

Postdrinking Sexual Perceptions and Behaviors Toward Another Person: Alcohol Expectancy Set and Gender Differences

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Based on research showing that alcohol expectancy and gender both play a role in sexual perceptions, we factorially crossed the apparent drinking status of yoked pairs consisting of a participant and a target person (a confederate posing as co-participant). Alcohol expectancy interacted with gender in complex ways to influence sexual perceptions. We also found behavioral effects: men showed more erotic material to both male and female targets than women did. Men perceived the target as more sexually aroused by erotic material than women did. Men also showed more erotic material to drinking targets than to non-drinking targets. Sexual perceptions and erotica-showing behavior were correlated significantly and positively. We discuss these findings in terms of implications for postdrinking heterosexual encounters.

Expectancy processes play an important role in postdrinking sexuality: both men and women expect alcohol to enhance sex (see reviews by Crowe & George, 1989; George & Norris, 1991; George & Stoner, 2000). Alcohol expectancy set—the experimentally-manipulated belief that one has been drinking—has been shown to increase men’s sexual arousal and interest. However, comparable effects have not been observed in women, suggesting important gender differences in the psychological processes associated with postdrinking sexuality. Clarifying these differences may aid in delineating alcohol’s role in heterosexual sexual encounters, including sexually risky and aggressive situations. In this study, we anticipated that men and women would differ in how they perceived another person sexually and would do so based on their own presumed drinking status as well as the other person’s. Furthermore, we anticipated that gender differences would be evident not only in perceptions, but also in behavior.

Alcohol Expectancy, Sexuality, and Gender

Alcohol’s effects on sexuality were once thought to be determined solely by pharmacology. However, researchers now routinely distinguish between pharmacological and expectancy effects on post-drinking sexuality. In survey studies employing instruments developed to assess alcohol expectancies, men and women endorse the belief that “alcohol enhances sexual experiences” rather than the belief that

it does not (e.g., Brown, Goldman, Inn, & Anderson, 1980). Individuals also see sub-themes reflecting more specific effects, such as sexual disinhibition (e.g., Leigh, 1990) and sexual risk-taking (e.g., Dermen & Cooper, 1994). In balanced placebo experiments, alcohol expectancy set—manipulated independently of actual alcohol ingestion—increased men’s sexual arousal (e.g., Wilson & Lawson, 1976), interest in erotic materials (George & Marlatt, 1986), and sexual aggressiveness (Gross, Bennett, Sloan, Marx, & Juergens, 2001); but had no such effects on women (see review by Norris, 1994). However, Abbey, Zawacki, and McAuslan (2000) failed to find an expectancy set effect on sexual perceptions regardless of participant gender. Specifically, men and women in the expect-alcohol condition did not perceive an opposite-sex co-participant more sexually than participants in the expect-no-alcohol condition. Yet, men and women in the receive-alcohol condition perceived their co-participants more sexually than did counterparts in the receive-no-alcohol condition. This is a particularly interesting finding because the participant and co-participant were matched on drinking such that they both consumed either alcoholic or non-alcoholic drinks. Therefore, increased sexual perceptions could have resulted from the participant’s own intoxication or from the participant’s expectancy set about the co-participant’s drinking. This latter possibility is consistent with evidence from vignette experiments.

In vignette experiments, participants have perceived a drinking woman as more sexually available and willing to have sex than a nondrinking counterpart (e.g., George, Gournic, & McAfee, 1988). The drinking man has been perceived similarly (Corcoran & Bell, 1990; George et al., 1997, study 2). Drinking actors have been seen as being more sexy (Leigh, Aramburu, & Norris, 1992), showing more sexual initiative (e.g., Vélez-Blasini & Brandt, 2000), and having more sexual intent (Abbey & Harnish,

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1995) than nondrinking actors. In both dating (George, Cue, Lopez, Crowe, & Norris, 1995) and date rape (Abbey, Buck, Zawacki, & Saenz, 2003) vignettes, perceivers' endorsement of sex-related alcohol expectancies has been associated with seeing a drinking woman as more sexually responsive. Such findings document expectancy set effects for others, whereby participants ascribe more sexual responsiveness to a drinking than a nondrinking person.

In sum, people generally see alcohol as enhancing sex. Men exhibit greater sexual response and interest in erotica when convinced they have been drinking, and drinking persons are perceived as more sexual than non-drinking counterparts. Gender is an important qualifying factor, however. Dermen and Cooper (1994) found that men and women both endorsed sex-related alcohol expectancies, but men endorsed them more strongly than women. Borjesson and Dunn (2001) found that women's tendency to see men as sexually disinhibited by alcohol correlated with their own self-reported drinking; this pattern did not hold for men. George, Stoner, Norris, Lopez, and Lehman (2000) reported that men rated drinking women more sexually than non-drinking women, but did not so distinguish drinking and non-drinking men. Thus, sexual perceptions of a drinking versus nondrinking target person depend on the perceiver's and target's gender. More experimentation is warranted to delineate further the extent of these gender differences.

Gender Differences in Sexual Perceptions

Researchers have studied whether men and women differ in the degree to which they perceive others as exhibiting sexual interest and having sexual intentions. Generally, men interpret women's behavior and communication more sexually than do women (e.g., DeSouza & Hutz, 1996; Haselton & Buss, 2000; Koukounas & Letch, 2001). Abbey (1982) first established this finding empirically, and numerous investigators have replicated it (e.g., Donat & Bondurant, 2003; Fisher & Walters, 2003; Johnson, Stockdale, & Saal, 1991; Kowalski, 1993). This is not simply an effect of men perceiving female targets more sexually than women do and women perceiving male targets more sexually than men do. The former finding is reliable and robust, but the latter finding is not. Most studies find a perceiver gender main effect (i.e., men perceive more sexuality in male and female targets) or more typically, a perceiver gender by target gender interaction (i.e., men's heightened sexual perceptions are limited to female targets; see review by Lindgren & George, 2006).

Although it is tempting to characterize the pattern of gender differences in sexual intent perceptions in terms of the relation between a target person's gender and a perceiver's gender (i.e., is the target a same-sex or cross-sex target?), doing so does not adequately capture the pattern of observed findings and is, in fact, erroneous. Men do tend to perceive female targets more sexually than women do, but women do *not* tend to perceive male targets more sexually than men do. Instead, women's perceptions of male targets tend either to mirror or to be less sexual than

men's perceptions. Testing for gender differences by solely examining cross-sex (or, alternatively, same-sex) targets is problematic. In such an approach, one would be comparing men's ratings of women with women's ratings of men (alternatively, men's ratings of men with women's ratings of women). Accordingly, analyses would be confounding perceiver and target gender effects. For example, one might find that men perceive a cross-sex target more sexually than women perceive a cross-sex target, but one would be unable to locate the source of that finding (i.e., does it stem from gender differences in the perceiver and/or from gender differences in the targets). Thus, it is critical and standard to disentangle perceiver gender and target gender and test for the presence of main effects and interactions in both.

Perceptions and Sexuality-Related Behavior

This study was designed to evaluate alcohol expectancy set and gender effects not only on sexual perceptions, but also on behavior. Do effects obtained with self-reported sexual perceptions extend to behavior? This question has been difficult to address because sexuality-related behaviors are notoriously difficult to research under laboratory conditions, especially in protocols involving two persons rather than a solitary participant. Sexual behavior, because of its highly private nature and associated ethical constraints, poses complicated measurement challenges. These challenges necessitate the development of analogue experiments to measure proxy behaviors that—while acknowledged as compromise solutions—do bear meaningfully on sexuality. To consider behavior, we modified an erotica-exposure procedure used in solitary-participant situations, where the participant views erotic pictures, unaware that his or her self-regulated viewing times are being recorded. Investigators have established that such viewing behavior reflects the solitary participant's interest in watching, enjoying, and being sexually aroused by erotic materials (Amoroso, Brown, Pruesse, Ware, & Pilkey, 1970; Becker & Byrne, 1985; Brown, 1979; George & Marlatt, 1986; Lang, Searles, Lauerman, & Adesso, 1980; Lansky & Wilson, 1981; Lopez & George, 1995; Love, Sloan, & Schmidt, 1976; McCarty, Diamond, & Kaye, 1982). This paradigm has been successfully extended to joint viewing in which the participant determines joint erotica interest for himself or herself and a confederate (George et al., 2000). For the present study, we modified the paradigm to create an erotica-showing measure. This measure was designed to isolate the participant's judgment and behavior about the degree to which the other person is interested in experiencing exposure to sexually-arousing explicit erotica. This is accomplished by insuring that the participant is unable to view the erotic material himself or herself, while he or she determines how much the other person views.

Hypotheses

To advance our understanding of the ways in which gender and alcohol expectancy sets for self and other effect

sexual perceptions of and behavior toward another person, we evaluated four hypotheses. First, we hypothesized that a person's own expectancy set would matter for men but not for women; "drinking" (expect-alcohol) men were expected to exhibit greater sexual perceptions and erotica-showing behavior than "nondrinking" (expect-no-alcohol) men, but "drinking" women were not anticipated to differ from "nondrinking" women (Hypothesis 1). Second, we hypothesized that "drinking" targets would be perceived more sexually than "nondrinking" targets and shown more erotica than "nondrinking" targets (Hypothesis 2). Third, we hypothesized that, compared to women, men would perceive all targets, especially female targets, more sexually and, accordingly, show more erotica (Hypothesis 3). Finally, we hypothesized that sexual perceptions would be positively correlated with sexual behavior, i.e., erotica-showing (Hypothesis 4). Previously, we found that sexual perceptions of a confederate predicted joint erotica viewing (George et al., 2000). Relationships among three sets of measures were examined: sexual perceptions assessed prior to erotica-showing, the erotica-showing behavior, and retrospective perceptions of another person's sexual arousal to the erotica. We hypothesized that perceptions assessed prospectively would predict erotica-showing behavior, which should correlate with retrospective perceptions of the other person's arousal.

METHOD

Participants

Participants (Ps) were 100 men and 116 women recruited through a newspaper ad seeking moderate social drinkers between the ages of 21 and 35 for participation in alcohol and social judgment research. Callers were told that the purpose was to "study alcohol's effects on people's mood and perceptions." Participants were required to complete a phone screening prior to being scheduled. Inclusion criteria required moderate drinking practices and interest in dating members of the opposite sex. Individuals for whom alcohol consumption would be contraindicated (problem drinkers and those with certain medical conditions or medication regimens), were excluded from the study.

Overview

The study employed a 2 x 2 x 2 x 2 between-subjects factorial design. The between-participant factors were P's gender (male, female), target's gender (male, female), P's alcohol expectancy set (drinking, nondrinking), and target's apparent beverage (drinking, nondrinking). Note that the variable being manipulated here is most precisely described as the participant's expectancy set about the target's drinking, or in other words, the participant's understanding of whether the target person consumed alcoholic drinks. However, to avoid this rather cumbersome phrasing, we use terms such as "target's apparent beverage," "target's drinking," and "target beverage." The dependent

variables consisted of sexual perceptions of the target, slide-showing times, and judgments of the target's sexual arousal.

Materials and Measures

Demographics. Ps completed a demographic questionnaire assessing age, race, education, income, and marital status. Sexual orientation was rated on a Likert scale ranging from 1 (*heterosexual*) to 5 (*homosexual*). Conservativeness of sexual attitudes was assessed with a single item rated on a Likert scale ranging from 1 (*very conservative*) to 5 (*very liberal*).

Erotic content. Descriptions of the erotic slides were based on three explicit erotic slides, which depicted nude couples engaging in intercourse. Descriptions of the control slides were based on three control slides, which depicted fully-clothed heterosexual couples engaging in social or sporting activities.

Sexual perceptions. After drinking and prior to erotica-showing, Ps were asked to rate the target on three sexual perception items (7-point Likert scale) used in previous vignette studies (George et al., 1988; George et al., 2000), anchored as follows: *does not enjoy sex—enjoys sex, bad lover—good lover, unsexy—sexy*.

Sexual arousal perceptions. P's were asked, "What do you think was the highest level of sexual arousal your partner felt during this study?" Answers were made on a Likert scale ranging from 1 (*not at all*) to 7 (*extremely*).

Manipulation checks. At the end of the experiment, participants were asked to indicate what beverages they and the target had received.

Procedure

The slide-showing paradigm was developed with certain general objectives and constraints in mind. First, for simplicity, we limited it to a unidirectional flow behavior: P behaves toward the target. Therefore, the target was standardized using scripted confederates. Second, to authenticate the presence of the target and his or her drinking status, we wanted a live depiction rather than a "closed-circuit video" depiction. Therefore, both people would be in the room at the same time. Third, we wanted to capture a behavioral measure that would be indicative of sexuality and a dyadic process but not reliant on self-report. However, ethical constraints dictated by the live interaction preempted use of genital arousal measures. Fourth, we wanted Ps to feel some sense of confidentiality and freedom from social embarrassment while undergoing a sex-related behavioral measure. Finally, for ethical reasons, we wanted to assure that confederates could never be recognized outside the lab by Ps as having participated in procedures involving explicit pornography.

Introduction of target. Sessions were conducted in a simulated tavern and lasted approximately two hours. A same-sex bar assistant greeted P and gave the cover story that participants would be run in pairs, would be separated by a privacy screen to protect confidentiality, and would

not be allowed to converse. Next, the bar assistant weighed P and retrieved the target. Then within P's full earshot, the target was conducted through orientation and weighing procedures. Care was taken to ensure that P and target never saw each other. After both P and target were seated at computer stations situated at the bar, the bar assistant administered consent forms and described the remaining procedures. To establish gender, P heard the target referred to by name (either Lisa or Paul) and heard target's one-word responses to the assistant's queries. Except for those attributes indicative of gender (i.e., voice and name), all aspects of the target were standardized. Consistent with the social judgment cover story, P and the target exchanged standardized brief written self-descriptions. The target's self-description always read as follows: "I work in the office of a company downtown. My favorite thing to do when I go out is to go to dinner and a movie. I also really like the outdoors. I'm pretty honest, but not when it would hurt someone's feelings to tell the truth. I've never even cheated on my income tax. I'm a really good worker once I get started. But sometimes I put things off until the last minute. Another weakness is spending more money than I should sometimes. People say I'm usually pretty cheerful."

Expectancy set and target beverage manipulations. The assistant explained the rationale for randomly and separately assigning P and target to alcohol and control conditions. Before administering the breathalyzer, the assistant engaged the target and then P in a bogus lottery ostensibly for condition assignment. Beverages were prepared in full view of P and target using cues consistent with expectancy set manipulations (George & Marlatt, 1986). The steps were as follows: (a) Weight-dosage charts were consulted. (b) P observed his drinks being measured into a graduated cylinder at a 5-to-1 ratio, poured into three glasses, topped with a squirt of lime juice, and then placed on tray. For drinking (expect-alcohol) Ps, this involved an ostensibly intact vodka bottle containing decarbonated tonic and an untampered tonic bottle. Also, the lime squirt delivered a trace amount of alcohol on the surface. For nondrinking (expect-tonic) Ps, only an untampered tonic bottle was used. (c) P observed drinks being similarly prepared for target based on target's condition assignment. (d) After the first glass was delivered to P and target, they were instructed to begin drinking and to pace drinking evenly over three minutes. This was repeated for the second and third glasses. (e) After consumption, another breathalyzer was administered. Drinking Ps and targets were told "your blood alcohol level is now at .036, so your blood alcohol level is on the way up." Nondrinking Ps and targets were told "your blood alcohol level is still at zero." Each was handed an official-looking evidence card that had ejected from the breathalyzer's internal printer and displayed the appropriate reading. (f) The assistant explained that an experimenter (E) blind to alcohol assignment would conduct the remainder of the procedures and then departed.

Slide-showing. E stated that the next task involved showing slides and measuring mood effects. It was explained that they would be randomly assigned either to show the slides or to control the slide projector. A bogus coin toss was conducted. P was always assigned to control the projector and target was assigned to watch the slides. E demonstrated the procedure using sample slides of erotic content. E instructed P to "show each slide for as long as you think your partner wants to see it." Ps were unable to see the slides at this time; however, through computer-displayed text descriptions, they were aware of their content. Because P was unable to view the material, this measure isolated his/her judgment about and behavior toward the target person. Thus, P determined behaviorally the degree to which the target wanted to experience exposure to sexually-arousing explicit erotica and did so without being affected by his or her own viewing of the material. Each text description briefly depicted the activity shown on target's accompanying slide. There were 6 slides with accompanying descriptions: 3 nonsexual and 3 explicit-erotic. The slide types were interspersed and spread evenly across the series. E told the target "no descriptions will be appearing on your computer screen; you will simply be looking at the slides." At the start of slide-showing, a blind was pulled down to block P's view of the projection screen. E instructed P to signal with a bell upon completion of the task. E then departed to an adjoining room and eavesdropped electronically on the dyad. Slide showing times (in centiseconds) were measured and recorded surreptitiously via computer.

Sexual arousal perceptions, debriefing, and payment. After P signaled, E returned and administered a questionnaire assessing P's retrospective perceptions of the target's sexual arousal and manipulation checks. Finally, Ps were debriefed and paid \$50 for their participation.

RESULTS

All 216 Ps passed manipulation checks for expectancy set. One-way analyses of variance and nonparametric tests (as appropriate) revealed no significant differences among the 8 cells in the study on any of the demographic variables, including sexual orientation and overall conservativeness of sexual attitudes. The sample was largely heterosexual; on the sexual orientation scale, 87% endorsed 1 (*heterosexual*) and 0% endorsed 5 (*homosexual*; $M = 1.17$, $SD = .52$). Overall, Ps tended to be somewhat liberal in terms of sexual conservativeness ($M = 3.81$, $SD = 0.95$).

Sexual Perception

To evaluate the hypothesized effects on sexual perception, we conducted an omnibus $2 \times 2 \times 2 \times 2$ between-subjects multivariate analyses of variance (MANOVA) on the three sexual perceptions assessed after drinking and before the behavioral assessment. The between-participant factors were P's gender (male, female), target's gender (male, female), P's alcohol expectancy set (drinking, nondrinking), and target's apparent beverage (drinking, nondrink-

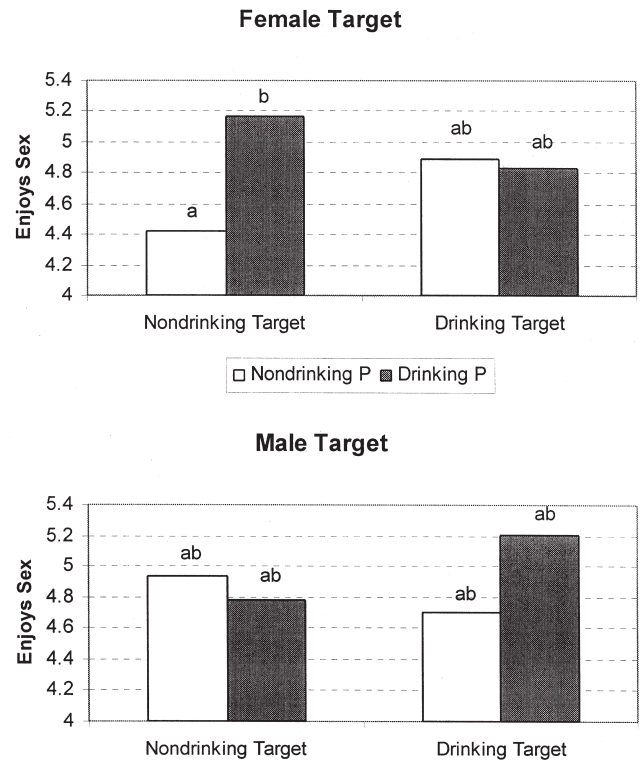
ing). The dependent measures were perceptions of the target as being sexy, as enjoying sex, and as being a good lover. There were main effects for P gender, $F(3, 178) = 4.17, p < .01$, and target gender, $F(3, 178) = 9.23, p < .001$. Men perceived the target more sexually than women did on all three measures, $F_s(1, 180) > 4.13, p_s < .05$. Female targets were perceived more sexually than male targets on two of three measures, $F_s(1, 180) > 8.38, p_s < .01$. Means and univariate F_s for gender main effects are shown in Table 1.

Consistent with Hypothesis 1, the interaction between P expectancy and P gender was significant for one of the three items (good lover), $F(1, 180) = 6.52, p < .05$ (multivariate $F[3, 178] = 2.60, p = .054$). As predicted, drinking men perceived the target more sexually than nondrinking men ($M_s = 4.75$ vs. $4.21, p < .05$); women did not show this effect ($M_s = 4.12$ vs. $4.18, p > .05$). There was also a significant multivariate interaction between P expectancy set and target gender, $F(3, 178) = 2.71, p < .05$. Univariate tests showed that the interaction was significant for one item (good lover), $F(1, 180) = 7.87, p < .01$. Drinking Ps perceived the female target more sexually than nondrinking Ps did ($M_s = 4.77$ vs. $4.20, p < .05$); this did not occur for male targets ($M_s = 4.10$ vs. $4.19, p > .05$).

Contrary to Hypothesis 2, the omnibus MANOVA did not reveal a main effect for target beverage. However, there was a significant three-way interaction involving target beverage, P expectancy, and target gender, $F(3, 178) = 3.57, p < .05$. Univariate tests revealed that the interaction was significant for one item (enjoys sex), $F(1, 180) = 7.35, p < .01$. As shown in Figure 1, drinking men and women perceived a nondrinking female target more sexually than did nondrinking men and women. Although limited to drinking participants and their view of a nondrinking female, this finding fits with Hypothesis 3.

Consistent with Hypothesis 3, there was a P gender by target gender interaction, multivariate $F(3, 178) = 4.92, p < .003$, which was significant for each of the three univariates, $F_s(1, 180) > 6.67, p_s < .05$. Consistent with Hypothesis 3 and as shown in Figure 2, a gender difference emerged for perceptions of the female target, but not for the male target. Men, as compared to women, perceived the female target as more sexual on all three indices (sexy, enjoys sex, good lover). This gender difference did not

Figure 1. Perception of the target as enjoying sex as a function of target gender, target's apparent drinking, and participant's apparent drinking.



Note. Means with differing superscripts are significantly different ($p < .05$).

occur in perceptions of the male target. Also, on two of three indices (sexy and good lover), men perceived the female target as more sexual than the male target.

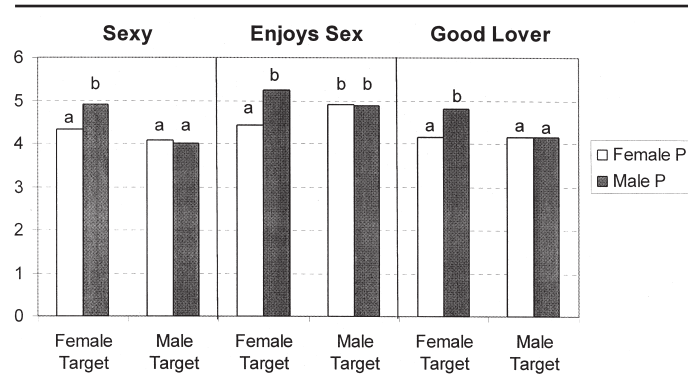
Erotica-Showing Behavior

To evaluate the hypothesized effects on behavior, we conducted an omnibus $2 \times 2 \times 2 \times 2 \times 2$ mixed-measures ANOVA. The within-subjects factor was slide type (erotic vs. control slides). The between-subject factors were P's gender (male, female), target's gender (male, female), P's alcohol expectancy set (drinking, nondrinking), and target's beverage (drinking, nondrinking). The dependent measure was the amount of time Ps spent showing slides to the target.

Table 1. Univariate F_s , M_s , and SD_s of Dependent Variables for Participant's Gender and Target's Gender Main Effects

	<i>F</i>	Participant Gender				<i>F</i>	Target Gender			
		Male		Female			Male		Female	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Sexual Perceptions of Target										
Sexy	4.13*	4.46	1.04	4.18	.83	20.40***	4.05	.86	4.61	.93
Enjoys Sex	8.13**	5.04	1.00	4.67	.92	.29	4.89	.99	4.80	.96
Good Lover	7.80**	4.49	1.03	4.14	.70	8.38**	4.15	.84	4.49	.92
Slide-Showing										
Erotic Slides	22.89***	1060.23	599.09	755.00	301.47	.96	923.85	450.74	867.73	522.55
Neutral Slides	14.58***	811.93	414.92	631.38	276.54	2.07	683.44	325.56	747.68	388.08
Perceived Arousal of Target	7.18**	3.98	1.44	3.38	1.78	.05	3.63	1.53	3.69	1.78

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

Figure 2. Sexual perceptions of the target as a function of target gender and participant gender.

Note. Means with differing superscripts are significantly different ($p < .05$).

Contrary to Hypothesis 1, the effect for P expectancy did not interact with P gender. Consistent with Hypothesis 2, there was a slide type by target expectancy interaction, $F(1, 200) = 6.19, p < .05$. Men and women alike showed more erotic material to drinking targets than to nondrinking targets ($M_s = 977.34$ vs. $833.77, p < .05$), and this effect was specific to the sexual content because it did not occur with the control material ($M_s = 743.33$ vs. $700.42, p > .05$). However, target beverage interacted with P gender, $F(1, 200) = 6.70, p < .01$. In general, men discriminated on the basis of the target's drinking status (drinking $M = 1047.02$ vs. nondrinking $M = 820.21, p < .05$), whereas women did not (drinking $M = 673.64$ vs. nondrinking $M = 713.98, p > .05$). Partially consistent with Hypothesis 3, overall, men showed slides longer than women did, $F(1, 200) = 21.60, p < .001, M_s = 933.62$ vs. 693.81 . A significant interaction with slide type demonstrated that while this P gender effect also occurred with the control slides (for men: $M = 811.94$ vs. for women: $M = 631.81$), it appeared to be stronger with the erotic materials (for men: $M = 1055.29$ vs. for women: $M = 755.82$), $F(1, 200) = 8.70, p < .005$. Contrary to Hypothesis 3, the P gender effect did not interact with target gender, $F(1, 200) < 1$; men showed more erotic material than women regardless of whether the other person was male or female.

Perceived Sexual Arousal from Erotica

We conducted a $2 \times 2 \times 2 \times 2$ ANOVA on the perception of target's sexual arousal. Contrary to Hypothesis 1, the effect for P expectancy did not interact with P gender. Consistent with Hypothesis 2, there was a main effect for target's drinking, $F(1, 199) = 4.69, p < .05$; drinking targets were perceived as more sexually aroused than nondrinking targets. An unexpected interaction, $F(1, 180) = 6.07, p < .05$, revealed that this target drinking effect was evident among nondrinking Ps ($M_s = 4.23$ vs. 3.22), but not among drinking Ps ($M_s = 3.60$ vs. 3.66), and that nondrinking Ps viewed drinking targets as more sexually aroused than did drinking Ps ($M_s = 4.23$ vs. $3.60, p < .05$).

Partially consistent with Hypothesis 3, there was a main effect for participant gender; men perceived the targets as more aroused during the slides than did women (see Table 1 for means), $F(1, 180) = 7.18, p < .01$. The P gender effect did not interact with target gender, $F(1, 200) < 1$; men perceived more sexual arousal than women regardless of whether the other person was male or female.

Perception-Behavior Association

To evaluate the hypothesis that sexual perceptions of the target—both prospective and retrospective—would be positively associated with behavior, we examined the correlations between perception and behavior. Consistent with Hypothesis 4, two of the three prospective perceptions predicted slide-showing behavior. Also, consistent with Hypothesis 4, slide-showing correlated significantly with retrospective ratings of the target's sexual arousal. In sum, men and women showed sexual slides longer to targets perceived more highly on the enjoys sex, good lover, and sexual arousal items ($r_s = .20, .19, \text{ and } .19$, respectively; $p_s < .01$). The “sexy” item did not correlate with behavior.

DISCUSSION

As anticipated, both alcohol expectancy and gender influenced sexual perceptions and behavior. Men showed more erotic material to a drinking than nondrinking person (male or female). Also, men generally ascribed more sexual meaning to these social circumstances than women did. Modest correlations linked perception and behavior, suggesting that when individuals perceive someone more sexually, they are more likely to treat them in sexual terms.

Alcohol Expectancy

Alcohol expectancy—independent of actual alcohol—had effects on sexual perception and behavior, reaffirming the importance of psychological processes in understanding alcohol's relationship with sexuality. Two hypothesized expectancy effects received mixed support. Based on findings from separate balanced placebo studies for men versus women, we anticipated participant expectancy to interact with participant gender, revealing expectancy effects for men but not women (Hypothesis 1). This hypothesis received limited support. Drinking men perceived the target more sexually on one item (good lover) than did nondrinking men, whereas women did not exhibit this effect. The general lack of participant expectancy effects for women is consistent with previous studies (Norris, 1994). Unlike men, women have tended not to respond differently in alcohol-sexuality experiments based on the apparent content of their own drinks. It has been speculated that women become more cautious and vigilant about their behavior in sexuality-tinged drinking situations involving male strangers (Crowe & George, 1989). Men, on the other hand, have tended to exhibit more sexually disinhibited responding when convinced that they themselves have been drinking. However, we found only limited evidence of this in the current study. This may have been due to

methodological differences. Previous studies showing expectancy set effects on men's sexual indices have practically all been solitary participant protocols. In the present study, use of a two-person protocol may have muted the influence of men's own alcohol expectancy set. This makes sense given that there are more complex environmental social dynamics in a live second-person situation than in a situation with a lone participant.

Based on previous vignette studies and the Abbey et al. (2000) study, we predicted a main effect for the target's drinking status (Hypothesis 2) and garnered mixed support. With regard to perception, a three-way interaction revealed that drinking men and women perceived the drinking female target more sexually on one of three items (enjoys sex) than did nondrinking men and women. Support for the hypothesized main effect was evident with behavior, but it was qualified by an interaction with participant gender. Men accompanied by a drinking target showed more erotic material than men accompanied by a non-drinking target; this difference was not characteristic of women. We also found the hypothesized target expectancy effect on perceived sexual arousal. Consistent with findings for vignette studies, drinking targets generally were judged as more sexually disinhibited and therefore as more receptive to seeing and becoming aroused by erotic content than nondrinking targets were judged. However, an interaction showed that only nondrinking participants viewed drinking targets as more sexually aroused than nondrinking targets.

Generally, our results extend earlier work in two important ways. First, it extends prior vignette findings by indicating that postdrinking sexual inferences about others are not limited to perception; these inferences can generalize to how one behaves toward others (George et al., 1988; George et al., 1997). When such inferences remain privately-held perceptions, they are likely to be more benign in their social impact than when they generalize to behavior. If postdrinking sexual inferences—fueled solely by expectation in this study—generalize and become expressed behaviorally toward the perceived target person, then they can be interpreted as directly influential in steering sexual behavior and as contributing potentially to transgressive sexual outcomes, such as sexual harassment, coercion, or assault. It is worth noting that when cell-wise correlations were examined post-hoc to consider possible gender-based patterns, the observed perception-behavior effects proved to be largely attributable to men's responding. However, the inference-behavior correlations obtained here were modest in magnitude.

Second, our results extend trends observed in solitary participant protocols and in non-experimental studies by showing that links between alcohol expectancies and sexual behavior are generalizable from the first-person case to the second-person case. Because solitary participant protocols are largely devoid of social perceptual processes, the degree to which earlier findings from such protocols have applied to actual sexual interactions has remained somewhat open to question. Likewise, because non-experimen-

tal protocols often rely on retrospection, those findings have also remained open to criticism. For example, respondents motivated by impression management concerns may unwittingly yet systematically inflate alcohol-expectancy-sexuality linkages in hindsight. Our two-person protocol was not subject to either of these criticisms and thereby provides an important instantiation of the link between alcohol expectancies and sexuality.

On balance, our findings lend qualified support to the idea that drinking others are generally seen more sexually and, accordingly, are treated more sexually than nondrinking others. However, the interactions found in this study seem to indicate that judgments of (and, accordingly, behavior toward) a real drinking person are less straightforward or more nuanced than vignette studies have previously suggested. This is understandable, as there are more complex social dynamics in a live second-person situation than in reading a third-person vignette.

Importantly, no alcohol was administered in this study, only placebo drinks. Thus, the observed expectancy effects were uncomplicated by pharmacological content and therefore remind us that the physiological effects of alcohol rarely provide a complete explanatory account; psychological processes may operate in tandem with physiological processes in determining alcohol's net effect in sexual situations. Thus, despite indications that alcohol content fosters sexual riskiness via cognitive impairment (e.g., Cooper & Orcutt, 1997; Fromme, D'Amico, & Katz, 1999), our results suggest that alcohol's role in stimulating sexual responding cannot be construed as occurring through strictly pharmacological mechanisms. Indeed, Marx and colleagues, using a behavioral date rape analogue, have reported that both alcohol and alcohol expectancy increased men's sexual aggressiveness (Gross et al., 2001; Marx, Gross, & Adams, 1999; Marx, Gross, & Juergens, 1997).

Gender Differences

Gender main effects—indicating that men perceived the target person more sexually than women and that female targets were perceived more sexually than male targets—were superceded by the predicted interaction between participant and target gender (Hypothesis 3). Compared to women, men rated the female target higher on all three pre-behavioral perceptual indices: enjoys sex, sexy, and good lover. On the latter two indices, men also rated the female target higher than the male target. Generally, the gender differences found are in keeping with earlier work, and they further substantiate the finding that men tend to interpret women in heterosexual social encounters in more sexual ways than do women.

Since Abbey's initial work (Abbey, 1982), more than 30 studies—including the present study—have provided corroborating evidence for gender differences in sexual perception (Lindgren & George, 2006). Our results further this line of inquiry, building on earlier findings in three important ways. First, our findings extend the effect to

other aspects of sexuality. As with earlier studies, we found that men rated female targets as more “sexy” than women did. However, we also found that men rated female targets more highly on enjoying sex and being a good lover. Thus, in addition to perceiving a woman as more sexy, connoting flirtatiousness, or attractiveness, men perceived these female targets as likely to enjoy sex more and be better at it than women did. This demonstrates gender differences in sexual perceptions with traits that are more patently related to sexual abilities, responses, and experiences.

Second, compared to previous studies involving either hypothetical or actual targets identified in text (e.g., Haselton & Buss, 2000) or involving live targets that men watched and/or interacted with (e.g., Abbey, 1982), the current study utilized a live target that men could neither see nor interact with directly. Even under these highly constrained and somewhat contrived social circumstances, men’s tendencies to sexualize the situation more than women were clearly manifest. Such findings attest further to the robustness of this tendency.

Third, an important feature of this study is that in addition to assessing self-reported perceptions, we also assessed behavior indicative of sexual content. We found a gender main effect: regardless of target gender, men showed explicit erotic slides to the target person for a longer duration than did women. Compared to women, men also rated the target as having become more sexually aroused by the erotic materials. As hypothesized (Hypothesis 4), the erotic slide-showing behavior was correlated with the earlier sexual perceptions and with the sexual arousal rating. In particular, the “enjoys sex” and “good lover” ratings predicted behavior, which in turn predicted arousal. Thus, these findings offer an affirmative answer to the question: Do effects obtained with self-reported sexual perceptions extend to behavior? Sexual perceptions in this study were not inconsequential. This pattern of perceiving others more sexually, showing them more erotic materials, and then judging them as more sexually aroused by the materials was characterized by significant intercorrelations in the present study. This pattern suggests a nexus linking perceptions logically with behavior and with subsequent supporting inferences. Similarly, Gross et al. (2001) reported linkages between sexual arousal perceptions and a behavioral measure of sexual aggressiveness.

In this study, gender interacted with drinking status in multiple ways that defy summing up in a single succinct statement, demonstrating a complex interplay among these variables when it comes to sexuality. Overall, the gestalt of the findings points to a belief in the potential of alcohol to disinhibit sexuality in self and/or other (Leigh, 1987). Specific ways in which alcohol disinhibits sexuality seem dependent upon gender of self and other and are probably strongly influenced by cultural norms. For example, men may view women as sexual gatekeepers, potentially loosening up after a few drinks of alcohol, while women may

view men as open to sex regardless of intoxication. Qualitative studies paying special attention to cultural norms are needed to appreciate the subtleties of the interface between gendered sexuality and alcohol expectancies (Masters, Norris, Stoner, & George, in press).

Two additional points about gender warrant consideration. Our protocol involved commercially-available erotica. Longstanding cultural mores and research findings (e.g., Lopez & George, 1995) indicate that erotica usage is a gender-typed activity. It is unclear how our findings were affected by this context; further work utilizing behavioral measures unrelated to erotica would offer clarification. Second, despite replicable gender differences in sexual perception, there is no consensus about how best to explain this pattern (Lindgren & George, 2006). Further work is needed to evaluate competing theoretical formulations (e.g., Haselton & Buss, 2000).

Strengths and Limitations

Several features of the protocol bolstered our confidence in the findings. First, the experimental paradigm used here fosters greater confidence in internal validity and in the causal ordering of events than can be achieved through non-experimental methods. Second, participants were unable to see the slides being shown to the confederate or to see the slide descriptions while the confederate viewed slides. Therefore, the participants’ own interest in the materials was largely removed from his or her determination of how to behave toward the co-participant. Third, participants were not told that we were measuring the slide-showing times and later indicated no awareness of such. Use of such an unobtrusive behavioral measure eliminates the possibility that participants intentionally and knowingly regulated their slide-showing behavior in accordance with demand characteristics.

Despite these strengths, there were limitations in our study. First, *a priori* outcome expectancies about alcohol’s effects on others were not evaluated and may have further clarified the obtained findings. Potentially, men’s tendency to perceive drinking others more sexually and to behave accordingly would be modulated by the strength of their pre-existing beliefs about the sexual effects of alcohol on themselves and others. Second, ethical constraints in our study resulted in procedures that perhaps felt contrived to the participant. For future work, the procedures might feel less artificial if visual and verbal contact between the participant and co-participant were permitted. Third, we only considered unidirectional participant-to-target processes. In future work, it would be beneficial to expand to bidirectional processes, which better analogize real-life encounters.

Implications and Conclusions

Insofar as men perceived and treated women more sexually than women did and drinking others were generally perceived and treated more sexually than non-drinking others, this suggests that knowledge of the other person’s gender

and drinking status is influential in determining sexual reactions to the other person. For cross-gender interactions involving relative strangers, in which individuals are motivated to discern each other's sexual intent, our findings suggest that men might over-rely on a woman's drinking status in judging her sexual interest and intent. A man's over-reliance on drinking status to divine a woman's sexual interest and to regulate his own behavior, according to our findings, could potentially foster unjustified or unwanted sexual perceptions and overtures. Postdrinking sexual perceptions can spawn or amplify sexual misperceptions that can pave the way to sexual harassment, coercion, and assault (Abbey, 1991, 2002).

We largely succeeded in capturing a behavioral measure related to sexuality and doing so in a paradigm that involved two people. We interpreted this behavior conservatively based on face validity as indicating the degree to which a participant judges that another person wants to watch arousing erotic material. The correlations with self-reported sexual indices lent support to this interpretation. However, this measure could potentially have implications for sexual aggressiveness. Hall and his colleagues have successfully modified the viewing protocol to analogize the impositional and nonconsenting nature of sexual aggressiveness (Hall & Hirschman, 1994; Hall, Hirschman, & Oliver, 1994). More work is needed toward solidifying such measures.

These findings also have implications for theories ascribing postdrinking sexual disinhibition to pharmacological processes. With men, it seems clear that alcohol's pharmacological aspects and its psychological aspects may independently and jointly foster postdrinking sexual disinhibition (Crowe & George, 1989). Evidence of independent psychological influence includes previous findings showing that, when one is alone, disinhibition occurs with placebo drinks and current findings showing that, when one is accompanied by another person presumed to be drinking, disinhibition seems more ascribed to the other. Such findings stand as a stark indication that alcohol's effects on sexuality are complex and will likely not yield to strictly pharmacological explanations.

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