi^2_{\text{difference}}(7) = 43.52$, $p < .001$, but the results of this test were misleading because the *only* difference between the models was the stability coefficient for trait SO. More importantly, there was no difference in the cross-lagged path coefficients. Thus, in a subsequent test, only the cross-lagged paths were constrained to be equal for men and women. The fit of this "semi"-constrained model versus the unconstrained model did not differ, $\chi^2_{\text{difference}}(2) = .96$, $p = .62$, suggesting that the specific paths of interest to the hypothesis did *not* differ by gender.

4 A model in which all parameters were allowed to differ for male and female participants was compared to a model in which all parameters were constrained to be equal for male and female participants (Byrne, 2001). The χ^2 difference test was significant, $\chi^2_{\text{difference}}(7) = 38.85$, $p < .001$, and the cross-lagged path coefficients were substantively different for men and women.

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