

Sex in Advertising: Gender Differences and the Role of Relationship Commitment

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This study draws on differences between men and women's attitudes about sex, either as an end in itself (men) or as inextricably linked to relationship commitment (women) to understand attitudes toward the gratuitous use of sex in advertising. In line with predictions, four experiments showed that women's spontaneous dislike of sexual ads softened when the ad could be interpreted in terms of commitment-related resources being offered by men to women. In contrast, men's positive attitudes toward sexual ads were relatively unaffected by the salience of relationship commitment cues. These results not only offer insights into consumer reactions to sexual advertising but also inform theories on how men and women conceptualize sexual behaviors and relationships.

In an effort to cut through the tremendous clutter that exists in today's advertising space, marketers have resorted to increasingly radical tactics to capture consumer attention. One such popular tactic uses explicit sexual images in advertising, even when the sexual image has little relevance to the advertised product (Reichert and Lambiase 2003, 2006). For example, a recent print ad campaign for Toyo Tires showed a nude female model crouched on all fours with the tagline "Tires that Fit You." In another example, an ad for Gucci featured a woman with her pubic hair cropped in the shape of a *G* and a man kneeling before her (*Marketing* 2003).

Although the gratuitous use of sex in advertising un-

doubtedly succeeds in capturing attention, one may question whether evaluative reactions are favorable among different segments of consumers. Recent research by Sengupta and Dahl (2008) addressed this question. Focusing on spontaneous evaluations of sexually themed ads, these authors found that in contrast to men, who reported positive attitudes, women on average exhibited a marked negative reaction to explicit sexual content in advertising. These findings (as well as other prior work; e.g., Peterson and Kerin 1977) indicate that for a large segment of consumers, the old marketing cliché "sex sells" may not hold.

Why do women react negatively to explicit sex in advertising? Furthermore, are there tactics that would ameliorate this adverse reaction? Answers to these questions are of theoretical and practical value, and the current research addresses them both. Our work builds upon existing perspectives in sexual psychology, which argues for stark differences in men's and women's sexual beliefs and motivations. This literature portrays men as having positive attitudes toward casual and recreational sex, whereas women value the emotional intimacy and commitment that can surround the sexual relationship. We draw upon this difference in orientations to both explain women's negative response to gratuitous sex in advertising and moreover identify conditions under which women's attitudes improve. In documenting these moderating factors, we provide theoretical insights into the mechanism that leads to the adverse reactions as well as offer insights to practitioners interested in factors that can improve attitudes toward sex-themed advertising. Finally, one of the major goals of this research was to refine basic theory in sexual psychology by devel-

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oping a richer understanding of the motivation that underlies women's attitudes toward sex.

THE USE OF SEX IN ADVERTISING

This study focuses on the gratuitous use of sexual images in advertising, which is defined as the use of a sexual image that is unnecessarily explicit to promote a product or service. Extant research in this area suggests that consumers respond negatively to this type of advertising because the gratuitous use of sex is viewed as unethical (La Tour and Henthorne 1994, 2003). For instance, one study examined reactions to a perfume ad that featured overt and explicit sexual content (i.e., a couple shown in an intercourse-like position). In comparison with a control perfume ad with milder content (i.e., an attractive female model), both men and women found the explicitly sexual ad to be unethical and manipulative, and reported equivalently negative attitudes toward the ad (Mittal and Lassar 2000). Other research corroborated the notion that, irrespective of gender, the explicit and inappropriate use of sex typically induces unfavorable reactions (e.g., Peterson and Kerin 1977; Simpson, Horton, and Brown 1996).

Although the premise that gratuitous sexual appeals produce negative reactions because of perceptions of unethical and manipulative practices is straightforward and logical, it also presupposes a deliberative, cognitive mechanism. Past research has found that the process of judging whether a persuasive message violates ethical norms requires cognitive effort (Campbell and Kirmani 2000). Yet consumers typically spend little time and effort when viewing an ad (Burnett and Moriarty 1998; Kassarian 1977; Sengupta and Gorn 2002). It is important, therefore, to understand reactions to inappropriate sex appeals under "thin slice" processing (Ambady, Bernieri, and Richeson 2000), such as when consumers view ads under constrained cognitive capacity.

Indeed, spontaneous, noncontrolled reactions may be quite different from more carefully considered responses in the domain of sex-based advertising. Recent research by Sengupta and Dahl (2008) examined nondeliberative reactions to the gratuitous use of sex in advertising. Men and women in these experiments were placed under high cognitive load while viewing an ad that featured an explicit sexual image or a nonsexual image. Unlike previous research that had found that both men and women dislike the gratuitous use of sex in advertising, a gender difference emerged under constrained conditions: men far preferred the ad featuring the sexual image (compared to the nonsexual image) whereas women reported significantly worse attitudes toward the explicitly sexual ad compared with the nonsexual ad.

Hence, women in particular dislike the gratuitous use of sex in advertising, an effect that is most prominent under constrained processing conditions. Sengupta and Dahl (2008) interpreted this finding as reflecting a lower average sex drive among women compared to men (see Baumeister, Catanese, and Vohs 2001 for a review). The current study

offers a different mechanism for their results, namely, exchange in the context of relationship commitment. In doing so, the present study focuses on women and identifies theoretically derived contextual factors that can lead to an improvement in women's attitudes toward sex-themed advertising. Such an examination of contextual features has been missing from earlier work in this area (e.g., Sengupta and Dahl 2008) mainly due to a narrower focus on sex drive as an antecedent of attitudes toward sexual stimuli.

GENDER DIFFERENCES IN SEXUAL MOTIVATIONS

The literature in sexual psychology posits an important difference in gender orientations toward sex that is particularly germane to the current analysis. This research argues that men and women have different beliefs about the purpose of sexual activity and concomitant motivations for engaging in it (DeLamater 1987; Hill 2002). Men tend to adopt a relatively recreational orientation, an approach that emphasizes physical gratification and views sex as an end in itself (Cohen and Shotland 1996; Hill 2002). In contrast, women tend to adopt a relationship-based orientation to sexuality, an approach that emphasizes the importance of intimacy and commitment in a sexual relationship (Birnbbaum et al. 2006; Hill 2002; Malamuth 1996; Schachner and Shaver 2004).

The premise that women and men have different motives regarding sex receives theoretical backing from both evolutionary and socialization models of human sexuality. Briefly, an evolutionary view of sexual motives is based on the model of differential parental investment, which argues that because females in the human species must invest far greater resources to produce offspring than do men, they tend to be correspondingly more selective in their choice of sexual partners (Buss 1998; Trivers 1972). Rather than engaging in casual sex with a large number of men, women select mates who are likely to commit long-term resources to help with the nurturing of offspring. Men, on the other hand, benefit reproductively by taking advantage of opportunities to engage in sexual intercourse with a large number of women, with little regard to long-term consequences. This account thus argues that evolution has produced an urge toward casual, noninvested sex in men but an aversion to casual, noninvested sex in women (Herold and Mewhinney 1993).

A socialization-based account arrives at a similar conclusion, albeit from a different perspective. Socialization influences are almost without exception biased toward promoting a recreational attitude toward sex in men but a relationship orientation in women (Baumeister and Twenge 2002; Schwartz and Rutter 1998). For instance, sexual behaviors that are primarily linked with physical gratification (e.g., masturbation) are subjected to more parental discouragement and condemnation for daughters than sons (Schwartz and Rutter 1998). Similarly, peers tend to reinforce men's focus on the recreational aspects of sexual affairs, whereas women's peers offer reinforcement when sex-

ual episodes are framed in the context of an emotionally intimate relationship (DeLamater 1987; see excellent reviews by Baumeister and Twenge [2002] and Schwartz and Rutter [1998] for a discussion of these and other socialization influences, such as religious and governmental institutions). Ultimately, as with many other observable differences between different human subgroups, gender differences in sexual attitudes probably result from an interaction of evolutionary and socialization factors (Baumeister et al. 2001; Malamuth 1996; Schwartz and Rutter 1998; Tooby and Cosmides 1992).

Apart from theoretical support, a wealth of empirical evidence supports the notion of a gender difference in motivations regarding sex. An investigation that queried college students about their sexual attitudes found that both future intentions and reported past behavior reflected a less favorable inclination toward casual, nonemotional sex among women than men—indeed, only 42% of women reported having engaged in sexual relations without involvement, compared to 84% of men (Carroll, Volk, and Hyde 1985; see also Cohen and Shotland [1996] and DeLamater [1987] for consistent findings). Similarly, a meta-analysis of 177 different studies revealed that men reported substantially more permissive attitudes toward casual, noninvested sex than did women (Oliver and Hyde 1993). Women shirk emotionless sex perhaps because their experience of sex is saturated with emotional and relational implications. One in-depth study showed that women experience the act of sexual intercourse as laden with relationship-centered thoughts and feelings (Birnbaum and Laser-Brandt 2002; also Birnbaum et al. 2006).

Experimental investigations have also revealed convergent findings. In one study, a scenario method was used to investigate the likelihood of engaging in sexual behavior as a function of stage of relationship (casual dating versus committed) as well as the type of behavior that instigated the sex act—that is, whether the seductive behavior conveyed emotional investment or a purely physical allure (Hill 2002). Particularly germane to our focus, the author hypothesized that women would be more receptive to a sexual overture when it could be framed in terms of intimacy and commitment—either because the relationship itself was at a committed stage (as opposed to casual dating) or because the partner's behavior conveyed emotional investment. Indeed, women reported equally high intentions of engaging in sex as did men when either of these conditions was present. When neither signal was present (i.e., a casual dating relationship or partner's behavior lacked an emotional connotation), the typical gender difference prevailed such that women reported a lower likelihood of engaging in sex than did men.

In summary, the extant research on gender differences in sexual motivations suggests that for both evolutionary and socialization-based reasons women will have relatively unfavorable feelings about sexual behavior that is not linked with relationship commitment. When sexual behavior can

be seen in terms of relational commitment, however, women's attitudes about sex would be expected to improve.

Sexual Economics Theory

A new and intriguing theory about human sexuality provides additional support for the current discussion. Sexual economics theory (SET) marries the idea of gender differences in sexual attitudes with social exchange theory, which conceptualizes interpersonal interactions as two or more parties that each give up something with the aim of getting back something of greater value (Blau 1964; Homans 1950; Sprecher 1989). Social exchange theory underscores the principle of least interest (Waller and Hill 1951), which states that an inequality in desire to exchange yields an imbalance in power: the person who is less eager to make the exchange is in a position of strength because she or he can hold out until ideal conditions are met. In contrast, the person who pines for the exchange has little power because she or he is dependent on the other to decide if, when, and how the exchange will occur.

As discussed in the preceding section, much research suggests that sex as an end in itself is less valued by women than men (see Baumeister et al. 2001 for further supportive evidence). Building on exchange theory, therefore, sexual economics theory posits that women possess substantially greater negotiating power than do men in the context of a sexual exchange. Although it is not the goal of this research to review the plethora of evidence that supports this premise (see Baumeister and Vohs 2004 for this purpose), one study is particularly illustrative. Women and men were asked when, in a dating relationship, the first sexual encounter should take place (Cohen and Shotland 1996). Although on average men thought the second date was the appropriate time to have sex, their preferences did not correspond (a nonsignificant $r = .19$) with the timing of sex in their own relationships. For women, however, the correlation between when they thought sex should occur and when sex actually occurred was a whopping .88. Women are clearly the gatekeepers of sex, consistent with the premise that they possess greater power in the exchange.

SET argues that because women possess greater negotiating power than do men when it comes to sex, they are in a position to ask for additional resources to make the exchange equitable. Of importance, these additional resources can take one of two broad forms: they can be pecuniary or, as the current analysis highlights, they can also be non-material in nature. Specifically (and consistent with the conclusion we derived earlier from the broader literature on sexual motivations), relationship commitment may be seen as a valuable resource offered by the man in the context of a sexual exchange. Indeed, one early study of teenage girls revealed that a requirement before engaging in sexual activity was a declaration of love or dating commitment from the male partner (Wilson 1978). Women therefore may be sensitive and open to offerings of relational resources from men under conditions with sexual connotations.

ATTITUDES TOWARD GRATUITOUS SEX IN ADVERTISING

The research on gender differences in sexual motivations, as well as the SET conceptualization, converge in their explanation for the finding that women on average have a negative attitude toward the gratuitous use of sex in advertising. Sexual ads place sex outside of the context of a committed relationship and, in doing so, make salient the notion that sex is its own justification. Although this view is consistent with men's perspective on sex, it is misaligned with women's, therefore accounting for women's negative reaction.

If this reasoning is correct, it implies that women's unfavorable reactions can be alleviated if an ad depicts sex in a manner that is consistent with their underlying values. In particular, women's attitudes should be improved if the sexual image can be understood in the broader context of a committed relationship, rather than inferring that the image promotes wanton, recreational sex. A relationship-based interpretation may be made possible either through the use of appropriate cues in the ad itself (e.g., if the advertised product is positioned as a signal of commitment) or, more subtly, by making accessible thoughts of relationship commitment and intimacy prior to ad viewing.

These predictions should not hold for men. Drawing on the premise that men are more inclined than women to view sex as a recreational activity that requires no further justification, we argue that, unlike for women, men's reactions toward explicit depictions of sex in advertising will not improve by associating the sexual image in the ad with the idea of relationship commitment.

General versus Directional Relationship Commitment

Although both theoretical perspectives described above (the broad literature on gender differences in motivations concerning sex, and the specific model of SET) offer a convergent view of how to improve women's attitudes toward gratuitous sex appeals, they also contain an important point of difference. The research on gender differences in orientations toward sex and intimacy suggests that women have an aversion to the idea of justification-free, recreational sex; therefore, cocooning a sexual image within the context of relationship commitment would help to improve women's attitudes toward such images. An argument based on sexual economics theory, however, would take this reasoning a step further. Because of its exchange-based conceptualization, SET suggests that women will think sexual contact is most permissible when valued resources are offered by the man to the woman. Therefore, in an advertising context, an SET-based argument would agree that women's attitudes toward explicit depictions of sex can be improved by making salient relationship commitment; it would further posit a directionality to the gesture. This directionality is in the form of relationship commitment as a resource that the man offers

the woman, such as a man making an intimate and romantic gesture for a special woman. According to SET, improvement in women's attitudes would not be seen if resource offerings are missing or reversed—for instance, if thoughts of a committed relationship come in the form of women making intimate and romantic gestures for the special men in their lives. Evidence that would resolve the differential predictions regarding general versus directional cues would clarify the nature of relationship-relevant influences on women's attitudes about sexual depictions. In addition, this evidence would make a theoretical contribution to the psychological literature on sexual motivations, which has yet to conduct an empirical examination of the distinction between generalized versus directional thoughts of commitment.

Overview of Experiments

The ideas described in the preceding sections were tested in four experiments. In all studies, participants viewed an ad for a wristwatch containing either a graphic sexual image or a nonsexual image. Earlier research using the same ads (Sengupta and Dahl 2008) found that women on average react negatively to the sexual (versus nonsexual) ad. Experiments 1 and 2 of the current study used these stimuli to examine the prediction that women's attitudes toward the sexual ad can be improved under conditions of a commitment frame, either via positioning or priming techniques. Improvement in attitudes was not expected for men. Experiments 3 and 4 then examined how the specific nature of commitment thoughts (generalized versus directional) differentially influence reactions to the sexually themed ad.

It is useful to reiterate that this research focuses on reactions to sex-based ads under constrained processing conditions—that is, all participants viewed the ad while performing the concurrent task of rehearsing a lengthy number (Gilbert, Pelham, and Krull 1988). As noted, one reason for this focus is managerial, since constrained processing is a useful way of simulating the typical (low-involvement) manner in which consumers view ads. Further, recent research (Sengupta and Dahl 2008) found that latent gender differences in response to sexual advertising emerge under conditions of high cognitive load, such that men react positively to sexual ads and women react negatively. In order to provide a direct comparison with that research the current experiments were conducted under the same high-load conditions.

EXPERIMENT 1

Overview

Experiment 1 tested the hypothesis that women's attitudes toward an explicitly sexual ad will improve if the ad includes cues that are consistent with the idea that the sexual behavior is taking place in the context of a relatively more committed relationship rather than portraying casual, recreational sex.

Men, in contrast, were not hypothesized to show improvements in their attitudes toward the sex-based ad.

The key manipulation was to position the advertised product, a watch, as a gift from a man to the special woman in his life. Support for the use of gifts as signs of relationship commitment comes from Belk and Coon's (1993) analysis of gifting during dating relationships. These authors concluded that gifts—especially expensive or intimate ones—often are viewed as a kind of investment in the relationship and a signal of commitment. In the current experiment, the gift positioning was expected to favorably influence women's attitudes toward the sexual ad. Of note, the gift positioning was not expected to bring about attitude improvement for an equivalent nonsexual ad because the presence or absence of relationship commitment signals should not influence attitudes for the latter type of ads.

Our theorizing suggests that attitude improvement should not be obtained for men, who have positive attitudes toward recreational sex as its own end. Moreover, there is reason to expect that men's reactions to the sexual ad may in fact worsen as a result of the gift (versus nongift) positioning—for instance, Belk and Coon's (1993) analysis of gifting behavior found that men typically felt quite uneasy about having to part with substantial pecuniary resources in a dating context (see also Buss 1989 for similar findings).

Design and Procedure

The study used a 2 (gender: men versus women) \times 2 (sexual ad positioning: gift versus nongift) between-subjects design. In addition to these four experimental conditions, data were also collected on two control conditions in which women reacted to nonsexual control ads (nonsexual ad positioning: gift versus nongift); these control cells are discussed subsequently. One hundred and thirty-three students participated in exchange for partial class credit. Participants in all conditions were under high cognitive load.

All participants were first given a booklet containing the cognitive load induction. They were told that one of the goals of the experiment was to assess how consumers' memories influence processing of advertising information; hence, as a test of memory, they were being asked to memorize a 10-digit number that they would later have to recall. This task produces a high level of cognitive load (Gilbert et al. 1988; Shiv and Fedorikhin 1999). The number was presented on the next page of the booklet. The booklet was then taken away and an ad booklet was distributed, the first page of which reminded participants that they would have to recall the 10-digit number after perusing the ads. This second booklet contained three print ads. The target ad for Chaumet watches, a little-known brand, was presented as the second ad; the other two ads were for detergent powder and a flat-screen television. Exposure time for each ad was 20 seconds and strictly controlled by the experimenter so as to guard against the possibility that differences in ad reactions could be due to differences in ad viewing duration.

Each of the three ads featured a pictorial image, brand name, and tagline, along with brief specifications for each

product on the page adjoining the image (e.g., the specifications for Chaumet included details such as "bracelet has a push-button clasp for added security," "water resistance to 90 m (300 ft.)," "precise Swiss quartz movement"). For participants in the main 2 \times 2 design, the pictorial in the ad for the Chaumet watch was an explicit sexual image. This picture was pretested as being gratuitously sexual in nature for the sample population. Pretesting also ensured that there were no gender differences with regard to picture perceptions on dimensions such as its erotic appeal and perceptions of whether the image was male versus female dominant (pretest details available from authors).

The gift manipulation was communicated through the visual image itself and a positioning statement included in the accompanying product specifications. In the gift condition, the watch was shown with a red ribbon tied around it and the specifications included the following statement: "*This watch is positioned as a gift from a man to the special woman in his life.*" In the nongift condition, the picture was the same but it did not show a red ribbon, nor was a positioning statement used. A pretest ($n = 24$) validated the gift manipulation. After viewing the stimuli from one of the two conditions, participants completed three 7-point Likert scale items (disagree = 1, agree = 7: "the couple in the ad share intimacy"; "the watch featured in the ad is a token of the man's commitment to the woman"; "the couple in the ad is in a long-term relationship"; $\alpha = .78$). As expected, participants rated the gift ad higher on this relational commitment index ($M = 5.23$) than the nongift ad ($M = 3.21$; $t(24) = 5.28$, $p < .001$).

After the participants viewed the three ads, the booklet was removed and the study questionnaire was distributed. Participants were first asked to write down the 10-digit number they had memorized. They were next asked to report their attitudes toward the ad for the first advertised product, followed by the key questions regarding the ad for Chaumet watches. Participants indicated their attitudes toward the Chaumet ad on two 7-point scales (unlikable/bad = 1, likable/good = 7; $r = .73$). Finally, participants responded to a probe checking whether they had felt any social pressure to answer any of the questions in a particular way. Results from this probe showed that no social pressure was felt by participants.

Two control conditions (tested with female participants only) used the same procedure, including the gift statements and red bow, as described above for the main 2 \times 2 experimental conditions. The key difference was the image in the Chaumet ad: both control conditions (gift versus nongift) featured a nonsexual pictorial of a mountain scene that had been pretested to lack erotic content (Sengupta and Dahl 2008; see also LaTour 1990 for use of a landscape scene as a nonsexual control image).

Results

The key hypothesis was that women's attitudes toward the ad would be more positive for the sexual ad when it was positioned as a gift than when the same ad did not

feature a gift positioning, whereas attitudinal improvement was not expected among men. Consistent with these predictions, a 2×2 analysis of variance (ANOVA) with gender and sexual ad positioning (gift versus nongift) revealed a significant interaction of gender and sexual ad positioning ($F(1, 84) = 7.72, p = .007$; fig. 1). No other significant effects were found. For female participants, contrasts revealed more positive attitudes when the watch in the ad was positioned as a gift than when it was not ($M_{\text{gift}} = 4.67, M_{\text{nongift}} = 3.83; F(1, 86) = 5.38, p = .022$). This difference disappeared, however, when women saw a gift positioning for the watch ($p = .568$).

Although the results from the experimental conditions supported our hypothesis, it was possible that women's more favorable attitude to the gift-positioned sexual ad as compared to the nongift ad was due to a positive reaction to the idea of a gift, independent of the nature of the ad. This alternate explanation predicts that even a nonsexual ad would be liked more among women when it features a gift positioning than when it does not. Recall that we asked a separate group of women to view a nonsexual ad (of a mountainous scene) promoting the same watch and varying gift versus nongift positioning in the same manner as in the main 2×2 design. Analysis of these data showed that, as predicted, the gift positioning made no difference in the context of a nonsexual ad ($M_{\text{nsexl, gift}} = 4.90, M_{\text{nsexl, ngift}} = 4.76; p = .738$). Consistent with our theorizing, this result suggests that the positive effect of the gift positioning on women's ad attitudes is specific to sex-based advertising.

Finally, we compared women's reactions to the sexual

versus nonsexual ad within each gift condition to draw comparisons with past research. Within the nongift condition, results replicated past results (Sengupta and Dahl 2008) in showing that the sexual ad elicited a worse reaction than did the nonsexual ad ($F(1, 86) = 5.38, p = .022$). This difference disappeared, however, when women saw a gift positioning for the watch ($p = .568$).

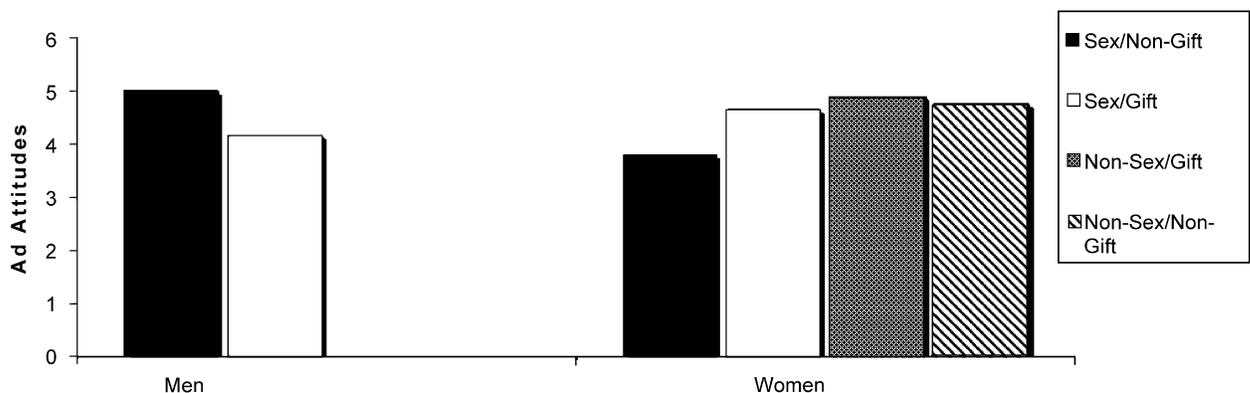
Discussion

Experiment 1 showed that women report a spontaneous negative reaction to advertising containing explicit sexual content, which can be mitigated with a positioning tactic that is consistent with the idea of relationship commitment—namely, a gift positioning (see Belk and Coon 1993). Although the sexual ad on its own—that is, without the gift positioning—produced a worse attitude than the nonsexual ad (replicating past results), women's attitudes toward the sexual ad improved when the advertised product was positioned as a gift from a man to a woman. Recall that gift positioning on its own failed to produce a favorable reaction insofar as it did not influence attitudes toward the nonsexual ad. Only in the context of a sex-based advertisement did the gift positioning have an impact on women's reactions, consistent with our theorizing regarding the importance of a suitable justification for explicit sexual depictions.

Men's reactions to the sexual ad showed interesting results as well. According to our theorizing, men do not need the justification of relationship commitment for sexual behavior (or depictions of it); hence, the gift positioning was not predicted to improve men's attitudes toward the sexual ad. This was the case. In fact, male attitudes actually declined in the gift condition (versus the nongift condition). To find a worse attitude among men viewing sexual ads is quite uncommon, and the explicit reference to exchanging resources may represent a special context that serves to dampen men's enthusiasm for sexual ads.

FIGURE 1

AD ATTITUDES AS A FUNCTION OF GIFT VERSUS NO GIFT POSITIONING AND SEXUAL VERSUS NONSEXUAL AD: EXPERIMENT 1



EXPERIMENT 2

Experiment 1 suggests one way in which women's dislike of explicitly sexual advertising may be alleviated. Findings from this study were consistent with our theorizing, which suggests that women's attitudes are prone to improve when the sexual image in the ad can be interpreted in terms of a relatively more committed relationship as opposed to simply portraying casual, nonemotional sex. Experiment 2 provides a more direct test of our underlying logic by manipulating within an all female sample the accessibility of relationship commitment and intimacy immediately prior to ad viewing. A wealth of priming-based research in social psychology has shown that the greater the accessibility of a construct related to the information currently being processed, the greater the likelihood that the information will be interpreted in line with that construct (for reviews, see Higgins 1996; Srull and Wyer 1979); these assimilation effects are particularly likely when people process information under constrained cognitive capacity, as is the case in the current studies (Martin and Achee 1992).

Building on this idea, experiment 2 used a supraliminal priming technique to make salient either the notion of a loyal, committed romantic partner or a disloyal, uncommitted partner. A nonprime condition comprised a baseline comparison group. We predicted that female participants for whom the idea of relationship commitment had been made accessible would be more favorable toward an explicit sex ad as compared to the baseline condition. In contrast, we expected that the uncommitted-partner prime would foster an even stronger negative response from female participants as compared to the baseline. Thus, this study not only sought to identify conditions that would improve women's attitudes toward the sexual ad but also provided convergent evidence for the underlying logic by demonstrating the reverse, namely, a theoretically derived condition that would exacerbate women's negative reactions. As in the previous experiment, we investigated whether the salience of romantic commitment due to the primes spilled over to affect women's reactions to nonsexual advertising. A generalized affect-transfer theory would predict that the relationship commitment prime should influence all variety of ads subsequently viewed. Our theorizing, in contrast, implies a specificity such that the prime should affect only responses to the sexual ad but not the nonsexual ad.

Experiment 2 also investigated the role of emotional reactions in driving women's attitudes toward sex appeals. We separately examined the effect of positive and negative affect, drawing from prior research that has shown independent roles for positive and negative affect in reactions toward sexual stimuli (Griffit and Kaiser 1978; Malamuth 1996; Sengupta and Dahl 2008). Given that women have an immediate aversion to gratuitous depictions of sex, and given that, at best, women can become tolerant of such advertising but do not prefer it to a nonsexual ad (experiment 1), we predicted that ad attitude differences would be predicted by negative emotion but not positive emotion. Specifically, priming the idea of a committed relationship partner should

lessen the extent of negative emotions aroused by the sexual ad (rather than increasing positive emotions), whereas the uncommitted relationship partner should exacerbate negativity.

Finally, we took a further step in postulating that differences in negative emotions should mediate the effect of the prime on women's attitudes toward the ad. This prediction follows from evidence that attitudes under conditions of constrained capacity are shaped primarily by experienced affect rather than considered cognitions (Shiv and Fedorikhin 1999).

Design and Procedure

Experiment 2 used a 2 (ad type: sexual versus nonsexual) \times 3 (relationship partner prime: committed partner versus uncommitted partner versus control) between-subjects experimental design. One hundred nineteen female students participated in exchange for partial class credit. Ad type was manipulated using the (nongift) sexual and nonsexual ad stimuli from experiment 1. The relationship partner prime was manipulated through a short proofreading exercise that was administered at the outset under the guise of a separate study. As before, participants in all experimental conditions were subject to high cognitive load during ad viewing.

The procedure and dependent variables followed experiment 1 with the following differences. All participants first read a short paragraph, which contained the priming manipulation, ostensibly to check for spelling mistakes. In the committed partner condition, participants read a paragraph (app. A) describing a relationship between Mary and John in which John was described as a loyal, committed partner. The uncommitted partner paragraph described John as a disloyal, uncommitted partner. Finally, the control paragraph did not focus on a romantic relationship but instead described a student club run by John and Mary.

A pretest ($n = 30$) validated the priming manipulation. After reading either the committed or uncommitted partner paragraphs, participants rated their agreement to three statements on 7-point Likert scales (disagree = 1, agree = 7; John was devoted to Mary, John was committed to Mary, John and Mary share an intimate relationship; $\alpha = .84$). As expected, participants rated John as more committed after reading the committed partner paragraph ($M = 6.04$) than after reading the uncommitted partner paragraph ($M = 2.36$; $t(28) = 14.48$, $p < .001$).

After completing the priming task, participants in the main study answered a few distracter questions and then received the cognitive load task, which was presented under the guise of a separate study. As in experiment 1, participants were next exposed to the target ad (sexual or nonsexual ad for Chaumet watches) along with two filler ads. Subsequently, they responded to a questionnaire booklet containing the dependent measures. Along with the key measure of ad attitudes (poor/excellent, unlikeable/likeable, bad/good; $\alpha = .82$), brand attitude measures were also included in this study. Participants rated the advertised brand itself

on three 7-point scales (like/dislike, negative/positive, favorable/unfavorable; $\alpha = .94$).

Following these attitude items, positive and negative emotional reactions to the target ad were assessed using separate sets of scales (see Sengupta and Dahl 2008). Participants indicated the extent to which they felt the following positive emotions when viewing the target ad: "happy," "energized," "good mood," and "interested" on 7-point scales anchored by "not at all" (1) and "very much so" (7). An index of positive affect was created by averaging across these items ($\alpha = .79$). Similarly, an index of negative affect was created by asking participants to indicate the extent to which they felt the following negative emotions when viewing the target ad: "upset," "disgusted," "unpleasantly surprised," "angry" ($\alpha = .83$). Factor analysis on the full set of affect items yielded two distinct factors, one consisting of the positive emotion items and the other consisting of the negative emotion items. The Results section reports analyses based on these two separate dimensions.

Results

Ad and Brand Attitudes. Consistent with predictions, a 2 (ad type) \times 3 (relationship partner prime) ANOVA revealed a significant interaction of ad type and relationship prime on the ad attitude index ($F(2, 112) = 7.61, p = .001$; fig. 2). Contrasts revealed the hypothesized effects: compared to the control prime ($M_{\text{contr}} = 3.17$), women reported more positive attitudes about the sexual ad after being primed with a committed relationship partner ($M_{\text{com}} = 3.72; F(1, 112) = 10.82, p < .001$) but more negative attitudes when primed with an uncommitted relationship partner ($M_{\text{uncom}} = 2.44; F(1, 112) = 12.53, p < .001$). Consistent with our specificity prediction, priming had no effect on attitudes toward the nonsexual ad (p 's $> .20$). Analyses using the brand attitude index showed a parallel pattern of means and effects (interaction: $F(2, 112) = 8.50, p < .001$).

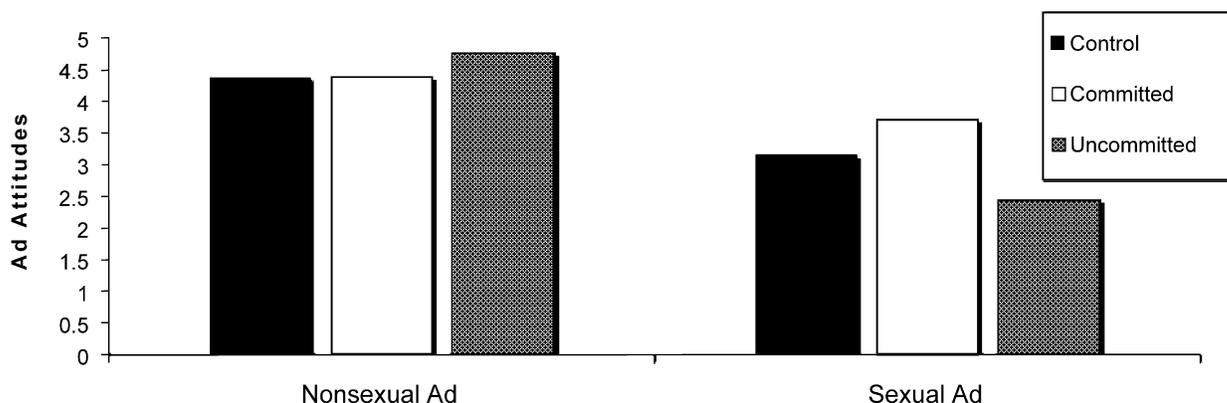
Compared to the control condition ($M_{\text{sexl contrl}} = 3.45$), women in the committed partner prime condition reported a more favorable brand attitude ($M_{\text{sexl com}} = 5.26; F(1, 112) = 17.06, p < .001$), whereas those exposed to the uncommitted partner prime reported an unfavorable brand attitude ($M_{\text{sexl uncom}} = 2.68; F(1, 112) = 3.06, p = .042$, one tail). No differences in brand attitudes were obtained for the nonsexual ad (p 's $> .20$).

Emotional States after Viewing the Ad. We next analyzed positive and negative emotional reactions toward the ad. In line with expectations, no significant effects were obtained on the positive affect index (p 's $> .10$). Moreover, the expected interaction effect of priming and ad type on the index of negative emotions was obtained ($F(2, 112) = 10.11, p < .001$). Planned comparisons revealed that the negative affect produced by the sexual ad in the baseline (control prime) condition ($M_{\text{contr}} = 3.34$) was reduced by priming participants with the idea of a committed relationship partner ($M_{\text{com}} = 2.80; F(1, 112) = 3.17, p = .042$, one tail) and exacerbated by priming with the idea of an uncommitted relationship partner ($M_{\text{uncom}} = 4.22; F(1, 112) = 8.35, p = .007$). Negative emotions produced by the nonsexual ad did not differ across priming conditions (p 's $> .10$).

Next we tested whether negative emotionality mediated the effect of priming on ad attitudes across ad type. Two prerequisites (Baron and Kenny 1986) for mediation were already satisfied: differences in the independent variable (prime) caused significant differences in negative emotionality (the mediator) as well as in ad attitudes (the dependent variable). Consistent with the third condition for mediation, we found a significant relationship between the mediator (negative emotions) and the dependent variable (ad attitudes; $r(118) = -0.65, p < .001$). The final test for mediation was conducted using an ANCOVA with the negative emotion index as a covariate and ad type and relationship partner

FIGURE 2

AD ATTITUDES AS A FUNCTION OF PRIMES ACTIVATING COMMITMENT/NONCOMMITMENT FROM MEN TO WOMEN AND SEXUAL VERSUS NONSEXUAL AD: EXPERIMENT 2, ALL WOMEN



prime as predictors of ad attitude. This model revealed that the previously significant interaction between ad type and relationship partner prime was no longer significant ($F(2, 111) = 2.63, p = .077$) whereas the negative emotion covariate remained significant ($F(1, 111) = 15.53, p < .001$; Sobel $t = 2.26, p < .05$). In line with our theorizing, therefore, intervening negative emotions were responsible for the interactive effect of ad type and relationship partner prime on ad attitudes.

Discussion

Consistent with our conceptualization (and also with experiment 1's findings), experiment 2 indicated that women's attitudes toward explicitly sexual advertising vary substantially depending on whether the depicted sexual behavior can be interpreted in light of a committed relationship. We found that priming female participants with the notion of a committed relationship partner improved their reactions toward an ad that featured a gratuitous sex appeal, as observed in both ad and brand attitudes. Conversely, being primed with the idea of an uncommitted relationship partner worsened women's negative reactions to a sex-based ad. However, these priming effects were specific in that they were observed only for the sex-based ad but not for the nonsexual ad. As predicted, the consequences of activating the idea of relationship commitment within women are not global (ruling out an affect-transfer explanation) but appear particularly tied to the concept of sex. Finally, mediation analyses provided further insights into the findings by showing that women's attitudes toward the sexual ad followed from the relational prime either exacerbating or mitigating their negative emotional reactions to the ad.

Experiments 1 and 2 offer different yet convergent methods of improving women's spontaneous reactions toward explicitly sexual advertising, which earlier research has found to be relatively unfavorable (e.g., Sengupta and Dahl 2008). Experiment 1 illustrated a positioning technique that brought about improvement, whereas the priming method used in experiment 2 heightened the accessibility of thoughts about a committed relationship. Findings from both studies are consistent with our basic premise: women's attitudes toward sex in general (and depictions of sex in advertising in particular) will be more favorable when contextual cues engender an interpretation of the sexual behavior as reflecting a committed, intimate relationship than when such cues are absent.

However, both studies leave a key theoretical question unexplored. The ambiguity arises because in experiments 1 and 2 commitment was operationalized in terms of a resource that a man offers a woman (a gift in experiment 1, loyalty in experiment 2). Would a similar attitude improvement be obtained if general cues of relationship commitment and intimacy without regard to who is the giver and receiver of such commitment were present? Returning to experiment 2's design, it is unknown whether a similar effect would have occurred if the committed-partner prime described a woman offering loyalty to a man instead of the other way

around. In experiment 3 we tested whether the direction of resource matters.

Different conceptual viewpoints exist on the role of general versus directional relational cues. As discussed, several strands of research on gender differences in sexual motivations converge on the idea that female attitudes become more favorable when sex is linked to relational intimacy and commitment (Birnbaum, Glaubman, and Mikulincer 2001; DeLamater 1987; Hill 2002). This line of inquiry does not require the commitment cues to be directional in nature. In contrast, SET, because it conceptualizes sex as a form of exchange and moreover one in which women have greater negotiating power, clearly asserts that it is women who must be offered an additional inducement (whether pecuniary or relational) in order for them to want to engage in the exchange (Baumeister and Vohs 2004). Applied to the current advertising context, then, this perspective would argue that in order to improve women's attitudes, it is insufficient to only make salient general thoughts of relationship commitment; rather, these thoughts must reflect a transfer of relationship resources from a man to a woman.

The next two studies test these competing predictions by comparing the effects of different commitment-related primes. In doing so, experiments 3 and 4 make a core theoretical contribution by clarifying the nature of commitment-related cues that favorably influence women's attitudes toward sex. To our knowledge, this issue has heretofore been unexplored in sexual science, but its resolution is a necessary step in teasing apart different theories about how women view sex. Finally, to provide a complete picture, both studies also measure men's reactions and interpret them in terms of gender differences in sexual motives.

EXPERIMENT 3

Design and Rationale

Experiment 3 tested two competing mechanisms regarding the roles of general versus directional relationship commitment that may explain the improvement in women's attitudes toward explicitly sexual advertising. In addition, this study tested whether male reactions are influenced by relationship commitment thoughts. A 2 (gender: men versus women) \times 2 (relationship partner prime: committed versus uncommitted) between-subjects experimental design ($n = 93$) was used. All participants were exposed to the sex-based ad and the procedure and dependent variables (ad attitudes $\alpha = .95$, brand attitude $\alpha = .93$, positive affect $\alpha = .89$, negative affect $\alpha = .85$) were identical to experiment 2 with one difference: the priming manipulation switched genders between the giver and the receiver of relational resources. In the committed partner condition, the paragraph described a relationship between Mary and John in which Mary was described as the loyal and committed partner, whereas the uncommitted partner paragraph described Mary as the disloyal partner. A pretest ($n = 30$) validated the priming manipulation. Using the pretest scales from experiment 2 ($\alpha = .92$), participants rated Mary as more committed after

reading the committed partner paragraph ($M = 6.20$) than after reading the uncommitted partner paragraph ($M = 2.47$; $t(28) = 11.56$, $p < .001$).

Reactions to the sexual ad following the primes allowed us to test competing predictions. On the one hand, if heightened accessibility of general thoughts regarding relationship commitment serves to improve women's attitudes toward sexual ads, then the pattern seen in experiment 2 should be observed again, such that the committed partner condition should yield better reactions than the uncommitted partner prime. On the other hand, if the directional hypothesis dictated by SET is valid, then this effect should not obtain—women's attitudes toward the sexual ad should improve only when the prime succeeds in making salient thoughts of relationship commitment that a man provides for a woman (as in experiment 2) but not the converse.

Men's reactions to the sexual ad under these conditions were also of interest. The earlier studies do not rule out the possibility that the directional process posited by sexual economics theory holds for men as well (even though SET itself makes its claims only for women). That is, it may be that men are also more likely to react favorably to sexual advertising when it is accompanied by thoughts of relationship commitment that women provide to men. If so, men should react more favorably under the committed-partner prime than under the uncommitted partner condition. As reviewed, though, research on gender differences in sexual motives indicates that in general men value sex as a recreational activity in itself (Cohen and Shotland 1996; Oliver and Hyde 1993) and further inducement by way of increased commitment should not affect their attitudes toward the sexual ad.

The three possible gender-based patterns may be summarized as follows: (a) If both men and women react favorably to sex when it is accompanied by directional thoughts of relationship commitment from their partner, then there should be an interaction effect such that the committed partner prime in this study (which depicts commitment from a woman to a man) should favorably influence men's but not women's ad attitudes. This finding would parallel experiment 2's findings, which were observed among women. (b) If women are concerned with the direction of resource transfer when reacting to sexual stimuli but men are not, then the priming manipulation in this study should influence neither men nor women—thus, only a main effect of gender would be expected with men reacting more favorably to the sexual ad than women. (c) If women are concerned with global thoughts of relationship commitment with regard to sex and are unconcerned with direction of transfer, whereas men do not pay heed to relationship considerations, an interaction would be expected such that the priming manipulation would influence women but not men.

Results

Ad and Brand Attitudes. A 2 (gender) \times 2 (relationship partner prime) ANOVA revealed only a significant

main effect of gender on the ad attitude index ($F(1, 89) = 31.28$, $p < .001$). No other effects were significant (p 's $> .10$). Women reported more negative attitudes ($M_{\text{female}} = 2.07$) about the sexual ad regardless of type of relational prime than did men ($M_{\text{male}} = 3.67$). Analysis using the brand attitude index showed a parallel pattern of means and effects (i.e., only a main effect for gender $F(1, 89) = 25.86$, $p < .001$; $M_{\text{female}} = 2.95$, $M_{\text{male}} = 4.59$). Thus, the pattern of findings was line with the second possibility (b) discussed above.

Emotional States after Viewing the Ad. A significant gender main effect was obtained on the positive affect index ($F(1, 89) = 20.33$, $p < .001$), with men reporting higher positive affect after exposure to the ad ($M_{\text{male}} = 4.21$) than women ($M_{\text{female}} = 3.19$). No other effects were significant for positive affect. Similarly, a significant gender main effect on the index of negative emotions was identified ($F(1, 89) = 29.57$, $p < .001$), with women reporting higher levels of negative affect ($M_{\text{female}} = 4.29$) than men ($M_{\text{male}} = 2.70$). There was also a main effect of relationship partner prime ($F(1, 89) = 5.20$, $p = .025$); somewhat surprisingly, more negative affect was reported in the committed-prime condition ($M_{\text{com}} = 3.93$) versus the uncommitted-prime ($M_{\text{uncom}} = 3.39$). As discussed later, this finding may be due to the atypicality of the committed-partner induction that was used in the study.

Following experiment 2, we also tested whether negative emotionality mediated the effect of gender differences on ad attitudes. Two prerequisites (Baron and Kenny 1986) for mediation were already satisfied: differences in the independent variable (gender) caused differences in negative emotionality (the mediator) as well as in ad attitudes (the dependent variable). In line with the third precondition, we found a significant relationship between the mediator (negative emotions) and the dependent variable (ad attitudes; $r(92) = -0.57$, $p < .001$). The final test for mediation was conducted using regression with the negative emotion index, gender, relationship partner prime, and the two-way interaction of gender \times prime as predictors of ad attitude. This model revealed that the previously significant main effect for gender dropped in significance ($t(88) = 2.17$, $p = .033$) whereas the negative emotion index remained highly significant ($t(88) = 4.19$, $p < .001$; Sobel $t = 2.54$, $p = .011$), thereby supporting a mediation account. Ancillary analyses showed that positive emotions did not mediate the effects of gender on ad attitude.

Discussion

Contrary to the conclusion that may be reached from several strands of research on gender differences in orientations toward sex and intimacy, our results indicate that simply heightening the accessibility of thoughts regarding relationship commitment, irrespective of direction of transfer, is insufficient to favorably influence women's attitudes. Were that the case, the committed-partner prime should have led to better attitudes. In combination with the prior study,

it seems that for women direction indeed matters. Their attitudes improved when thoughts involved commitment being proffered by a man to woman (experiment 2) but not the other way around (experiment 3). The current results are consistent with an SET-based view of sexual relations, which argues that because they typically possess greater negotiating power in a sexual exchange, women can ask for further resources (e.g., relationship commitment) in order to participate in the exchange.

The results for men are of interest as well. Attitudes toward the sexual ad did not change across the two priming conditions but instead remained favorable even when paired with thoughts of a disloyal, uncommitted partner. This is a distinct reaction from what we observed among women in the equivalent condition in experiment 2. These results are consistent with the view that men have a favorable response to sex (and explicit depictions of it) on its own, with no contextual justification needed. The overall picture therefore seems to be that for men, thoughts of relationship commitment are comparatively unlikely to influence their attitudes toward sexual stimuli; for women, these thoughts do matter—but the direction of resource transfer has to be taken into account.

An important caveat is in order, however. We have interpreted the lack of improvement in women's attitudes in the commitment-prime condition in this study (especially when viewed alongside the improvement observed in the equivalent condition in experiment 2) to be consistent with a resource transfer perspective—that is, as supportive of the influence of directional rather than generalized thoughts of relationship commitment. An alternate explanation, based on a norm-atypicality view, also merits consideration. This explanation would argue that the commitment prime used in experiment 3, which involved a woman offering loyalty and commitment to a man, is somewhat unusual in the context of sexual intimacy. If so, then one can understand the lack of a favorable response to this prime as a result of its atypicality and not of respondents' personal values. This atypicality explanation gets some support from the fact that there was overall greater negativity for the committed- versus uncommitted-partner prime.

Experiment 4 was conducted to test this alternate explanation and provide stronger support for a directional commitment mechanism underlying women's reactions to sexual advertising. As described next, we compared the effects of two primes related to commitment, one that made accessible thoughts of shared commitment between a couple (without specifying direction) and another that made accessible thoughts of commitment proffered by a man to a woman. Both sets of thoughts are typical in a relationship context; thus, norm atypicality should no longer be a factor. A generalized commitment mechanism would predict that women's attitudes should be influenced by both primes in an equivalent and favorable fashion; a directional mechanism, in contrast, would predict more favorable attitudes after thoughts of commitment-based resource transfer from the man to the woman as compared to thoughts of shared

commitment between the couple. Finally, experiment 4 also examined men's reactions to these two primes. As before, we predicted that men's attitudes toward sexual advertising would be unaffected by the type of commitment thoughts evoked prior to ad viewing.

EXPERIMENT 4

Design and Procedure

Experiment 4 used a 2 (gender: men versus women) \times 2 (commitment focus prime: couple-focused commitment versus female-focused commitment) between-subjects experimental design ($n = 85$). The procedure and dependent variables were similar to the previous two priming studies with one difference. Instead of a proofreading task, participants were asked to complete a sentence descrambling task (Srull and Wyer 1979) before ad viewing and assessment. The descrambling task asked participants to make sense of 16 different word groupings, eight of which served as a prime of commitment focus. Each word grouping consisted of five words, four of which created a logical phrase. For example, in the couple-focused commitment condition the scrambled sentence of "loved each jump they other" was descrambled to read "they loved each other." Thus, descrambled phrases in this condition focused on a shared commitment within a couple (e.g., they celebrated an anniversary, we were so romantic, a couple looked happy). The female-focused commitment condition differed in that the descrambled phrases focused on male expressions of commitment toward a woman (e.g., stood by her side, token of his commitment, he lovingly kissed her).

Two pretests validated the priming manipulation. Participants ($n = 26$) read the descrambled versions of the couple-focused or female-focused priming tasks (between subjects) and then rated on 7-point scales how (a) typical the statements seemed, in terms of how often the sentence's meaning would be encountered in everyday life, and (b) the extent to which the sentences seemed "normal" when considering a committed relationship. These items were combined to form a typicality index ($\alpha = .70$). As expected, the phrases that constituted the couple-focused and female-focused primes were perceived as equivalently typical ($M_{\text{cpl focus}} = 10.0$, $M_{\text{fem focus}} = 9.77$; $t(24) < 1$). Hence, priming effects in the main study are unlikely to be due to differences in perceived typicality. A second pretest confirmed the directionality aspect of the primes ($n = 32$). After completing either the couple-focused or female-focused descrambling task, participants indicated the extent they felt this task made them think of a man expressing intimacy and commitment to a woman (7-point scale, not at all = 1, a lot = 7). As expected, participants in the female-focused task scored higher ($M = 4.44$) than those completing the couple-focused task ($M = 3.13$; $t(30) = 2.00$, $p = .05$).

In the main study, the remainder of the experimental procedure followed previous studies. Measurement of ad attitudes ($\alpha = .90$), brand attitude ($\alpha = .96$), and positive and

negative affect ($\alpha = .82$ and $\alpha = .86$, respectively) followed those used previously.

Results

Ad and Brand Attitudes. Consistent with predictions, a 2 (gender) \times 2 (commitment focus prime: couple-focused commitment versus female-focused commitment) ANOVA revealed a significant interaction of gender and commitment focus prime on the ad attitude index ($F(1, 81) = 4.43, p = .038$; fig. 3). A main effect for gender was also found ($F(1, 81) = 15.75, p < .001$). Contrasts revealed results supportive of a directional commitment mechanism for women, who reported more positive attitudes about the sexual ad after being primed with the directional female-focused prime ($M = 3.72$) as compared to the generalized couple-focused prime ($M = 2.98; F(1, 81) = 3.61, p = .030$, one tailed). Also as expected, the priming manipulation did not affect men's attitudes toward the sexual ad ($M_{\text{fem focus}} = 4.27, M_{\text{cpl focus}} = 4.77; p = .259$). Analyses on the brand attitude index showed a parallel pattern of means and effects (interaction $F(1, 81) = 7.71, p = .007$; gender main effect $F(1, 81) = 8.13, p = .006$). Women in the female-focused commitment condition reported more favorable brand attitudes ($M_{\text{fem focus}} = 4.49$) than women in the couple-focused commitment condition ($M_{\text{cpl focus}} = 3.18; F(1, 81) = 9.67, p = .003$). Among men there were again no differences in brand attitudes ($M_{\text{fem focus}} = 4.51, M_{\text{cpl focus}} = 4.98; p = .331$).

Emotional States after Viewing the Ad. Similar to experiment 3, the positive emotion index only showed a significant gender main effect ($F(1, 81) = 22.41, p < .001$), with men reporting higher positive affect ($M = 4.57$) than women ($M = 3.24$). As expected, a marginally significant interaction effect of gender and primed commitment focus on the index of negative emotions was obtained ($F(1, 81)$

$= 3.14, p = .080$), as was a main effect of gender ($F(1, 81) = 5.21, p = .025$). Planned comparisons revealed that for women, the negative affect induced by the sexual ad was reduced by priming them with female-focused commitment as compared to couple-focused commitment ($M_{\text{fem focus}} = 3.10, M_{\text{cpl focus}} = 3.94; F(1, 81) = 4.12, p = .046$). Negative emotions among men did not differ across priming conditions ($M_{\text{fem focus}} = 2.95, M_{\text{cpl focus}} = 2.65; p = .556$).

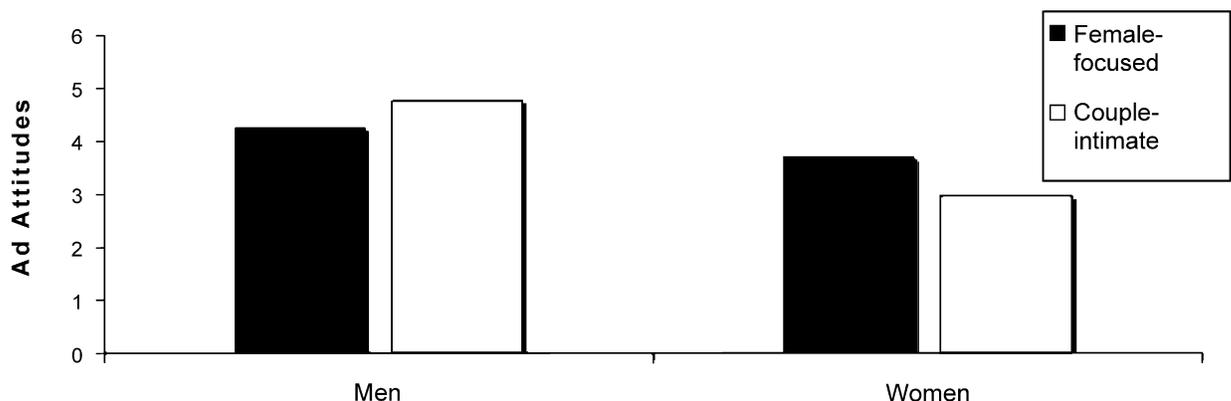
Negative emotions again mediated the effect of priming on ad attitudes across gender. We found a significant relationship between the mediator (negative emotions) and the dependent variable (ad attitudes; $r(85) = -0.56, p < .001$). An ANCOVA with the negative emotion index as a covariate and gender and commitment focus prime as predictors of ad attitude showed that the previously significant interaction term was no longer significant ($F(1, 80) = 1.91, p = .171$) whereas the negative emotion covariate remained significant ($F(1, 80) = 25.18, p < .001$; Sobel $t = 1.67, p < .10$).

Discussion

Results from experiment 4 provided strong support for a directional-based influence of relationship commitment, which posits that women will view a sexually explicit ad more favorably when thoughts of commitment proffered by men to women are accessible but not when generalized thoughts of relationship commitment, which do not indicate any particular direction of transfer, are accessible. In particular, more favorable ad and brand attitudes were obtained when women viewed the sexual ad after a task that aroused notions of men expressing commitment to women, as compared to a task that featured expressions of a couple's shared devotion. Combined with the results obtained in experiment 3, these findings are consistent with a resource transfer conceptualization. The particular primes used in this study—both pretested as being typical exemplars of romantic commitment and intimacy—also served to reduce the likelihood

FIGURE 3

AD ATTITUDES AS A FUNCTION OF PRIMES ACTIVATING COMMITMENT FROM MEN TO WOMEN VERSUS SHARED-COUPLE COMMITMENT AND SEXUAL VERSUS NONSEXUAL AD: EXPERIMENT 4



of a simple norms-atypicality explanation. Finally, as in previous studies, differences in spontaneous evaluations of the sexual ad were mediated by negative emotional reactions.

Men's reactions were also in line with predictions. As in our earlier studies, men were uninfluenced by type of prime presented before ad exposure. This finding again bolsters the view that men, for the most part, have a positive reaction to explicit depictions of sex, independent of whether the sexual behavior is linked to relationship commitment.

GENERAL DISCUSSION

Summary and Contributions

The current study provided insights into consumers' spontaneous reactions to the gratuitous use of sex in advertising and in doing so helped to refine an understanding of gender differences in sexual motivations. Earlier research (e.g., Sengupta and Dahl 2008) found that women, but not men, have an aversion to the gratuitous use of sex in advertising. We drew upon two complementary theoretical perspectives in the sex literature, one based on gender differences in orientations to sexual motivations and another based on a sexual exchange conceptualization, to pinpoint a mechanism for this effect and identify ways in which women's dislike of sexual advertising may be assuaged. Both theoretical viewpoints point to the conclusion that, due to a combination of evolutionary and socialization factors, men are likely to value sex in itself and focus on the physical aspect of sex, whereas women tend to have negative feelings about sexual behavior that is decoupled from emotional intimacy and commitment.

Building on this premise, we proposed that women's attitudes would improve if an ad depicted sex in a manner consistent with their intrinsic values: namely, if the sexual behavior depicted in the ad could be interpreted in light of a relationship laden with devotion and commitment. Findings from experiments 1 and 2 were supportive of this hypothesis. Experiment 1 illustrated that commitment-related cues in the ad itself (e.g., positioning the product as a gift to a woman from a man) boosted women's attitudes, and experiment 2 found that increasing the accessibility of thoughts relating to relationship commitment prior to ad exposure brought about the same effect.

Experiments 3 and 4 then provided a more nuanced understanding of these findings by exploring the role of directionality in the influence of relationship commitment thoughts on ad attitudes. Much of the research on sexual relations—especially that focused on gender differences in orientations to sex and intimacy—suggests that simply heightening the accessibility of thoughts regarding romantic commitment should yield an improvement in women's attitudes. In contrast, a sexual exchange perspective explicitly argues for a directionality component. According to this view, an improvement in attitudes will be seen only if relationship commitment is viewed as a resource transfer to a woman from a man. Findings from both studies were supportive of the sexual exchange stance. For instance, in

experiment 4, more favorable attitudes were induced by a prime of a man proffering relationship commitment to a woman as compared to a prime of a couple's shared expressions of commitment.

Alongside our focus on women's reactions, we also obtained intriguing insights into men's responses to sexual advertising. In support of the view that men value sex as a recreational activity and therefore do not need further rationalization for depictions of sexual behavior, we repeatedly found that heightening the accessibility of thoughts relating to relationship commitment did not influence men's (already favorable) attitudes toward the sexual ad, regardless of the directionality of such thoughts. However, one notable exception emerged. Despite their steadfast support for sex-based advertising, we did find that men reacted negatively to sexually explicit ads when the ads strongly reminded men that they may, at times, devote monetary resources in the pursuit of sexual contact. Experiment 1, in which this result was obtained, differed from the other studies in a qualitative manner in that it highlighted gift giving from a man to a woman, which clearly indicates money spent. This finding is consistent with Belk and Coon's (1993) analysis of gifting behavior in a dating context. These authors found that men felt uneasy about the notion of spending money on a woman, or at least a goodly amount of money. Specifically, men worried that the women would take their gifts and then, in the words of one informant, "in a couple of weeks . . . BAM—she decides she doesn't like you anymore" (Belk and Coon 1993, 399). As far as we are aware, the current study offers the first illustration of this idea in an advertising context.

Hence, experiment 1's gift positioning may have caused an aversive reaction in men (dampening their usually favorable reaction to sex-based advertising) because it highlighted the issue of having to spend money in the context of a dating relationship. Of interest, such a negative reaction was only caused by a reference to expending monetary resources (experiment 1), not emotional resources (experiment 4). Speculatively, we suggest that this happens because negative stereotypes about men being "used" by women more often have to do with the expenditure of money rather than emotion. Further investigation into this interesting possibility would be in order.

The contributions made by the current research can be partitioned into two major areas: furthering knowledge of consumer reactions to sexual appeals and advancing theoretical knowledge of gender differences in sexual motives. On the former, not only did we replicate recent findings showing that women dislike sexual ads, we provided a deeper understanding of that effect. Our work drew upon sexual psychological findings that indicate that women react badly when recreational sex lacks a broader context of a committed relationship and instead is portrayed as an end in itself. Gratuitous sex appeals serve as a vivid example of such a portrayal, thereby explaining women's negative reactions, especially compared to the reactions of men. Although it is probable that other factors contribute to women's

aversion to sexual appeals, the value of the current account lies in its ability to identify theoretically derived boundary conditions for women's dislike of this type of advertising. Contextual cues that make it easier to frame the sexual behavior in an ad in terms of a committed relationship—and in particular one in which commitment signals are directed from the man to the woman—should achieve this objective. Based on this premise, the studies reported in the current manuscript documented different techniques, consisting of both positioning and priming, which softened women's reactions toward sexual advertising. Further, our studies also provided renewed support for the stance that men's reactions to sexual advertising are typically quite favorable (with the exception noted earlier). Finally, in obtaining support for the mediating role played by experienced emotions, the current studies provided novel insights into the processes that underlie spontaneous, nondeliberative attitudes toward sexual advertising.

In addition to theoretical value, the current findings contain practical implications for marketers, advertisers, and other promoters who use sex to sell. At one level, we echo earlier research (e.g., Peterson and Kerin 1977; Sengupta and Dahl 2008) suggesting that explicit depictions of sex can be problematic, especially with regard to women's spontaneous reactions. However, the present experiments also revealed that the appropriate use of positioning and relationship context can improve women's attitudes toward the ad and brand. Although marketers should exercise caution when using sex to promote products if women are part of the target audience, our research provides guidelines to reduce potential downsides.

The second set of contributions relates to theoretical perspectives of how men and women view sexual relations. Different streams of research in sexual psychology have converged on the idea that men have permissive attitudes toward casual, recreational sex, whereas women prefer to view sex in a relationally committed context. The current research, as far as we are aware, is the first to apply this premise to an advertising domain. In doing so, this research refines and informs basic theoretical knowledge in several directions. First, by conceptualizing reactions to advertising as a signal of underlying preferences as to how sex should be portrayed we extend the underlying theory to a new context. Second, and more important, this research advances current theoretical knowledge by merging earlier work on gender motivations about sex with an intriguing new conceptualization: sexual economics theory. By incorporating the principles of negotiation and resource transfer inherent in SET, we predicted and found that generalized thoughts of commitment were inadequate to improve women's attitudes; rather, a directionality component, from man to woman, was required to achieve this objective. Although the favorable influence of an intimacy context on women's attitudes toward sex has received wide support in the literature, the directionality aspect is novel. Third, the current research is the first to provide experimental support for the resource transfer principles dictated by SET insofar as prior

support for this conceptualization has been rooted in anthropological, sociological, and historical records (Baumeister and Vohs 2004). Our results demonstrate that the powerful underlying motivations implicated in that model are susceptible to unobtrusive contextual cues.

Directions for Future Research

The conceptualization and findings offered by the current research suggest several areas for future research. One potentially fruitful line of investigation concerns conditions under which women's reactions are akin to those of men. That is, although the present work suggests how to soften women's dislike of sexual advertising, recall that their attitudes become equivalent to those produced by nonsexual advertising. Taking the reasoning a step further, are there contingencies that would lead women to prefer sexual to nonsexual ads, as is typically the case for men? Our conceptualization provides some pointers in this regard. We think that the distal cause of women's dislike of gratuitous sex in advertising has to do with their intrinsically lower desire for recreational sex as an end in itself, on average. A corollary of this tenet is that women who (whether because of individual or situational differences) possess a high sex drive should react favorably to ads that depict gratuitous sex. Evidence from other work provides results consistent with this premise. In one study, Sengupta and Dahl (2008) found that sexually liberal women showed a strong preference for a sexual ad versus a nonsexual ad. Recent work by Reichert, LaTour, and Kim (2007) found that women's sexual self-schemas—that is, a woman's perception of herself as a sexual person—had a positive influence on attitudes and affective reactions to sexual ads. These constructs are worthy avenues for future research to test if and when women's reactions to sexually explicit ads mirror men's. Indeed, this general line of inquiry would be consistent with findings in sex research that suggest that personality variables can exert a significant influence on attitudes toward uncommitted sex—for instance, socially dominant, more extroverted women tend to be less restricted in their attitudes toward sex (Gangestad and Simpson 2000). In addition to exploring individual differences, future research should also examine how contextual and environmental factors that temporarily increase female sex drive (such as during their ovulation period; Gangestad and Thornhill 1998) affect their responses to sexual advertising.

Further work in the area should also seek to investigate the possible role of arousal in driving gender-based differences to sexual advertising. Admittedly, it is a limitation of the current research that arousal measures were not obtained, which was because attitude, not arousal, was the focus of investigation. We note, though, that research in sexual psychology suggests that men and women display similar levels of arousal when exposed to depictions of explicit sex, despite attitudinal differences being observed (Chivers et al. 2004; Hatfield, Sprecher, and Traupmann 1978; Veitch and Griffitt 1980). Further, although we did not obtain arousal measures in the main studies reported here, extensive pretesting re-

vealed no gender differences in self-reported arousal upon exposure to the sexual ad, as was the case with earlier work using the same stimuli (Sengupta and Dahl 2008). Thus it is unlikely that the observed gender differences in attitudes toward the sexual ad were driven by arousal differences, at least in the current context. Even so, future work should conduct a fine-grained inquiry, using more refined measures, into the role of arousal in the context of sex-based advertising (e.g., see LaTour 1990 for relevant work in this area).

Finally, we would like to reiterate that the conceptualization prevailing in our research does not involve women and men engaging in conscious deliberation with regard to their sexual motives. We do not believe that women enter into sexual encounters with the deliberate intention to extract money, commitment, or any other resource from their male partners. Rather, in line with the extant literature, we conceptualize sexual responses in terms of implicit, automatic understandings that men and women possess about sexual relations— notions that have been developed and spread through centuries of evolutionary and socialization influences. For this reason, as well as others (e.g., to simulate real world, low-involvement ad viewing, and fostering comparisons with past research), our data were gathered under constrained processing conditions, which allowed us to isolate spontaneous and uncontrolled affective reactions to sexual advertising. It remains an open question (albeit outside the scope of the current work) whether similar results would obtain under conditions that promote reflections about sexual ads. For instance, it is conceivable that women exposed to the idea of receiving a gift in the context of sex-based advertising may see through the advertiser's intent and exhibit reactance at the overt attempt to manipulate them (Friestad and Wright 1994). Future research should seek to examine these and other extensions of the present work.

In short, the richness of human sexuality is ripe for discovery by consumer scientists. The current research takes an initial step in the direction of achieving a greater understanding of how the intricacies of sexual psychology guide consumer behavior, and it is our hope that these findings will serve as a platform for further, much-needed inquiries in this area.

APPENDIX A

STUDY 2—RELATIONAL PRIMES

COMMITTED PRIME

John and his girlfriend, Mary, have been together for two years. They are a young couple, with a lot going for them, including financial stability and great jobs. Furthermore, their friends all notice how completely devoted John is to Mary. John used to lead a bachelor lifestyle before he met Mary; but that has all changed now. Even when other women find him attractive and flirt with him, he has eyes only for his girlfriend. On weekends as well, he usually prefers to spend a large part of his time with her, rather than hanging out with his buddies. Also, Mary finds John to be

very spontaneous and passionate. One of the attractive things about John is his uninhibited enjoyment of all life has to offer. John and Mary have enjoyed many good times together during their relationship. And when either of them is going through a rough time, they are always there for each other.

UNCOMMITTED PRIME

John and his girlfriend, Mary, have been together for two years. They are a young couple, with a lot going for them, including financial stability and great jobs. However, their friends all notice that John is not completely devoted to Mary. John used to lead a bachelor lifestyle before he met Mary; that has not totally changed. Even now, when other women find him attractive and flirt with him, he is inclined to stray. On weekends as well, he usually prefers to spend a large part of his time hanging out with his buddies, rather than with his girlfriend. However, Mary finds John to be very spontaneous and passionate. One of the attractive things about John is his uninhibited enjoyment of all life has to offer. John and Mary have enjoyed many good times together during their relationship. But John isn't always there for Mary when she is going through a rough time.

CONTROL PRIME

The PRIZM student organization at the business school at U. Alberta has been active for five years. For the last two years, Mary has been the VP (internal) of the organization, and John has been the VP (external). Under their leadership, the club has grown in membership to forty members. John has been in charge of building relations with the external business community; this has resulted in guest speakers from industry visiting the university, co-op opportunities for students, and a number of successful wine and cheese events. Mary has been active in spearheading numerous weekend social activities for the club. Favorite activities include horseback riding, windsurfing, and rock climbing. These activities have increased a sense of cohesiveness amongst the club members and have contributed significantly to the club's growth in the last couple of years. School administration anticipates that PRIZM will continue to flourish as a student organization.

REFERENCES

- Ambady, Nalini, Frank J. Bernieri, and Jennifer A. Richeson (2000), "Toward a Histology of Social Behavior: Judgmental Accuracy from Thin Slices of the Behavioral Stream," in *Advances in Experimental Social Psychology*, Vol. 32, ed. Mark P. Zanna, San Diego, CA: Academic Press, 201–71.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychology Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (December), 1173–82.
- Baumeister, Roy F., Kathleen R. Catanese, and Kathleen D. Vohs (2001), "Is There a Gender Difference in Strength of Sex

- Drive? Theoretical Views, Conceptual Distinctions, and a Review of Relevant Evidence," *Personality and Social Psychology Review*, 5 (3), 242–73.
- Baumeister, Roy F. and Jean M. Twenge (2002), "Cultural Suppression of Female Sexuality," *Review of General Psychology*, 6 (June), 166–203.
- Baumeister, Roy F. and Kathleen D. Vohs (2004), "Sexual Economics: Sex as Female Resource for Social Exchange in Heterosexual Interactions," *Personality and Social Psychology Review*, 8 (4), 339–63.
- Belk, Russell W. and Gregory S. Coon (1993), "Gift Giving as Agapic Love: An Alternative to the Exchange Paradigm Based on Dating Experiences," *Journal of Consumer Research*, 20 (3), 393–417.
- Birnbaum, Gurit E., Hananyah Glaubman, and Mario Mikulincer (2001), "Women's Experiences of Heterosexual Intercourse—Scale Construction, Factor Structure, and Relations to Orgasmic Disorder," *Journal of Sex Research*, 38, 191–204.
- Birnbaum, Gurit E. and Dafna Laser-Brandt (2002), "Gender Differences in the Experience of Heterosexual Intercourse," *Canadian Journal of Human Sexuality*, 11 (3–4), 143–58.
- Birnbaum, Gurit E., Harry T. Reis, Mario Mikulincer, Omri Gillath, and Ayala Orpaz (2006), "When Sex Is More than Just Sex: Attachment Orientations, Sexual Experience, and Relationship Quality," *Journal of Personality and Social Psychology*, 91 (5), 929–43.
- Blau, Peter M. (1964), *Exchange and Power in Social Life*, New York: Wiley.
- Burnett, John and Sandra Moriarty (1998), *Introduction to Marketing Communication: An Integrated Approach*, Upper Saddle River, NJ: Prentice-Hall.
- Buss, David M. (1989), "Conflict between the Sexes: Strategic Interference and the Evocation of Anger and Upset," *Journal of Personality and Social Psychology*, 56, 735–47.
- (1998), "Sexual Strategies Theory: Historical Origins and Current Status," *Journal of Sex Research*, 35 (February), 19–31.
- Campbell, Margaret C. and Amna Kirmani (2000), "Consumers' Use of Persuasion Knowledge: The Effects of Accessibility and Cognitive Capacity on Perceptions of an Influence Agent," *Journal of Consumer Research*, 27 (June), 69–83.
- Carroll, Janell L., Kari D. Volk, and Janet S. Hyde (1985), "Differences between Males and Females in Motives for Engaging in Sexual Intercourse," *Archives of Sexual Behavior* 14 (2), 131–39.
- Chivers, Meredith L., Gerulf Rieger, Elizabeth Latty, and J. Michael Bailey (2004), "A Sex Difference in the Specificity of Sexual Arousal," *Psychological Science*, 15 (11), 736–44.
- Cohen, Linda L. and Robert L. Shotland (1996), "Timing of First Sexual Intercourse in a Relationship: Expectations, Experiences, and Perceptions of Others," *Journal of Sex Research*, 33 (4), 291–99.
- DeLamater, John (1987), "Gender Differences in Sexual Scenarios," in *Females, Males, and Sexuality: Theories and Research*, ed. Kathryn Kelley, Albany: State University of New York Press, 127–39.
- Friestad, Marian and Peter Wright (1994), "The Persuasion Knowledge Model: How People Cope with Persuasion Attempts," *Journal of Consumer Research*, 21 (June), 1–31.
- Gangestad, Steven W. and Jeffrey A. Simpson (2000), "The Evolution of Human Mating: Trade-Offs and Strategic Pluralism," *Behavioral and Brain Sciences*, 23 (August), 573–644.
- Gangestad, Steven W. and R. Thornhill (1998), "Menstrual Cycle Variation in Women's Preference for the Scent of Symmetrical Men," *Proceedings of the Royal Society of London B*, 265, 727–33.
- Gilbert, Daniel T., Brett W. Pelham, and Douglas S. Krull (1988), "On Cognitive Busyness: When Person Perceivers Meet Persons Perceived," *Journal of Personality and Social Psychology*, 54 (May), 733–40.
- Griffitt, William and Donn L. Kaiser (1978), "Affect, Sex Guilt, Gender, and the Rewarding-Punishing Effects of Erotic Stimuli," *Journal of Personality and Social Psychology*, 36 (August), 850–58.
- Hatfield, Elaine, Susan Sprecher, and Jane Traupmann (1978), "Men's and Women's Reactions to Sexually Explicit Films: A Serendipitous Finding," *Archives of Sexual Behavior*, 7 (6), 583–92.
- Herold, Edward S. and Dawn-Marie K. Mewhinney (1993), "Gender Differences in Casual Sex and AIDS Prevention: A Survey of Dating Bars," *Journal of Sex Research*, 30 (1), 36–42.
- Higgins, E. Tory (1996), "Knowledge Activation: Accessibility, Applicability, and Salience," in *Social Psychology Handbook of Basic Principles*, ed. E. Tory Higgins and Arie W. Kruglanski, New York: Guilford, 133–68.
- Hill, Craig A. (2002), "Gender, Relationship Stage, and Sexual Behavior: The Importance of Partner Emotional Investment within Specific Situations," *Journal of Sex Research*, 39 (3), 228–40.
- Homans, George C. (1950), *The Human Group*, New York: Harcourt, Brace.
- Kassarjian, Harold H. (1977), "Presidential Address, 1977: Anthropomorphism and Parsimony," in *Advances in Consumer Research*, Vol. 5, ed. Keith Hunt, Ann Arbor, MI: Association for Consumer Research, xii–xiv.
- LaTour, Michael S. (1990), "Female Nudity in Print Advertising: An Analysis of Gender Differences in Arousal and Ad Response," *Psychology and Marketing*, 7 (1), 65–81.
- LaTour, Michael S. and Tony L. Henthorne (1994), "Ethical Judgments of Sexual Appeals in Print Advertising," *Journal of Advertising*, 23 (3), 81–90.
- (2003), "Nudity and Sexual Appeals: Understanding the Arousal Process and Advertising Response," in Reichert and Lambiase 2003, 91–106.
- Malamuth, Neil M. (1996), "Sexually Explicit Media, Gender Differences, and Evolutionary Theory," *Journal of Communications*, 46 (3), 8–31.
- Marketing (2003), "Gucci Pubic Hair Ad Gets All Clear from ASA Ruling," February 27, 3.
- Martin, Leonard L. and John W. Achee (1992), "Beyond Accessibility: The Role of Processing Objectives in Judgment," in *The Construction of Social Judgments*, ed. Leonard L. Martin and Abraham Tesser, Hillsdale, NJ: Erlbaum, 195–216.
- Mittal, Banwari and Walfried M. Lassar (2000), "Sexual Liberalism as a Determinant of Consumer Response to Sex in Advertising," *Journal of Business and Psychology*, 15 (1), 111–27.
- Oliver, Mary B. and Janet S. Hyde (1993), "Gender Differences in Sexuality: A Meta-Analysis," *Psychological Bulletin*, 114 (July), 29–51.
- Peterson, Robert A. and Roger A. Kerin (1977), "The Female Role in Advertisements: Some Experimental Evidence," *Journal of Marketing*, 41 (October), 59–63.
- Reichert, Tom and Jacqueline Lambiase (2003), *Sex in Advertising: Perspectives on the Erotic Appeal*, Mahwah, NJ: Erlbaum.
- (2006), *Sex in Consumer Culture: The Erotic Content of Media and Marketing*, Mahwah, NJ: Erlbaum.

- Reichert, Tom, Michael S. LaTour, and JooYoung Kim (2007), "Assessing the Influence of Gender and Sexual Self-Schema on Affective Responses to Sexual Content in Advertising," *Journal of Current Issues and Research in Advertising*, 29 (Fall), 57–71.
- Schachner, Dory A. and Phillip R. Shaver (2004), "Attachment Dimensions and Sexual Motives," *Personal Relationships*, 11 (2), 179–95.
- Schwartz, Pepper and Virginia E. Rutter (1998), *The Gender of Sexuality*, Thousand Oaks, CA: Pine Forge Press.
- Sengupta, Jaideep and Darren W. Dahl (2008), "Gender-Related Reactions to Gratuitous Sex Appeals in Advertising," *Journal of Consumer Psychology*, 18 (1), 62–78.
- Sengupta, Jaideep and Gerald J. Gorn (2002), "Absence Makes the Mind Grow Sharper: Effects of Element Omission on Subsequent Recall," *Journal of Marketing Research*, 39 (May), 186–201.
- Shiv, Baba and Alexander Fedorikhin (1999), "Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making," *Journal of Consumer Research*, 26 (December), 278–92.
- Simpson, Penny M., Steve Horton, and Gene Brown (1996), "Male Nudity in Advertisements: A Modified Replication and Extension of Gender and Product Effects," *Journal of the Academy of Marketing Science*, 24 (3), 257–62.
- Sprecher, Susan (1989), "Premarital Sexual Standards for Different Categories of Individuals," *Journal of Sex Research*, 26 (May), 232–48.
- Srull, Thomas K. and Robert S. Wyer (1979), "The Role of Category Accessibility in the Interpretation of Information about Persons: Some Determinants and Implications," *Journal of Personality and Social Psychology*, 37 (10), 1660–72.
- Tooby, John and Leda Cosmides (1992), "The Psychological Foundations of Culture," in *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*, ed. Jerome H. Barkow, Leda Cosmides, and John Tooby, New York: Oxford University Press, 19–136.
- Trivers, Robert L. (1972), "Parental Investment and Sexual Selection," in *Sexual Selection and the Descent of Man, 1871–1971*, ed. Bernard Campbell, Chicago: Aldine, 136–79.
- Veitch, Russell and William Griffitt (1980), "The Perception of Erotic Arousal in Men and Women by Same- and Opposite-Sex Peers," *Sex Roles*, 6 (5), 723–33.
- Waller, Willard and Reuben Hill (1951), *The Family: A Dynamic Interpretation*, New York: Dryden.
- Wilson, Edward O. (1978), *On Human Nature*. Cambridge, MA: Harvard University Press.