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Assessing the Influence of Gender and Sexual Self-Schema on Affective Responses to Sexual Content in Advertising

Tom Reichert, Michael S. LaTour, and JooYoung Kim

This investigation contributes to work on emotion-based advertising by testing responses to three types of sexual stimuli in commercials: ads featuring women, men, or both women and men. As expected, affective and attitudinal responses were most favorable to opposite-sex stimuli, followed by mixed-sex stimuli, with same-sex imagery evaluated least favorably. In addition, the relationship between Sexual Self-Schema (SSS) and emotional response revealed that SSS significantly predicted females' affective reactions to commercials featuring opposite sex models and couples, but not same-sex models. For male viewers, only a marginal link existed between SSS and affect in response to female models. The findings provide evidence that both gender and predispositions to sexual stimuli should be considered when assessing emotional reactions to sex in advertising.

Introduction

Researchers and practitioners are increasingly interested in the role of emotion in advertising. For example, recent trade-book titles include *Passion Branding* and *Emotional Branding*, and the Advertising Research Foundation and the AAAA jointly sponsored research to better understand the role of emotion in advertising effectiveness. Given this emphasis, more needs to be known about advertising appeals that are specifically designed to evoke emotion such as humor, fear, and sex, as well as individuals' predispositions that can influence their reactions to these types of appeals.

The current study seeks to extend previous sex in advertising research by examining how gender and predispositions influence emotional reactions—and subsequent ad-related outcomes—to different types of sexual stimuli. Female and male Sexual Self-Schema (SSS) are introduced as comprehensive and unobtrusive sex-related personality variables (Andersen and

Cyranowski 1994; Anderson, Cyranowski, and Espindle 1999). The effects of SSS and gender are assessed in response to 11 television commercials containing sexually suggestive stimuli involving women, men or both sexes. The present investigation not only provides the most comprehensive test to date of gender responses to sexual content in commercials, but it goes beyond gender to assess the influence of a sex-related personality variable on affective responses to sex in advertising.

Literature Review

Sex in Advertising

As it pertains to consumer products, sex in advertising has been defined as brand messages that contain visual and/or textual sexual information (Reichert, Heckler, and Jackson 2001). Far from simply being a controversial topic, sex in advertising is worthy of consideration because of its pervasiveness and its ability to build value for a variety of brands. In magazine advertising, for instance, the proportion of sexualized women rose from less than one-third in 1964 to one-half in 2003 (Reichert and Carpenter 2004; Soley and Reid 1988; see also Nelson and Paek 2005). In prime-time network commercials, up to 18% of actors dress or behave provocatively (Lin 1998), and sexual content is considerably higher in advertising

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on Spanish-language networks (Fullerton and Kendrick 2001), in network promos (Walker 2000), and in ads on mainstream websites (Ramirez 2006).

Sex in advertising is strategically used several ways. Certainly, many advertisers use sex to attract attention to their brands (MacInnis, Moorman, and Jaworski 1991). But assuming that awareness is the only goal excludes other fundamental functions of advertising such as enhancing favorability to the ad, communicating utility, creating identification with consumers, and branding and positioning (Gould 2003; Reichert 2007). For example, marketers such as Victoria's Secret, Calvin Klein, and Abercrombie & Fitch clearly seek to cultivate and maintain sexual brand identities (Keller 1993; Park, Jaworski, and MacInnis 1986), often with profitable long-term results (Bryant and Arora 1999; Rice 2000).

Effects of Sex in Advertising. A central question among advertising researchers is if sex in advertising achieves the outcomes its users intend. There is agreement about the effects of sexual information on advertising processing (for review, see Belch, Belch, and Villarreal 1987; Percy and Rossiter 1992; Reichert 2002). For instance, ads with sexual themes attract attention to, and interest in, the ad, but typically fail to offer any brand-information processing advantage. For example, findings are such that consumers' processing resources are usually directed toward the sexual image, resulting in reduced recall for brand information (Grazer and Keesling 1995; Judd and Alexander 1983; Steadman 1969).

More pertinent to the present research, emotional responses to sex have been found to influence consumers' evaluations of the ad and the brand (Belch, Holgerson, Belch, and Koppman 1981; Huang 2004; LaTour 1990; LaTour and Henthorne 1993; LaTour and Henthorne 2003). Work in sexology and social psychology has consistently shown that sexual information evokes emotional responses characterized by valence (or pleasure) and arousal (Byrne 1977, 1982; Fisher 1986; Lang, Greenwald, Bradley and Hamm 1993; Zillmann 1991). Whereas genital arousal is a typical outcome of exposure to sexually explicit materials such as pornography, simple physiological arousal (e.g., pupil dilation, perspiration) characterizes the extent of emotional responses to sexual information in mainstream advertising.

As previously mentioned, LaTour (1990; LaTour, Pitts, and Snook-Luther 1990) utilized Thayer's model of arousal to investigate three levels of female nudity for a fragrance on ad and brand evaluations. In those investigations, arousal proved to be a key mediator of ad response. In particular, energized arousal—arousal that generates positive valence—proved to be the key

“driver” of positive attitudinal response (LaTour 1990; LaTour et al. 1990). Specifically, males experienced more general activation (positively valenced arousal) as female nudity increased, whereas females experienced tension activation (negatively valenced arousal). In addition, the valence of the arousal predicted attitudes-toward-the-ad (Aad). For example, stimulation of general activation (positive arousal) led to more favorable Aad. Similarly, Huang (2004) reported that the influence of arousal on Aad was enhanced as sexual explicitness in print ads became more pronounced.

Other than these studies by LaTour and Huang, there has been very little research on sex and emotional responses to advertising. LaTour's work was competently conducted, but one must be wary of making broad generalizations based on responses to three versions of a perfume print ad; Huang's investigation compared four fragrance print ads. Such research can provide an initial step, but expanding the operationalization of sexual stimuli beyond female nudity to represent other forms of sexual information such as sexual behavior and male nudity can contribute to the robust generalizations sought in advertising effects research.

Gender Differences. As LaTour's research also indicated, sex of respondent proves to be an important determinant of evaluations to sex in advertising. A consistent finding is that both females and males evaluate depictions of the opposite sex more favorably (Belch et al. 1981; Jones, Stanaland, and Gelb 1998; Judd and Alexander 1983; LaTour 1990; Simpson, Horton, and Brown 1996). In addition, evaluations of the opposite/same sex are usually reflected in evaluations of the ad and brand. Although respondents evaluate the opposite sex more favorably, it appears that females evaluate same-sex images more favorably than do males (Dudley 1999). When both sexes are depicted (e.g., heterosexual couples engaged in sexual behavior), evidence suggests that female and male participants respond similarly (Reichert et al. 2001; Severn et al. 1990). In sum, work in this area must consider both sex of respondent and sex of the model(s).

Bringing together these disparate findings regarding sex of the respondent and sex of the model leads to a pair of predictions that can be comprehensively tested in one study. Given the pattern of previous results, the following hypotheses pertaining to the effects of respondent and model gender on affective responses and Aad are set forth:

- H1: Viewers of opposite-sex stimuli in sexually oriented commercials will show more positive affective responses to the ad than viewers of same-sex stimuli.

H2: Viewers of opposite-sex stimuli in sexually oriented commercials will evaluate the ad more favorably (Aad) than viewers of same-sex stimuli.

The expectations are not as clear, however, with regard to mixed-sex sexual content in advertising. Although, as noted, two previous studies reported no sex differences to ads containing images of heterosexual couples engaged in sexual behavior, those differences were not explicitly tested. For that reason, the following research question is set forth:

R: Do females and males differ in their affective and attitudinal responses to mixed-sex stimuli in sexually oriented commercials?

Sex and Personality Differences

A second area that can strengthen understanding of responses to sex in advertising is in the area of personality differences and sexuality research. Researchers have sought to understand and describe the sources of variation in human sexuality since pioneering work by Sigmund Freud and Carl Jung. According to Byrne and Schulte (1990), "people differ dramatically in their emotional, cognitive, and behavioral responses to a wide array of sexual cues" (p. 93). Not surprisingly, social and clinical psychologists have developed a fairly extensive body of work that identifies and measures individual differences that moderate approach and avoidance responses to sexual materials, behavior and situations (Andersen and Cyranowski 1994; Bogaert 2001; Fisher, Byrne, White, and Kelley 1988; Janssen, Vorst, Finn, and Bancroft 2002; Mosher 1966).

Behavioral differences have been captured with a variety of indicators such as the Sexual Experience Scale (Derogatis and Melisaratos 1979), which assesses the range of lifetime and current sexual activities engaged in (e.g., sexual partners, one-night stands). Sexual response indicators, with their roots in clinical and medical areas of sex research, measure biological responses to sexual stimuli, and can be measured physiologically (e.g., tumescence) or through self-report with inventories such as the Sexual Excitation Scale (Janssen et al. 2002; see also Hoon, Hoon, and Wincze 1976). Affective and evaluative approaches represent yet a third avenue for differentiating individuals with regard to tendencies toward sexual information. Affective reactions are usually measured on bipolar dimensions (e.g., sexual anxiety) that align individuals on a continuum from sex-positive at one end and sex-negative at the other end.

Researchers have recently employed two affective variables to examine responses to print ads and PSAs.

In one study, erotophobia/erotophilia—a person's learned disposition to respond to sexual cues along a negative-positive dimension of affect and evaluation (Fisher et al. 1988)—was found to influence affective reactions to a condom ad. Specifically, Helweg-Larsen and Howell (2002) reported that erotophilics evaluated a condom-use PSA more favorably than erotophobic, although no persuasion difference existed between groups. Similarly, Alden and Crowley (1995) found a link between sex guilt and responses to print ads for condoms. Sex guilt indicates the degree to which a person experiences guilt (negative feelings) when thinking and/or behaving sexually (Mosher 1966). Not surprisingly, individuals exhibiting high sex guilt found the condom ad less informative, reported more negative attitudes toward the ad, and held more negative attitudes toward the brand. In another advertising study that tested print ads containing male and female nudity, low sex guilt respondents experienced more favorable affective reactions to sexual ads than did high sex guilt respondents (Smith et al. 1995). Together, these studies indicate that sexuality variables can influence affective responses to ads and PSAs.

Aside from representing only a single component of one's sexual nature (i.e., behavior, affect), a challenge with the previously described approaches is the explicitness and/or intrusiveness of the measurement device. For example, a representative item from the Sexual Opinion Survey reads: "Engaging in group sex is an entertaining idea" (Fisher et al. 1988). A persistent criticism, therefore, of most methods of assessing sexual difference is that they contribute to both respondent and responding biases (Weinhardt et al. 1998).

Sexual Self-Schema

Recently developed by Andersen and colleagues (Andersen and Cyranowski 1994; Andersen et al. 1999), Sexual Self-Schema (SSS) was designed to be a parsimonious sexual difference variable without the intrusiveness and bias of related inventories. The concept is gaining momentum as an important sexuality variable in several areas such as health (Reissing et al. 2003), self concept (Wiederman and Hurst 1997), sex-role stereotyping (Sibley and Wilson 2004), and interpersonal relationships (Cyranowski and Andersen 1998).

SSS is a self-report measure of the cognitive view of the self with regard to sexuality. According to Andersen and Cyranowski (1994), sexual schemas "are derived from past experience, manifest in current experience, influential in the processing of sexually relevant social information, and they guide sexual

behavior" (p. 1079). As such, sexual self-views are conceptualized to serve as a point of origin not only for sexual cognition, but for sexual affect, response and behavior. As a result, respondents with positive schemas evaluate sexual behaviors more positively, report higher levels of arousability across sexual experiences, and are more willing to engage in uncommitted sexual relations (e.g., Andersen and Cyranowski 1994). Conversely, respondents with negative sexual self views describe themselves as unromantic, behaviorally inhibited in their sexual and romantic relationships, and conservative in their attitudes regarding sexual matters.

When completing the SSS inventory, participants rate how well they are described by a set of adjective items that load on people's conceptions of a "sexual" woman or man (e.g., loving, self-conscious, conservative, passionate, open-minded; see Appendix). In an initial series of studies for both the female and male versions of the SSS scale, the scales were deemed reliable, supported by convergent validity with established sexuality measures, and demonstrated divergent validity with nonsexual personality concepts (Andersen et al. 1999; Andersen and Cyranowski 1994; Cyranowski and Andersen 1998). Both univariate and bivariate models exist for women, with both indicating that positive- and negative-schematics differ markedly to a variety of sexuality indicators (e.g., arousability, sexual history, sexual anxiety; Andersen and Cyranowski 1994; Cyranowski and Andersen 1998). Sexual men also experience emotions of passion and love, but are more likely to be "powerful and aggressive, and...open-minded and liberal" in their attitudes (Andersen et al. 1999, p. 656). In addition, there is evidence that positively schematic men are more sexually experienced and able to experience higher levels of sexual arousal than their negatively schematic counterparts. Last, the scales were not affected by social desirability or embarrassment, and were not perceived as sexual scales by participants. An obvious advantage of SSS compared to related concepts is the instrument's unobtrusive nature.

There is preliminary evidence that SSS is linked to ad responses. In a formative study that examined female responses to a sexually-oriented fragrance commercial, Reichert and Fosu (2005) reported positive correlations between SSS and Aad and Brand Interest. These findings, coupled with the previously described research that examined personality variables and sex in advertising and PSAs, suggests that SSS will be linked to affective responses and evaluations of sexual ads.

SSS Hypotheses. Connecting SSS and gender to advertising responses should further illuminate why

people respond to sexual ads the way that they do. As previously stated, SSS is highly correlated with related sex-related inventories which have shown the ability to predict affective reactions to ads. Similarly, as the research from sex in advertising demonstrates, sex of respondent and sex of the model(s) should interact to produce stimuli that viewers regard as sexually salient (i.e., opposite-sex models) or not as sexually salient (i.e., same-sex models). As such, sexual schemas should be most meaningful when they are triggered by salient sexual stimuli. Therefore, the following relationships are proposed.

- H3: For females viewing opposite-sex stimuli in sexually oriented commercials, SSS will positively influence affective responses to the ad.
- H4: For females viewing same-sex stimuli in sexually oriented commercials, SSS will have no influence on affective responses to the ad.
- H5: For females viewing mixed-sex stimuli in sexually oriented commercials, SSS will positively influence affective responses to the ad.
- H6: For males viewing opposite-sex stimuli in sexually oriented commercials, SSS will positively influence affective responses to the ad.
- H7: For males viewing same-sex stimuli in sexually oriented commercials, SSS will have no influence on affective responses to the ad.
- H8: For males viewing mixed-sex stimuli in sexually oriented commercials, SSS will positively influence affective responses to the ad.

Method

Respondents

Respondents consisted of 984 female and 654 male undergraduates enrolled in communication courses at a large university ($N=1,638$). Racially, respondents characterized themselves as White (84%), African American (11%), Asian (3%), Native American (1%), and Other (1%). Ages ranged from 17 to 49 years ($M=20.12$).

Procedure

Respondents were tested at various times in group settings. Members of each group were seated together in a large classroom and received extra credit for participation. After obtaining consent, participants were told that they were participating in an advertising study. They began by completing demographic information and the Sexual Self-Schema profile. After ev-

everyone completed the profile, they were shown the first commercial (control) on a large screen. Each person viewed two commercials: one control and one that was sexual. The control ads (five different ads) were professionally produced, 30-second spots containing no sexual content. The control ads were used to disguise the nature of the study and to familiarize participants with the dependent measures. After viewing the control commercial, participants completed the first set of dependent measures. Next, participants were shown one of 11 professionally produced, sexually oriented commercials. After viewing the sexual commercial, respondents completed a similar set of dependent measures and a manipulation check.

Sexual Stimuli. All 11 commercials were judged to contain sexual content ($M=6.14$, $SD=1.25$; *one=not at all, seven=very much*; ranging from 5.46 to 6.66; see Table 1). A sample of actual commercials featuring several types of products was chosen to represent the variety of sexual stimuli in commercially produced advertising. Whereas a few products or product types are exclusively purchased by one sex or the other, in many instances both sexes are likely to purchase—or to influence the purchase of—many mainstream consumer food, fashion, and packaged goods such as the ones tested in the present study. The commercials were grouped into three broad categories based on actor(s) gender, dress, and/or behavior (Reichert 2003; Soley and Reid 1988). Commercials representing the sexually-suggestive female category included ads with female actors dressed in a sexual manner or behaving seductively. Similarly, commercials constituting sexually-suggestive male models featured men with exposed physiques who may also have engaged in sexual behavior. The third category consisted of commercials containing both women and men in sexual situations or engaged in sexual behavior. In the few instances in which both single-model nudity and sexual behavior between actors were present, the dominant form of sexual content was used to categorize the commercial.

Measurement Instruments and Latent Constructs

Sexual Self-Schema. As previously described, SSS assesses generalizations of “sexual” women or men, with separate inventories developed for each gender. Participants rated the degree to which a list of adjectives described them using a seven-point scale ranging from zero=*not at all descriptive of me* to six=*very much descriptive of me*. Both univariate and bivariate models exist for women, with both indicating that positive-

and negative-schematics differ markedly to a variety of sexuality indicators. Because male SSS is a univariate-only model, however, only the female univariate model is reported. The 26 adjectives in the female scale consist of three dimensions—two of them positive (passionate-romantic, open-direct) and one of them negative (embarrassed-conservative). Andersen and Cyranowski (1994) reported an alpha of .82, and test-retest correlations of .89 for two weeks and .88 for nine weeks. Wiederman and Hurst (1997) reported an alpha of .72. Following a reverse coding of the negative items, alpha was .71 in the present study. Mean scores for the three respective female SSS dimensions were used as indicators of female the SSS construct in the model.

The male version of the scale contains 27 items that tap three related dimensions (passionate-loving, powerful-aggressive, open-minded-liberal). Anderson et al. (1999) reported an alpha of .86, and nine-week test-retest of .81. Alpha in two additional studies for the male SSS scale was reported as .75 and .77 (Schover et al. 2002; Sibley and Wilson 2004). Alpha was .84 in the present study. Similar to female SSS, three mean scores for the respective dimensions were used as indicators of the male SSS construct.

Affective Response. Affective response was measured with the Self Assessment Manikin (SAM) scale developed by Bradley and Lang (1994). Respondents indicated how they felt as they viewed each commercial by indicating their pleasure (valence) and arousal (excitement). Responses were on a nine-point scale ranging from a smile (nine) to a frown (one), and from excited (nine) to calm (one). Both items correlate highly with a broad range of arousal and pleasure indicators. For the means comparisons (H1-H2, R), pleasure and arousal were multiplied to create a single item to indicate Affective Response. For the structural equation model (H3-H8), both pleasure and arousal served as items within the Affective Response construct. Coefficient alpha of the two items, pleasure and arousal, was .56.

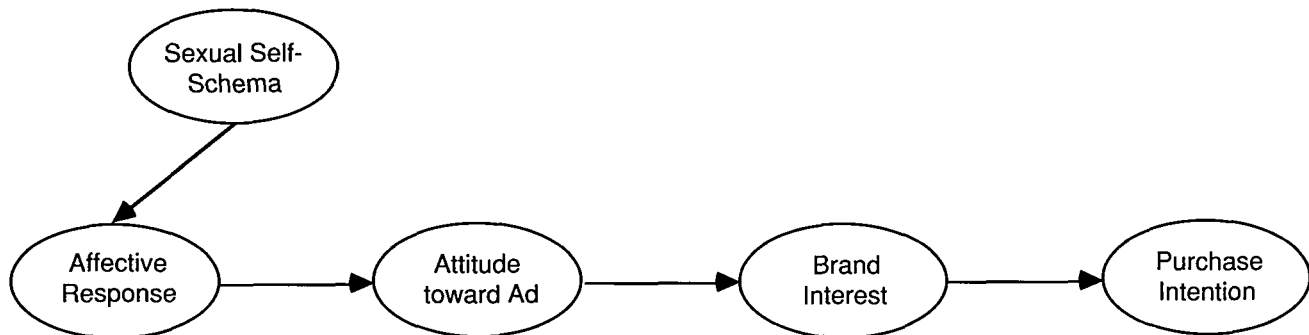
Advertising Response Variables. Aad was measured with five bipolar seven-point adjective items to indicate feelings toward the ad (e.g., good/bad, like/dislike, favorable/unfavorable; Muehling and McCann 1993; $\alpha=.91$). Brand Interest was measured with four items on a seven-point scale (*one=not at all, seven=very much*) that indicated interest in the advertised brand (e.g., “Would you like to know more about the advertised brand?”; $\alpha=.89$; Machleit, Allen, and Madden 1993). Last, Purchase Intention was measured with four items (e.g., “How probable is it that you would purchase the advertised brand?”; *one=not at all, seven=very much*; $\alpha=.95$).

Table 1
Commercials, Sexual Content, Target Audience, Point-of-View, and Sexiness Ratings

Brand	Product	Target	POV	Sexual Content	Sexiness Rating	
					Female (n=984)	Male (n=654)
Sexually-Suggestive Female Model(s)						
MGD	Beer	Male	Male	Partially clad woman. M/F interaction. Physical attractiveness.	6.19 (1.18) (n=80)	6.33 (1.07) (n=75)
Victoria's Secret	Intimates	Female	Female	Partially clad woman. Suggestive female behavior. Physical attractiveness.	6.41 (.98) (n=118)	6.41 (.87) (n=56)
Pepsi	Soft drink	Both	Female	Partially clad woman. Suggestive female behavior. Symbolism.	5.66 (1.64) (n=53)	5.28 (1.66) (n=60)
Sexually-Suggestive Male Model(s)						
Dockers	Slacks	Male/Both	Both	Partially clad man. Physical attractiveness.	5.74 (1.17) (n=74)	5.52 (1.54) (n=48)
Dentyne Ice	Gum	Both	Female	Partially clad man. Physical attractiveness. M/F interaction.	6.45 (1.10) (n=97)	6.20 (.93) (n=80)
Lee	Jeans	Male/Both	Both	Partially clad man. Physical attractiveness. Symbolism.	6.08 (1.20) (n=123)	5.83 (1.20) (n=41)
Sexually-Suggestive Female and Male Models						
Levi's	Jeans	Both	Male	Nude (invisible) woman. Suggestive female behavior. M/F interaction.	6.30 (1.26) (n=94)	5.79 (1.43) (n=81)
Candie's	Fragrance	Both	Both	Partially clad woman and man. M/F interaction. Physical attractiveness.	6.72 (.74) (n=121)	6.55 (.96) (n=58)
Sierra Mist	Soft drink	Male	Male	Suggestively clad female. M/F interaction. Physical attractiveness.	6.33 (1.16) (n=60)	6.26 (.98) (n=61)
Clairol	Shampoo	Female	Female	Female sexual behavior. M/F interaction. Symbolism.	5.89 (1.51) (n=56)	6.00 (1.47) (n=24)
Lever 2000	Soap	Female	Both	Nude woman and man. M/F interaction.	6.24 (1.13) (n=108)	5.63 (1.70) (n=70)
Total					6.24 (1.18)	5.99 (1.33)

Note: Target audience is a subjective judgment based on the product and context of the commercial. Point-of-View (POV) represents the perspective of the protagonist or central figure. Sexual content descriptions are based on categorizations articulated by Soley and Reid (1988) and Reichert and Ramirez (2000). Mean (standard deviation) and sample size are reported for sexiness rating; a one-item indicator (*one=not at all; seven=very much*).

Figure 1
Sexual Self-Schema Model of Sexual Ad Content Processing



Results

Analysis Overview

Hypotheses 1 and 2 were tested by comparing means of corresponding conditions for each specific hypothesis. Hypotheses 3 to 8 were examined by investigating respective path coefficients in a model displayed in Figure 1, which was analyzed with each set of data from each experimental condition. As discussed, there were six (3 × 2) conditions: opposite-sex, same-sex, and both-sex stimuli conditions for male and female subjects.

The proposed model (Figure 1) was examined in three stages. First, the reliability and validity of the constructs were verified. Second, the overall fit of the measurement model (confirmatory factor analysis: CFA) and structural model to the data for each condition was tested. Third, the structural parameters were examined to determine if the data supported the proposed hypotheses.

Validation of Measurement and Constructs

Prior to the main analysis, a statistical assumption for structural equation modeling (SEM) was checked. The normality assumption was considered satisfied because all Skewness and Kurtosis values associated with each item were within the range of ± 1.96 ($-1.01 < \text{all Skewness values for male} < .45$; $-1.04 < \text{all Kurtosis values for male} < .51$; $-1.05 < \text{all Skewness values for female} < .24$; $-1.16 < \text{all Kurtosis values for female} < .44$). Since the normality assumption was met, the Maximum Likelihood Estimation method was used for the CFA and SEM in the study.

Reliability of measures, measured by Cronbach's alpha coefficients, ranged from 0.56 to 0.84, was adequate (based on Murphy and Davidshofer 1988; Nunnally 1967; Davis 1964). Factor loadings of items

on each latent variable were significant and within the acceptable range (larger than .30), indicating satisfactory convergent validity. Discriminant validity was also evaluated, using an approach suggested by Joreskog (1971), by assessing the significance of chi-square difference between constrained (i.e., fixed to 1) and unconstrained correlations between two constructs. All pairs of comparison showed significant differences between the constructs, thus demonstrating that discriminant validity was achieved.

After confirming the reliability and validity of measures and constructs, CFA was performed separately for male and female groups. For each gender group, all three stimuli conditions were combined for the analysis. CFA result for male group was satisfactory ($\chi^2=641.40$, [$p<.001$, $df=125$], NFI=.92, IFI=.94, TLI=.92, CFI=.94, RMSEA=.08, SRMR=.05). The female group also showed good model fit ($\chi^2=645.25$, [$p<.001$, $df=125$], NFI=.95, IFI=.96, TLI=.95, CFI=.94, RMSEA=.08, SRMR=.05).

Hypothesis Testing and Model Estimation

The first two hypotheses were tested before performing structural equation modeling. Hypothesis 1 and 2 predicted an interaction between sex of the respondent (Female/Male) and sexual ad stimuli (Female/Male/Both) such that exposure to sexual images of the opposite sex would evoke more positive Affective Responses and more favorable Aad. To test these predictions, a between subjects 2 (respondent sex) × 3 (type of sexual stimuli) MANCOVA was run with Affective Response and Aad as dependent variables and product familiarity and ad familiarity included as covariates.

As predicted, there was a significant interaction between sex of respondent and sexual ad stimuli, Wilks' Lambda=.89, $F(4, 3258)=51.43$, $p<.001$ (see Figure 2). Univariate ANOVAs and planned comparisons were

Table 2
Emotional Response and Aad for Sex of Respondent by Sexual Stimuli in Commercials (Means)

Sex of Respondent	Type of Sexual Stimuli		
	Female	Female and Male	Male
<i>Female</i>			
Affective Response	29.10 ^a	37.68	48.30
Aad	4.63 ^a	5.15	5.77
	<i>n</i> =251	<i>n</i> =439	<i>n</i> =294
<i>Male</i>			
Affective Response	50.82 ^a	44.75	31.35
Aad	5.67	5.40 ^c	4.52 ^b
	<i>n</i> =191	<i>n</i> =294	<i>n</i> =169

Note: Affective Response scores are the product of two nine-point items (arousal/pleasure) with lower numbers representing lower levels of response. Aad is the summed average of five feeling-related items (1-7) with higher numbers representing more favorable responses.

^a=cell means are significantly different across type of stimuli.

^b=male nudity is significantly lower than the two other conditions.

^c=mixed-sex nudity and female nudity do not differ.

Figure 2
Affective Response by Sex of Respondent and Type of Stimuli in Sexual Commercials

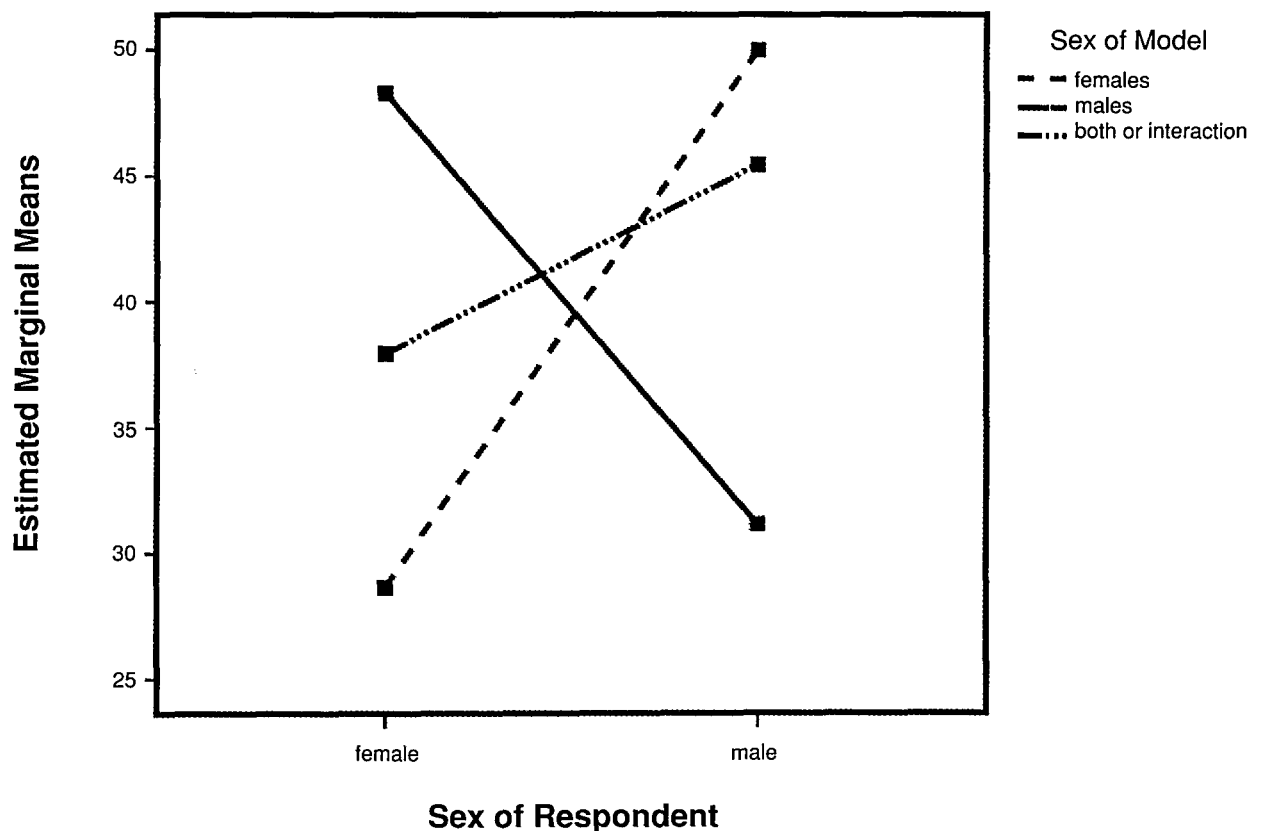


Table 3
Path Coefficients by Hypothesis Conditions

	<i>Path Coefficients</i>			
	<i>SSS→AR</i>	<i>AR→Aad</i>	<i>Aad→BI</i>	<i>BI→PI</i>
H3 Model	.21	.80	.45	.60
H4 Model	.05 ^a	.93	.43	.68
H5 Model	.24	.87	.68	.79
H6 Model	.22 ^b	.76	.49	.49
H7 Model	.12 ^a	.80	.61	.70
H8 Model	.11 ^a	.91	.62	.66

Note: SSS=Sexual Self Schema, AR=Affective Response, Aad=Attitude toward Ad, BI=Brand Interest, PI=Purchase Intention.
Coefficients without asterisks are significant at $p=.05$.

^a=denotes no significance at $p=.05$.

^b=denotes significance at $p=.10$.

run to illuminate the effects on the dependent variables. Cell means are summarized in Table 2. Simple effects tests revealed that females experienced more positive Affective Response and evaluated the ad more favorably for male-subject ads compared to female-subject ads ($p<.001$). Similarly, males responded more favorably to female-subject ads than to male-subject ads ($p<.001$). Although unpredicted, there was a main effect for sex of respondent, Wilks' Lambda=.99, $F(2, 1629)=11.37$, $p<.001$. Inspection of means revealed that, overall, males ($M=43.06$, $SD=23.22$) experienced higher Affective Response to the commercials than did females ($M=38.67$, $SD=21.21$). There was no difference, however, between the sexes in their evaluations of the ads (Aad; females, $M=5.20$, $SD=1.49$; males, $M=5.25$, $SD=1.50$). Product familiarity had no effect on the dependent variables, but familiarity with the ads was significant for both dependent variables, Wilks' Lambda=.98, $F(2, 1629)=19.98$, $p<.001$, which shows that its influence on the dependent variables was controlled. Overall, sexual images of the opposite sex evoked more positive Affective Response and Aad than same-sex images.

The research question (R) sought to determine if females and males experienced similar levels of Affective Response and Aad to both-sex stimuli in sexual commercials. Univariate tests revealed that males experienced higher Affective Response, $F(1, 729)=21.23$, $p<.001$, and Aad, $F(1, 729)=5.58$, $p<.05$, to commercials containing both-sex stimuli than did females (see means in Table 2). For female respondents, images of heterosexual couples were evaluated differently from both same- and opposite-sex models. For male respondents, however, they rated female-only and both-sex content similarly, and much higher than same-sex imagery. With regard to the research question, compared to female

viewers, males experience more Affective Response and more positive Aad in response to sexual commercials containing images of heterosexual couples.

Structural Equation Model

In order to test H3 through H8, structural equation modeling was performed for each of the six conditions. The first model (H3), females viewing opposite-sex stimuli, showed good model fit ($\chi^2=342.91$, [$p<.001$, $df=131$], NFI=.91, IFI=.94, TLI=.93, CFI=.94, RMSEA=.07, SRMR=.07) and supported H3 as the path coefficient from SSS to Affective Response (SSS-AR) was positive and significant (path coefficient=.21, $p<.05$; see Table 3). The second model (H4), females viewing same-sex stimuli, also showed good model fit ($\chi^2=248.60$, [$p<.001$, $df=131$], NFI=.93, IFI=.96, TLI=.96, CFI=.96, RMSEA=.06, SRMR=.06) and supported H4 as the path coefficient of SSS-AR was not significant (path coefficient=.05, $p=.36$). The third model (H5), females viewing both-sex stimuli, also showed good model fit ($\chi^2=388.20$, [$p<.001$, $df=131$], NFI=.94, IFI=.96, TLI=.95, CFI=.96, RMSEA=.07, SRMR=.07) and supported H5 as the path coefficient of SSS-AR was significant and positive (path coefficient=.24, $p<.05$).

The next set of hypotheses examined males viewing sexual stimuli. The fourth model (H6), males viewing opposite-sex stimuli, demonstrated acceptable model fit ($\chi^2=301.50$, [$p<.001$, $df=131$], NFI=.87, IFI=.92, TLI=.91, CFI=.92, RMSEA=.08, SRMR=.08) and showed a marginally significant path coefficient of SSS-AR (path coefficient=.22, $p=.06$). Accordingly, H6 was considered supported at the $p=.10$ level. The fifth model (H7), males viewing same-sex stimuli, revealed adequate model fit ($\chi^2=271.00$, [$p<.001$, $df=131$], NFI=.88, IFI=.93, TLI=.92, CFI=.93, RMSEA=.08,

SRMR=.09) and supported the hypothesis as the path coefficient of SSS-AR was not significant (path coefficient=.12, $p=.26$). The last model (H8), males viewing both-sex stimuli, also showed good model fit ($\chi^2=359.60$, [$p<.001$, $df=131$], NFI=.91, IFI=.94, TLI=.93, CFI=.94, RMSEA=.07, SRMR=.06) but did not support the hypothesis as the path coefficient of SSS-AR was not significant (path coefficient=.11, $p<.24$).

Discussion

The overriding purpose of this study is to examine the respective roles of gender and sexual predispositions on emotional responses to sexual content in advertising. As predicted, gender plays a significant role in affective and attitudinal responses to sexual ads. The present study, however, moves beyond gender to demonstrate how Sexual Self-Schema influences *within* gender differences. SSS has shown utility in several areas such as health and social psychology, but until now, has not been extensively tested in an advertising context. An outcome of the present report is that it provides new insights into who responds to sexual ads, explains discrepancies in the literature, and offers several implications for research and practice.

Gender Responses to Sexual Ads

The first pair of hypotheses (H1-H2) predicted that viewer and model gender would interact to produce predictable affective and attitudinal responses to sexual content in advertising. Overall, these initial predictions are supported. As Figure 2 and the means in Table 2 demonstrate, viewers respond much more favorably to opposite-sex sexual images than to same-sex images. This finding corresponds with generalizations from previous research (Grazer and Keesling 1995; LaTour 1990). More important, the present findings provide (1) a comprehensive test that brings together these disparate findings into a single comprehensive test, and (2) it extends those finding beyond print ads to television commercials.

In addition, we sought to determine if women and men respond similarly to images of heterosexual couples (R). Overall, there was a difference such that men responded more positively to both-sex sexual content than did women. As previously discussed, existing research indirectly indicates that men and women respond similarly when the ad contains images of couples (e.g., Reichert et al. 2001, Severn et al. 1990). For example, an early test by Belch et al. (1981) revealed no differences based on respondent gender although, again, the stimuli consisted of print ads.

There was a similarity, however, in the relative level of male and female favorability ratings. For example, as reported in Table 2, the affective responses for both women and men were most favorable to opposite-sex images, followed by both-sex images, with same-sex images consistently rated as least favorable. These patterns are similar for Aad, except that men rated female-only and both-sex images similarly. Therefore, while male and female evaluations of both-sex commercials can vary, their responses are similar when compared to ads containing images of women or men.

Sexual Self-Schema

The second set of hypotheses predicted that SSS would influence affective and attitudinal responses to relevant sexual stimuli, such that those most (less) favorable and open to sexual information would respond most (less) favorably to sexual commercials. These predictions are primarily supported although a second interesting gender difference is evident.

For female viewers, the three hypothesized predictions are clearly supported (H3-H5). SSS exhibits a significant influence on affective and attitudinal responses to opposite-sex and both-sex images, but it has no influence on same-sex images. As previously described, individuals with positive sexual schemas tend to have more liberal sexual attitudes and tend to be free of social inhibitions such as self consciousness and embarrassment with regard to sexual topics compared to individuals with negative schemas. Findings from the present study concur with the SSS conceptualization as articulated by Andersen and Cyranowski (1993). When the schema is invoked by personally relevant sexual information (i.e., images of men, couples), women's sex-related predispositions influence their emotional responses to sexual commercials.

On the other hand, the findings regarding men's responses are somewhat mixed (H6-H8). The findings reveal a marginal link between men's SSS and emotional responses to opposite-sex sexual commercials. Also, similar to women, there is no link between SSS and same-sex imagery. There is a lack of support, however, for the prediction regarding both-sex imagery. Relatively speaking, sexual schemas appear to have less of an impact for male viewers of sexual ads compared to female viewers.

Schema Gender Differences

At one level, it is not surprising that a gender difference is evident in the pattern of responses. In the marketing literature, gender is a prolific variable

which, according to Darly and Smith (1995), "has historically been used as a basis for market segmentation" (p. 41). More relevant to the present study, however, women and men differ in many ways with regard to sexuality (for review, see Byrne and Schulte 1990, Oliver and Hyde 1993). For example, men generally experience higher levels of sexual interest and activity than women (e.g., sexual fantasizing, fetishism, exposure to pornography). While some research suggests that men and women are similarly aroused to erotica (Gillan and Frith 1977), other research suggests that the genders are very different in their interest in, and perceptions of, such materials (see Symons 1979). Men, for instance, appear much more active in their search and use of erotica, and typically report positive affect after exposure (Weaver 1991).

Similarly, in the sex in advertising literature, whereas overall male and female responses may be similar, male responses to sexual ad content exhibit a pattern of positive evaluations that become more pronounced as nudity and explicitness increase (e.g., LaTour and Henthorne 1993). Female responses exhibit a curvilinear pattern such that both demure and highly explicit depictions evoke lower evaluations than models that are moderately explicit (Belch et al. 1981; Sciglimpaglia et al. 1978).

Perhaps these differences, as well as the schema-related gender difference in this study, can be explained by normative differences in socialization (i.e., a double standard). According to several models of sexual behavior and response, socialization plays an important role in sexual development and one's erotophobic/erotophilic tendencies (Fisher et al. 1988). For example, females are more likely to receive negative messages and sanctioning from influential others with regard to casual sex (Sprecher, McKinney, and Orbach 1987). On the other hand, males are rewarded or admired for similar behavior. As a result, when responding to sexual information in advertising women may invoke an elaborate evaluation process when responding to sexual information that involves consideration of one's feelings, relevant social norms, and appropriateness. Without the threat of sanctions, men's responses are more impulsive with less inhibition and dependence on a filtering process.

Applicability to Prior Research

Not to be overlooked, this study clarifies and confirms the paths and directionality of responses to sexual information. As predicted, gender and SSS in sexually relevant contexts were found to mediate participant responses, significantly for women, and marginally so for men. In so doing, the findings provide

evidence of an antecedent to arousal, as well as credence for LaTour's (1990) work on arousal as a critical factor in responses to sexual advertising. In the models, as in past research, affect influences Aad, which in turn influences brand interest and purchase intention (see Figure 1).

As important, it should be noted that the present investigation is one of the most comprehensive examinations of sex in advertising to date. Over 11 commercials are tested that represent a range of products and appeals, as well as a variety of sexual information from innuendo to sexual behavior to nudity. A valuable goal of effects research is to produce robust generalizations regarding classes of messages (i.e., ads containing sexual information; Jackson 1992). Whereas print ads have represented the bulk of stimulus materials in the past, the current study expands that knowledge base by including TV commercials.

Prior to this study, most recommendations from the advertising literature advocated avoiding or proceeding with extreme caution when employing sexual content in ads. For example, after an exhaustive review of the literature, Courtney and Whipple (1983) concluded: "advertisers would be well advised to . . . avoid overtly seductive, nude, or partially clad models" (p. 118). Clearly, the prevalence of sex in today's advertising suggests that advertisers have not heeded their warning. When making predictions it is apparent that researchers are not differentiating respondents on personality factors. In reality, sexual ads are primarily intended to appeal to target audiences most favorable to that approach (high-SSS segment), which may explain the disconnect between academic caveats and actual marketing outcomes.

Brand Strategy, Media Planning, and Social Marketing Implications

Assessing sexual personality variables such as SSS has potential for advertisers and social marketing specialists. For one, this study's findings have strategic implications for branding and positioning with regard to consumer segments. Sexual self-schema has a proven track record of being able to reflect individuals' sexual variability which, in turn, influences how they think about, feel about, and behave toward information containing sexual content. Obviously, then, there are segments of consumers who are open to, and perhaps seek out, brands with sexual brand images such as Calvin Klein, Abercrombie & Fitch, and Victoria's Secret.

According to Park et al.'s (1986) brand management framework, firms communicate their brand concepts to specified audiences. From a strategic management per-

spective, for certain types of products and appeals, it would be helpful to determine if a current or potential consumer segment is high or low with regard to SSS. Obviously, if the population is positive/negative with regard to sexuality, the potential to appeal to them with sexual imagery and themes is increased and the risk of offending them is decreased. Given the "unobtrusive" nature of the SSS instrument, accessing participants' sexual schemas without sensitizing them beforehand would enhance validity of the test.

In addition, SSS has utility for media planning decisions. According to the personality construct, people most responsive to sexual ads will be those actively seeking out and viewing media with sexual content. As a result, media buys for sex-relevant products (e.g., condoms) or campaigns with sexual themes (e.g., fashion, fragrance) would be more effective if placed in sexual programming or content contexts. This might explain why a high percentage of ads in the new crop of men's magazines—*Maxim*, *Stuff*, *FHM*—contain sexual themes. Such ads are at home with pictorial layouts of bikini-clad models and sexually-oriented editorial content. Similarly, SSS likely predicts exposure to sexually-themed websites and TV programming. As an additional outcome, consumers most likely to be offended by sexual material (low SSS) would be less likely to see the offending ad. Determining if one's target audience has a propensity to be either high or low on SSS can help the media planner/buyer make better media choices.

Last, as social marketing campaigns for sex-related causes and issues increase, a better understanding of individuals most receptive to sexually-intense messages is essential for those planning, executing, and evaluating these campaigns. Sexual imagery and themes lend themselves to campaign messages for condom-use issues such as HIV/AIDS and other sexually-transmitted diseases. Perhaps, those individuals most likely to engage in risky sexual behavior (sex positive) will be those most receptive to safe-sex messages containing sexual information. As the literature cited in first section of this report demonstrates, there is evidence that sex-related personality variables can predict responses to condom advertisements.

Future Research and Limitations

Assessing sexual personality variables also has potential relevance for advertising researchers because, as this study demonstrates, affective responses to sex in advertising are linked to an individual's predisposition to sex. At this point, SSS provides a means to determine the individuals and consumers most re-

ceptive to sexually-charged persuasive messages. Gould (2003) and others (Reichert 2002) have called for this type of research—investigations that move beyond gender as a way to predict evaluations to sexual ads. However, the results also reveal that gender continues to play an important role in ad response.

Perhaps a continuation of prior research such as that conducted by Smith et al. (1995) and Helweg-Larson and Howell (2002) is in order. These investigations compared advertising responses to sexual content based on personality variables such as sex guilt and erotophobia/philia. More important, in previous research it was found that people who experienced high sex-guilt or erotophobic tendencies were less likely to process the accompanying message in the ad. This finding could shed light on the distraction phenomenon in the sex in advertising literature (e.g., Reid and Soley 1983). Current thinking is that processing resources are directed toward the sexual information (e.g., image) so that brand information processing is inhibited (MacInnis et al. 1991). Based on personality research, however, it might be that respondents who are sex-negative (low SSS) are the ones less likely to process, encode, and retrieve the brand message or brand-name than respondents who are sex-positive. In other words, sex-negative viewers shun the message while those who are the target of the appeal (sex-positive viewers) process the entire message. Future research that considers SSS in the context of message encoding and retrieval can help answer that question.

As previously stated, an advantage of assessing SSS over other sex-related personality variables is the scale's unobtrusive nature compared to items on the sex guilt and erotophobia/philia inventories. Measures for closely-related concepts are often very explicit with regard to sexual language and embarrassing questions. As a result, the SSS scales can be applied without offending or sensitizing participants.

Obviously, the results of this analysis cannot be generalized beyond the products and audience that were tested. Although the tested brands ranged from soda to slacks to soap, all are what most researchers would consider "relevant" or "expected" with relation to sexual themes ad themes (Baker and Churchill 1977; Simpson et al. 1996). Although one would expect the results of this study to generalize to "irrelevant" brands, at this point that expectation is tenuous. Last, the study tested theoretical constructs, but the sample consisted of young adults who may be predisposed to see sexual information in a particular way (e.g., they see more of it than mature-adult consumers).

Summary

As Harris (1994) observes, "The primary sex organ is the brain" (p. 252). His statement has credence when considering the present study's findings. Overall, consumers' Sexual Self-Schema—cognitive concepts of the self with regard to sexuality—was found to provide utility for explaining affective and attitudinal responses to sexually relevant content in professionally-produced TV commercials.

One's gender, however, was found to exert a substantial moderating role on evaluations. Overall, both sexes evaluated opposite-sex images most favorably, followed by both-sex images, with same-sex images producing the least favorable ratings. Aside from providing a comprehensive test of gendered reactions to professionally produced commercials, the present study provides evidence that sex-related predispositions can explain within gender differences, more so for women than for men at this point. As advertising researchers continue to test the effects of sexual commercials in the future, emphasis should be given to determining how aspects of consumers, in addition to gender and SSS, influence processing and outcomes. Gould (2003), in particular, has argued for analysis of consumers' sexual scripts or "love maps" to explain product affinity and choice. The present study provides an initial step in that direction. At this point, both researchers and practitioners can consider Sexual Self-Schema as a concept that provides additional insight into the values and predispositions of the target audience.

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Appendix Female and Male Sexual Self-Schema Items

Female	Male
1. uninhibited	1. conservative*
2. cautious	2. soft-hearted
3. loving	3. powerful
4. open-minded	4. spontaneous
5. timid	5. independent
6. frank	6. inexperienced*
7. stimulating	7. domineering
8. experienced	8. loving
9. direct	9. open-minded
10. broad-minded	10. feeling
11. arousable	11. arousable
12. self-conscious	12. broad-minded
13. straightforward	13. passionate
14. casual	14. aggressive
15. prudent	15. revealing
16. embarrassed	16. warm-hearted
17. outspoken	17. exciting
18. romantic	18. direct
19. sympathetic	19. sensitive
20. conservative	20. reserved*
21. passionate	21. experienced
22. inexperienced	22. romantic
23. warm	23. compassionate
24. unromantic*	24. liberal
25. revealing	25. individualistic
26. feeling	26. sensual
	27. outspoken

* Items reversed keyed.