

## VICTIM'S RESPONSE AND ALCOHOL-RELATED FACTORS AS DETERMINANTS OF WOMEN'S RESPONSES TO VIOLENT PORNOGRAPHY

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Women suffer a variety of detrimental effects from exposure to violent pornography. This study examined the role of specific situational cues embedded within a violent pornographic story, as well as alcohol consumption and alcohol expectancies, to determine potential mechanisms through which these effects occur. Female social drinkers ( $N = 123$ ), recruited from the community at large, participated in a between-subjects factorial experiment varying two situational cues—victim response (pleasure vs. distress) and story character beverage consumption (alcohol vs. mineral water)—and participant beverage consumption (alcohol vs. placebo vs. tonic). Results indicate that participants' identification with the victim plays a key role in affecting their responses and that alcohol-related factors appear to exacerbate the negative impact of pornography.

Feminists have long claimed that pornography<sup>1</sup> is detrimental to women (cf. Dworkin, 1981; Russell, 1993). Substantial evidence exists showing that, among men, exposure to pornography, especially that which contains violence, fosters rape-positive attitudes and behaviors (see, e.g., Malamuth & Donnerstein, 1984). Less research has been directed toward assessing the effects of exposure to pornography on women. Because pornography is geared primarily for male consumption, many have assumed that women have little or no contact with it, except for those who participate in its production. However, several studies have shown that women, from as early as adolescence, have contact with explicit pornography (Corne, Briere, & Esses, 1992; Cowan & Campbell, 1995; Cramer & McFarlane, 1994; Senn, 1993; Stock, 1996). One survey (Stock, 1996) found that 80% of a random community-based sample of women had seen at least one type of pornographic material, and almost half of these women reported commonly using pornography with their male partners. Another study of undergraduate women (Corne et al., 1992) found that approximately half

had had some exposure to pornography in childhood. Likewise, a survey of adolescents reported that half of the girls and more than three quarters of the boys reported exposure to explicit pornography with approximately half of each group noting that they had learned about sexuality from it (Cowan & Campbell, 1995).

Women are negatively affected by pornography in a number of ways. Detrimental effects can range from experiencing mood disturbances (Senn, 1993) and lowered self-esteem (Mayerson & Taylor, 1987) to being sexually and physically victimized by a pornography user who was inspired by the material (Cramer & McFarlane, 1994; Senn, 1993; Silbert & Pines, 1993; Stock, 1996). Moreover, pornography exposure has also been related to an increase in rape-supportive beliefs and fantasies in women (Corne et al., 1992), including beliefs that rape is due to female precipitation and men's need for sex (Cowan & Campbell, 1995). Despite ample evidence that women may suffer a variety of short- and long-term negative effects from exposure to pornography, no research has yet examined the process through which these effects can occur.

Violent pornography often includes portrayals of eroticized rape, consistent with the myth that "women enjoy being raped." We contend that pornography's detrimental effects on women can occur through a process of identifying with the female character<sup>2</sup> portrayed as enjoying being raped. Although we would generally expect that a woman would most identify with a distressed rape victim, violent pornography complicates this identification process due to the eroticized nature of the material. That is, upon exposure

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to an eroticized depiction of a rape, a woman can experience heightened sexual arousal. Because this sexual arousal parallels that experienced by the female character, a woman may then be more likely to identify with the character by normalizing her pleasurable reactions and viewing herself as likely to engage in similar behavior.

Due to the hypothesized importance of sexual arousal in this identification process, this study included variables that have been shown by previous research to affect sexual arousal and other responses: situational cues embedded in violent pornographic depictions and alcohol consumption. In this study, we examined the possible influence of two situational cues—the victim's emotional response and the story characters' alcohol consumption—on women's reactions to a fictional depiction of an eroticized violent rape. In addition, we evaluated the effects of the respondents' alcohol consumption and pre-existing alcohol expectancies about sexuality. We specifically assessed these variables' effects on women's sexual arousal, their perception of how typical the victim was, and their own self-reported likelihood of behaving like the victim as a measure of their identification with her. We employed path analysis to investigate the relationships among the dependent variables, in addition to examining the independent variables' effects on each dependent variable separately.

#### *Situational Cues in Violent Pornography*

*Victim response.* In violent pornography, story characteristics can serve as powerful cues affecting individuals' responses. The type of response expressed by a rape victim is a well-documented example of such an effect. Depicting a rape victim as sexually aroused often results in both men and women expressing heightened sexual arousal compared to depicting her as disgusted (Malamuth & Check, 1980a, b; Malamuth, Heim, & Feshbach, 1980). Among men, sexual arousal to a rape depiction has been linked to a number of rape-positive attitudes and behaviors (see Check & Guloiu, 1989, and Malamuth & Donnerstein, 1984, for reviews). However, the linkage between women's sexual arousal from pornographic rape depictions and their subsequent attitudes and behaviors has not been previously investigated. In this study, we expected that the victim's emotional response to the rape would be the primary cue to which participants would respond. We predicted, consistent with earlier studies, that the victim expressing pleasure would yield heightened sexual arousal among study participants compared to the victim expressing distress. We also expected that participants' sexual arousal would be positively related to the perception of the victim's typicality because such a perception may reflect an effort to normalize their own arousal to the rape. Finally, we expected that participants' sexual arousal and perception of typicality would be positively related to their identification with the victim, that is, their self-reported likelihood of behaving like her. However, we expected that the direct relationship between

victim response and perception of typicality would be negative; that is, without taking sexual arousal into account, we expected that a victim expressing distress would be more likely to be viewed as typical.

*Presence of alcohol.* The presence of alcohol in a pornographic scenario, alone or in conjunction with alcohol consumption by participants, can act as a cue to impart an air of permissiveness. Norris and Kerr (1993) showed that alcohol as a situational cue, in combination with alcohol consumption, increased women's self-reported likelihood of behaving like a rape victim in a violent pornographic story. In a similar vein, Norris and Cubbins (1992) found, in a scenario study, that nondrinking men and women were least likely to judge a man forcing a woman to have sex as rape when the scenario characters were portrayed as having had drinks together, compared to when only one or neither of the characters had been drinking. In this study, we expected the story characters' alcohol consumption to interact with the victim's response to affect participants' responses. We expected that participants exposed to both characters consuming alcohol in the story and the female character portrayed as experiencing pleasure would result in the highest level of sexual arousal, because of the permissiveness imparted by the presence of alcohol cues.

#### *Alcohol Consumption and Pornography*

It is unknown to what extent alcohol consumption and indulgence in pornography co-occur among men or women; however, in this society alcohol and sexuality in general are frequently associated (see Crowe & George, 1989, for a review). Thus, it is likely that under many circumstances alcohol and pornography are closely tied, especially if a man and a woman are using them together to enhance sexual arousal.

Alcohol consumption can affect perceptions of pornography through its focusing effect, also known as "alcohol myopia" (Steele & Josephs, 1990). One model states that alcohol focuses individuals' attention on the most salient environmental cues, whether inhibitory or disinhibitory (Pernanen, 1976; Taylor & Leonard, 1983). A variant of these models, known as response conflict (Steele & Josephs, 1990), states that when individuals are drinking, their attention is directed only toward instigatory, or permissive, cues. Furthermore, individuals are more likely to perform "socially excessive" behaviors when intoxicated than when they are sober, but only if the behavior would present a conflict between the inhibitory and instigatory cues under sober conditions. By focusing attention on instigatory, rather than on inhibitory, cues, alcohol eliminates any conflict individuals may feel about performing a behavior.

The response conflict model provides the basis for predicting women's responses to a violent pornographic scenario in which a female story character expresses pleasure while being raped. The conflict hypothetically occurs

between the woman's responses to the eroticized elements of the story, which provide instigatory cues for becoming aroused and enjoying herself, and the male character's sexually aggressive behavior, which provide inhibitory cues for these responses. Typically, a woman reading a rape scenario would be inclined to identify with a distressed victim with little or no conflict. Thus, for the victim distress condition, the response conflict model would not apply because participants should not experience any conflict about their reactions. However, in the rape mythologized portrait of a female character enjoying being assaulted, alcohol consumption would be expected to resolve a woman's conflict by focusing her attention on the instigatory or pleasure cues, thereby increasing her likelihood of becoming sexually aroused.

#### *Alcohol Expectancies, Expectancy Set, and Violent Pornography*

Another mechanism through which alcohol can assert its influence is through alcohol expectancies, the beliefs held by individuals about alcohol's effects on their emotions, physical functions, and behaviors. In this culture the belief that alcohol consumption increases sexual arousal, sexual disinhibition, and sexual aggression is widespread (Leigh, 1990). The effects of such sex-related alcohol expectancies have been investigated in two ways: alcohol expectancy questionnaires and expectancy set.

Sex-related alcohol expectancy questionnaires assess individuals' pre-existing beliefs regarding alcohol's effects on sexuality, including sexual arousal, disinhibition, risk-taking, and aggression (Leigh, 1990). Higher scores on these questionnaires indicate a greater endorsement of sex-related alcohol expectancies. To date, there have been no studies that have investigated pre-existing sex-related alcohol expectancies and women's reactions to pornography related to alcohol consumption.

Expectancy set refers to an experimental manipulation through which participants are led to believe they consumed either an alcoholic drink or a nonalcoholic drink, regardless of the drink's true content (Rohsenow & Marlatt, 1981). By studying individuals who believe they have consumed alcohol regardless of whether they actually have, investigators can assess the effects of expectancy set, which is presumably driven by individual a priori outcome expectancies, apart from any actual physiological effects of alcohol (Norris, 1994). For men, laboratory studies have indicated that the mere expectation of receiving alcohol predicts increased physiological and subjective sexual arousal in response to sexual stimuli (Lang, 1985; Wilson, 1981). However, the findings for women regarding expectancy set, sexual arousal, and pornography viewing are both scant and unclear.

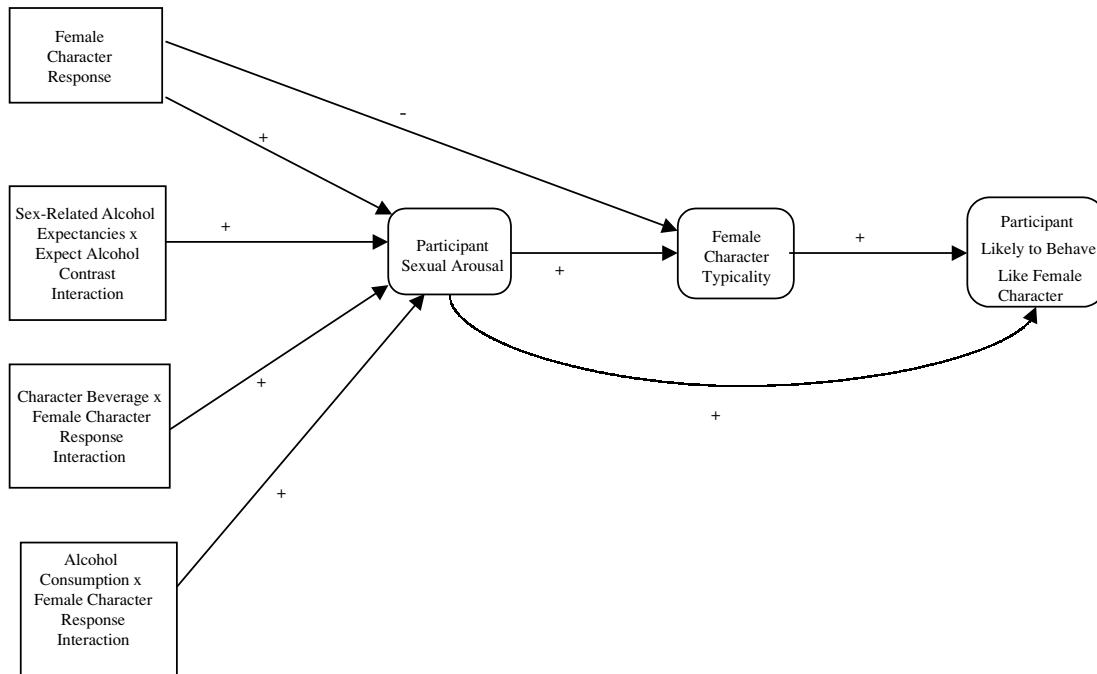
Wilson and Lawson (1976, 1978) found that expectancy set did not predict women's objective or subjective sexual arousal during the viewing of erotic films. Thus, women who

believed they consumed alcohol, regardless of whether or not they did, were not more or less aroused than women who believed they drank a nonalcoholic beverage. However, women's self-reported estimates of intoxication were positively correlated with their self-reported levels of sexual arousal. Because intoxicated women were actually less sexually aroused than sober women according to physiological measures (even at a moderate breath alcohol concentration of 0.04), it is possible that this relationship between self-reported arousal and perceived intoxication may be due to a priori sex-related alcohol expectancies (Crowe & George, 1989). That is, the self-fulfilling prophecy nature of alcohol expectancies (Leigh, 1989; George, Stoner, Norris, Lopez, & Lehman, 2000) may have led women to report increased arousal, even when physiological measures of arousal showed suppression, simply because they believed they were somewhat intoxicated and thus expected to be aroused.

In this study, we examined the role of pre-existing sex-related alcohol expectancies, as well as expectancy set, on women's sexual arousal, perceptions of a fictional rape victim, and likelihood of behaving like the rape victim in a violent pornographic story. We predicted an interaction between a priori sex-related alcohol expectancies and expectancy set, such that when women believed they were drinking (although they actually received a placebo), those high in sex-related alcohol expectancies would report greater sexual arousal than those low in sex-related alcohol expectancies. However, when participants believed that they consumed a nonalcoholic drink, we expected that the amount of endorsement of pre-existing alcohol expectancies would not have an effect on sexual arousal because they would not be activated in this nondrinking situation.

#### *Summary and Proposed Model*

This study employed a  $2 \times 2 \times 3$  between-subjects design to investigate the separate and interactive effects of victim emotional response (pleasure vs. distress), character beverage type (alcohol vs. no alcohol) and participant alcohol consumption (moderate alcohol dose vs. placebo vs. control) on responses to a violent pornographic story. A path analytic approach was used to examine the links between the independent variables and participants' sexual arousal, perceptions of the victim's typicality, and identification with the victim (as indicated by their self-reported likelihood of behaving like her). The proposed model (see Figure 1) hypothesizes direct but opposing relationships between the victim's emotional response, on the one hand, and participants' sexual arousal and perception of the victim's typicality on the other. The model also hypothesizes positive relationships between participant sexual arousal, perception of typicality, and identification with the victim. We expected alcohol consumption by the story characters to act as a permissive cue, especially when the victim experienced pleasure, resulting in heightened sexual arousal. We also hypothesized



**Fig. 1.** Hypothesized model relating victim response, interactions of victim response with character beverage consumption and participant beverage consumption, and the interaction of alcohol expectancies and expectancy set to participants' sexual arousal, perceptions, and identification with the victim.

that participant alcohol consumption would lead to greater sexual arousal when the victim expressed pleasure during the rape. Finally, we expected women's pre-existing alcohol expectancies about sexuality to interact with their own expectation of alcohol consumption to increase their sexual arousal to the story.

## METHOD

### Participants

Female social drinkers ( $N = 123$ ) between the ages of 21 and 45 were recruited through local newspaper advertisements in a large West Coast city. Callers were told that two separate studies of alcohol's effects on male–female interactions were being conducted on the same day. The first would involve completing questionnaires, for which they would be paid \$10; the second would require willingness to consume an alcoholic beverage, for which they would be paid \$25. The experiment was described as two separate studies to decrease the likelihood that responses to questionnaires would influence responses to the dependent measures. Callers were also told that returning a follow-up questionnaire 3 weeks later would result in a final \$5 payment. If callers were still interested, they were then screened to establish that they were free of health problems that would contraindicate alcohol consumption. Extremely heavy drinkers (more than 35 drinks per week), abstainers (less than one drink per week), and those with a history of alcohol abuse and/or treatment were excluded from the study. Participants' mean age was 26.4 ( $SD = 5.9$ ) years. Most (81%) identified themselves as European American/

White, 6% as African American/Black, and the remaining 13% as either Asian/Pacific Islander, Latino/Hispanic, Native American/American Indian, or other.

### Procedure

Upon arrival a female experimenter checked the participant's identification for age and administered a breath analysis test to ensure a breath alcohol concentration (BAC) of 0.0 gm%. Each participant provided informed consent for the questionnaire and experimental portions of the study separately.

After completing the computerized questionnaires, the participant was randomly assigned to one of three beverage conditions: a moderate alcohol dose (expect/receive alcohol), placebo (expect alcohol/receive tonic), or control (expect/receive tonic). Standard double-blind procedures were employed. If the participant was assigned to either the alcohol or placebo conditions, she was required to self-administer a pregnancy test based on a urine sample before participating in the alcohol manipulation portion of the experiment. The female bartender poured three drinks, the content of which differed according to experimental condition. The target BAC for the alcohol condition was .06 gm%. The vodka was mixed in a 1:5 ratio with tonic. In the placebo condition, flat tonic was substituted for vodka.

The bartender provided the expectancy manipulation by informing the participant that she had been assigned to the alcohol condition (for both the alcohol and placebo conditions) or to the tonic condition. To enhance the believability of the expectancy manipulation, the cups used in both the alcohol and placebo conditions had been sprayed with

100-proof vodka prior to the bartending procedure. In addition, each participant rinsed her mouth with nonalcoholic mouthwash just before consuming the beverage.

The participant had 3 minutes to consume each drink. She was then left alone for 20 minutes to absorb any alcohol consumed. During this period, the participant was provided a filler task to divert her attention from any physical sensations that might indicate actual beverage content. After 20 minutes, the bartender conducted a breath analysis and told the participant that either her BAC was still at 0.0 (for the control condition) or "about .06" (for the alcohol and placebo conditions), regardless of the true results of the analysis.

The participant read the stimulus story and completed the dependent measures in private. Upon completion, the experimenter fully debriefed the participant about the nature of the study, including the deception involved in the expectancy manipulation and the issues presented in the stimulus materials. The debriefing statement explained that the story was designed to be sexually arousing but that it contained several rape myths and explained what these were. In addition, it was emphasized that forcing someone to have sex against her will could cause psychological damage to the victim and was punishable by a prison sentence. The participant was given the opportunity to ask questions and discuss her reactions to the study. If she requested, or if the experimenter sensed any distress, a senior staff member or the principal investigator was called. However, this rarely occurred. The participant was then paid. Participants who had received alcohol were not released until their BAC fell below .03 gm%.

Although no participants were unable to complete the study due to their reactions to the stimulus materials, we wanted to assess the possibility of negative reactions to the materials after the study had been completed. Consequently, every participant was sent a follow-up survey by mail approximately 3 weeks later. The survey inquired about any negative effects experienced after participating. Participants were also asked if they wanted to discuss any aspect of their participation with the principal investigator. If so, they were instructed to provide a telephone number.

Three attempts were made to contact participants to obtain completed surveys, and the return rate was greater than 90%. The returned surveys indicated that participants did not experience negative effects as a result of their participation in the study. In general, they indicated that it had been a positive experience and would participate again if given the opportunity.

### Materials

*Stimulus story.* A stimulus story of approximately 1,600 words was employed. An initial dialogue occurred between the male and female characters during which it was established that each had consumed either three to four glasses of wine or three to four glasses of water, depending on the participant's story beverage condition. The male

character then began to make sexual advances toward the female character. She expressed reluctance and confusion. His advances escalated while she initially resisted verbally and physically. After the first graphically described sex act, the female character was described as experiencing either pleasure or distress, depending on the participant's female character response condition, in response to the male character's continuing to force her to perform several sex acts.

*Pretest measures.* Participants completed a demographics questionnaire that assessed age, ethnicity, and other pertinent information. In addition, they completed a sex-related Alcohol Expectancies Questionnaire (Leigh, 1990) that consisted of 14 items answered on a 4-point scale (1 = *not at all* to 4 = *very much*). A principal components factor analysis with varimax rotation resulted in three factors for this measure. These factors (Enhanced Sex, Decreased Nervousness, and Increased Riskiness) corresponded with those found in the original questionnaire (Leigh, 1990). Because of our interest in sexual arousal, we focused on only the Enhanced Sex factor in this study. A subscale consisting of the five items from the Enhanced Sex factor was computed ( $M = 2.13$ ,  $SD = .68$ ,  $\alpha = .84$ ).

*Dependent measures.* After reading the stimulus story, participants completed several items assessing their responses to the story. All items were rated on 7-point scales (1 = *not at all* to 7 = *extremely*). Three of these dependent items were used in the path analysis. The first item assessed participants' self-reported sexual arousal after reading the story ( $M = 2.40$ ,  $SD = 1.56$ ). The second item assessed how typical participants viewed the female character as being ( $M = 4.02$ ,  $SD = 1.45$ ), while the third item asked how likely the participant would be to behave like the female character ( $M = 2.33$ ,  $SD = 1.60$ ). Thus, although on average participants viewed the female character as moderately typical, both participant sexual arousal and participant likelihood of behaving like the female character were below the scale midpoint.

*Manipulation checks.* Just before the final debriefing, participants were asked to complete a questionnaire to ascertain whether they were aware of hypotheses and/or manipulations. Based on the results, 7 participants were dropped due to alcohol expectancy manipulation failures. Thus, the final sample size was 116.

## RESULTS

### Preliminary Analyses

*Manipulation checks.* Manipulation of the participant beverage condition was checked through a one-way ANOVA on the participants' achieved blood alcohol levels, revealing a significant effect for participant beverage condition,  $F(2, 113) = 679.13$ ,  $p < .001$ . A post hoc Scheffé analysis indicated that participants in the control condition ( $M = .00$ ) and the placebo condition ( $M = .00$ ) had

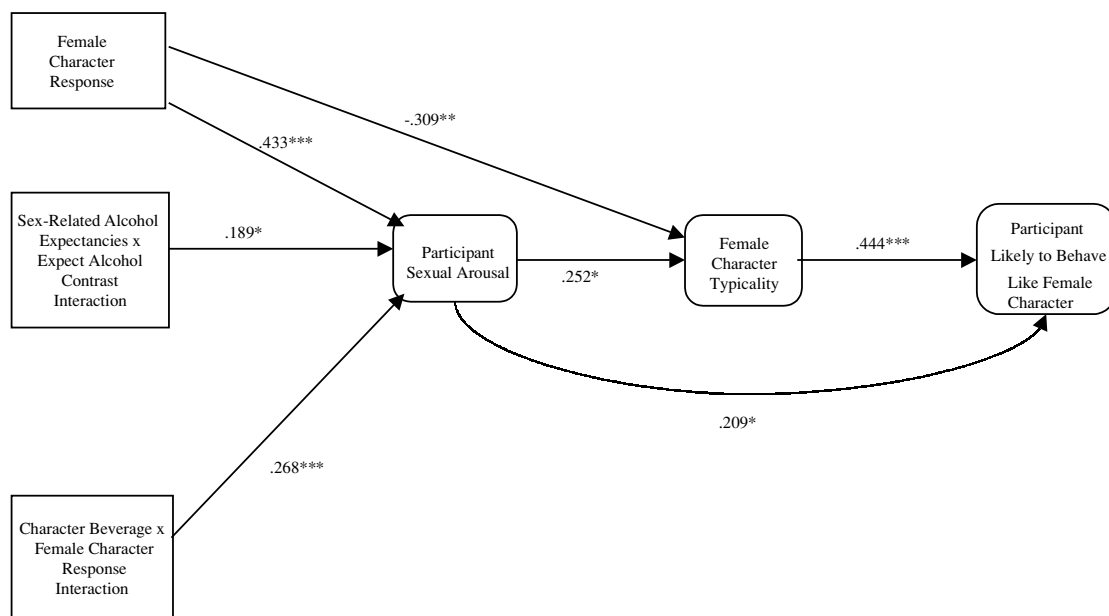
significantly lower blood alcohol levels than participants in the alcohol condition ( $M = .052$ ). Additionally, after the experiment, participants were asked to indicate how many ounces of liquor they consumed during the study. Participants in the alcohol condition ( $M = 3.90$ ,  $SD = 2.41$ ) and the placebo condition ( $M = 4.47$ ,  $SD = 3.29$ ) reported significantly higher levels of alcohol consumption than participants in the control condition ( $M = 0$ ,  $SD = 0$ ),  $F(2,114) = 43.23$ ,  $p < .001$ . Participants were also asked how intoxicated they became during the experimental session on a 7-point scale (1 = *very sober* to 7 = *very intoxicated*). Participants in the alcohol condition ( $M = 3.75$ ,  $SD = 1.35$ ) and the placebo condition ( $M = 2.28$ ,  $SD = 1.09$ ) reported significantly higher levels of intoxication than did participants in the control condition ( $M = 1.00$ ,  $SD = 0$ ),  $F(2,115) = 75.93$ ,  $p < .001$ . Further, when asked whether any deception was involved in the study, participants in the different beverage conditions were not significantly different in their responses. Thus, we believe the alcohol expectancy set was sufficiently manipulated for the participants retained in these analyses.

### Estimating the Model

To test the model illustrated in Figure 1, path analysis using hierarchical multiple regression analyses was used following the procedure recommended by Cohen and Cohen (1983). Because the participant beverage condition variable has three levels, two unweighted effects codes were used to represent the effect for this variable (West, Aiken, & Krull,

1996). The receive-alcohol beverage contrast tested our a priori predictions regarding physiological effects of alcohol by comparing the alcohol condition to the control condition. The expect-alcohol beverage contrast tested for an alcohol expectancy effect by comparing the alcohol placebo group to the control group. Because of the potential that participants who both believed they were drinking alcohol and actually received alcohol might experience dampened physiological sexual arousal even at a moderate dosage level (Wilson & Lawson, 1978), which could in turn affect their self-reported sexual arousal, we only included the placebo and control groups in this comparison. By excluding the participants who actually received alcohol, we tested a “pure” expectancy effect in the absence of any physiological effect of alcohol.

The full model consisted of three regression equations in which each dependent variable was regressed on all variables to its left in the model. For example, in the first step, participant sexual arousal was regressed on the hypothesized predictors of the two participant beverage contrasts, character beverage, and victim response. The second step of the regression included the two-way interactions between the manipulated predictors, as well as the two-way interactions of sex-related alcohol expectancies and beverage contrasts. Although the inclusion of interaction terms differs from traditional path analysis procedures, we have followed Cohen and Cohen’s (1983) recommended procedure of entering the interaction terms into the equation through a separate step following the main effects. The final model is presented in Figure 2.



**Fig. 2.** Estimated model relating victim response, interactions of victim response with character beverage consumption and participant beverage consumption, and the interaction of alcohol expectancies and expectancy set to participants’ sexual arousal, perceptions, and identification with the victim.

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

**Table 1**  
Summary of Hierarchical Multiple Regression Analyses Predicting Successive Levels of Outcomes in Estimated Path Model

Variables entered on	Participant Sexual Arousal		Female Character Typicality		Participant Behavior	
	$R^2 \Delta$	$\beta$	$R^2 \Delta$	$\beta$	$R^2 \Delta$	$\beta$
Step 1	.194***		.115*		.276***	
Expect Alcohol Contrast		.076		-.207		-.046
Receive Alcohol Contrast		-.013		.135		.002
Female Character Response		.433***		-.309**		-.098
Story Character Beverage		.053		.006		.024
Participant Sexual Arousal				.252*		.209*
Female Character Typicality						.444***
Step 2	.138**		.045		.028	
Alcohol Expectancies $\times$ Expect Alcohol Contrast		.189*		-.031		.065
Alcohol Expectancies $\times$ Receive Alcohol Contrast		-.003		.030		.054
Character Response $\times$ Expect Alcohol Contrast		-.127		-.122		.003
Character Response $\times$ Receive Alcohol Contrast		.095		.225		.084
Character Beverage $\times$ Expect Alcohol Contrast		-.168		.004		-.139
Character Beverage $\times$ Receive Alcohol Contrast		.004		-.065		.086
Character Beverage $\times$ Character Response		.268***		.044		-.063
Total $R^2$	.332***		.159		.304***	

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

*Predicting participants' sexual arousal.* Table 1 presents a summary of the hierarchical multiple regression analyses. For participant sexual arousal, step one of the equation was significant, predicting approximately 19% of the variance. Victim response predicted participant sexual arousal, with the direction of the beta weight indicating that when the victim experienced pleasure, participants were more likely to feel sexually aroused.

The block of two-way interactions was also significant for participant sexual arousal, predicting approximately 14% of the variance. As presented in Figure 3, the character beverage  $\times$  victim response interaction predicted participant sexual arousal. Analyses of the means indicated that all of the means were significantly different from one another. When the victim expressed pleasure and drank alcohol, participants experienced more sexual arousal ( $M = 3.59$ ,  $SD = 1.66$ ) than those in the other three groups. When the victim expressed pleasure and drank water, participants experienced more sexual arousal ( $M = 2.56$ ,  $SD = 1.53$ ) than in either of the distress conditions. When the victim drank alcohol and expressed distress, participants reported less sexual arousal ( $M = 1.43$ ,  $SD = .63$ ) than the other three groups, including the water/distress condition ( $M = 2.07$ ,  $SD = 1.41$ ).

The sex-related alcohol expectancies  $\times$  alcohol expectancy contrast also significantly predicted participant sexual arousal, as illustrated in Figure 4. Analyses of the means indicated that for control participants, there was no significant difference in sexual arousal between those with low ( $M = 2.39$ ,  $SD = 1.54$ ) and high alcohol expectan-

cies ( $M = 2.23$ ,  $SD = 1.45$ ). However, for participants in the placebo condition, participants with higher alcohol expectancies ( $M = 3.26$ ,  $SD = 1.52$ ) reported more sexual arousal than participants with lower expectancies ( $M = 1.65$ ,  $SD = 1.22$ ).

*Predicting participants' perception of the victim as "typical."* The first step of the regression equation was significant for this item, predicting approximately 12% of the variance. The standardized beta weights indicated that participant sexual arousal and victim response significantly predicted victim typicality. The direction of the weights indicated that the more sexually aroused the participants were, the more typical they rated the victim. Also, participants who read the vignette in which the victim expressed distress rated her as more typical than did those who read the vignette in which the victim expressed pleasure. The second step of the equation was not significant.

*Predicting participants' victim behavior likelihood.* For participants' likelihood of behaving like the victim, the block of independent variables entered in step one accounted for approximately 28% of the variance. The standardized beta weights indicated that participant sexual arousal and perceptions of victim typicality significantly predicted participants' estimations of their likelihood of behaving like the victim. The direction of the beta weights indicated that participants who reported greater sexual arousal rated themselves as more likely to behave like the victim than did participants who reported

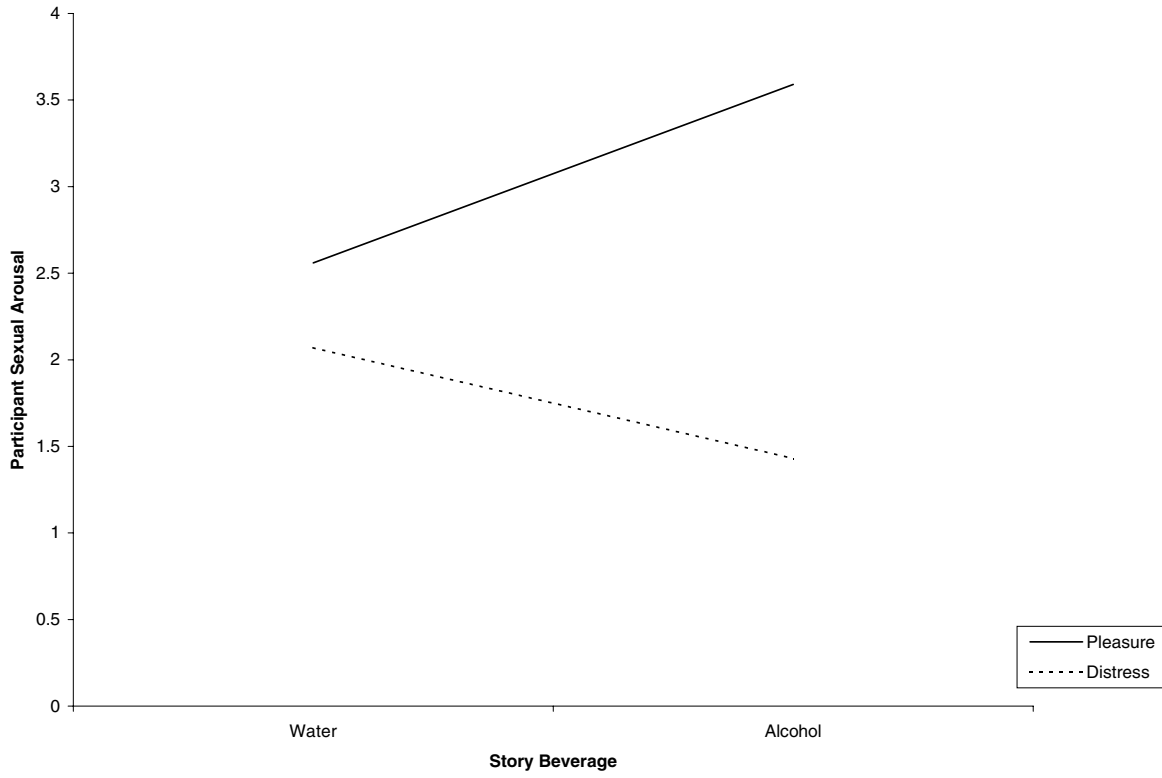


Fig. 3. The interaction of story character beverage and victim response for the dependent variable of participant sexual arousal.

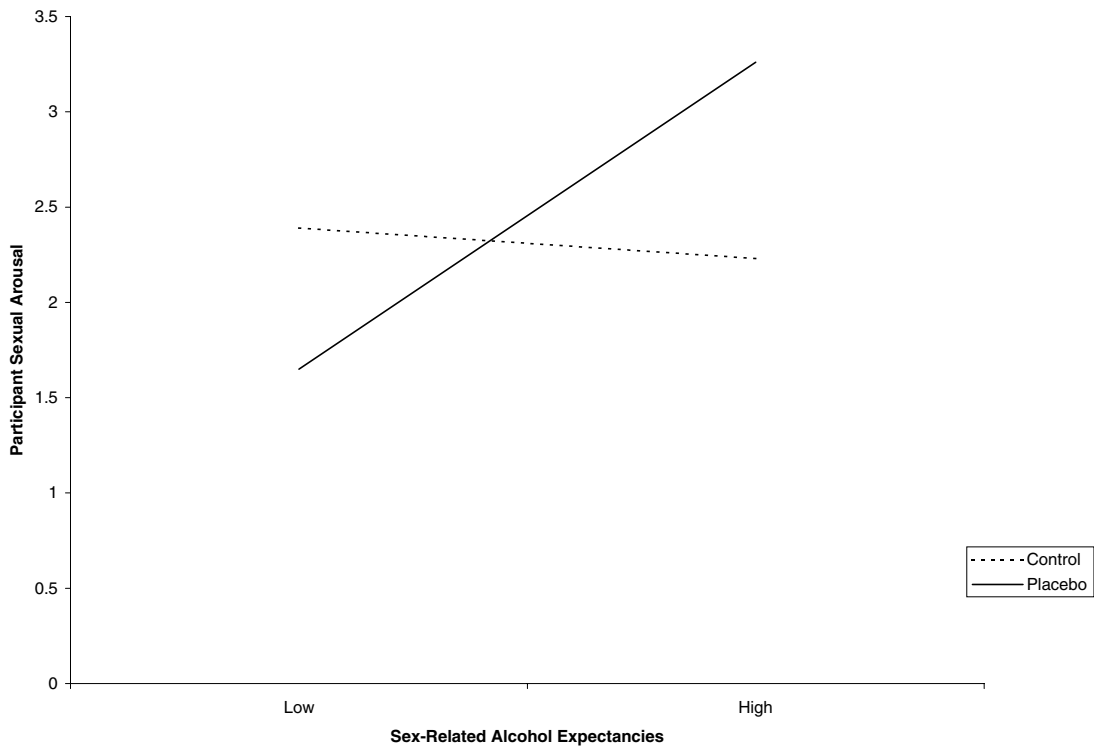


Fig. 4. The interaction of sex-related alcohol expectancies and alcohol expectancy contrast for the dependent variable of participant sexual arousal.

lower sexual arousal. Additionally, the more participants perceived the victim as typical, the more they rated themselves as likely to behave like her. The second step of the equation was not significant.

## DISCUSSION

The path model developed in this study provides insight into the mechanisms through which violent pornography can affect women. Crucial to this process is the experience of sexual arousal. Responding with heightened arousal to an eroticized rape dramatically changes the view of how typical a victim's responses are when she is being sexually assaulted. In addition, alcohol effects resulting from pre-existing expectancies, expectancy set, and its cue value in the story also operate through sexual arousal.

Pornography is designed to be sexually arousing. Importantly, pornography that supports rape myths, such as "women experience pleasure while being raped," is intended to increase individuals' sexual arousal, even while an act of violence is occurring. Unfortunately women are not immune from these effects. Findings from this study are consistent with previous findings that women become more sexually aroused when exposed to rape myth supportive pornography (victim expresses pleasure) than when exposed to an erotic story in which the victim experiences distress (Malamuth & Check, 1980a, b; Malamuth et al., 1980). Moreover, this study extends previous work regarding the influence of such sexual arousal on men's subsequent rape-positive attitudes and behaviors by demonstrating that similar effects occur in women as well. Specifically, our results indicate that women's sexual arousal upon exposure to violent pornography influences their ratings of the victim's typicality, as well as their self-reported likelihood of behaving like her.

As predicted, participants rated a distressed victim as more typical than one who expressed pleasure in general. However, when examined in conjunction with sexual arousal, this finding was reversed. Women who read the rape myth supportive story reported greater sexual arousal than women who read an anti-rape myth story; in turn, women who experienced greater sexual arousal upon reading the story subsequently rated the victim as more typical than the distressed character. Thus, women's rating of typicality in this case appear to be mediated by their level of sexual arousal after reading the depiction of the eroticized rape.

Perhaps this mediation is a defensive reaction by participants to feeling sexually aroused by pornographic rape material. In becoming sexually aroused, participants take their cue from the victim's response, for sexual arousal is enhanced only if the victim expresses pleasure. However, this sexual arousal may not feel acceptable to women given that it occurs in the context of a rape situation. Thus, sexually aroused participants may be more likely to rate the sexually aroused victim as typical as a way of normalizing and

justifying their own feelings of arousal. Importantly, this normalization can then result in participants envisioning themselves as more likely to behave like the sexually aroused character. However, this normalization was not *required* for sexually aroused participants to report an increased likelihood of behaving like an aroused victim—increased sexual arousal directly predicted increased likelihood of behaving like the victim. It thus appears that women who are exposed to rape myth supportive pornography, and then experience sexual arousal, subsequently view themselves as more likely to behave in rape myth supportive ways.

This effect is particularly insidious and potentially harmful to women. Unlike for men, the danger to women is not that they will become sexual assault perpetrators. Rather, by unwittingly becoming sexually aroused to an erotic portrayal of rape, some women might come to believe that a rape myth supportive portrayal of a sexual encounter signifies normal, or acceptable, sexual display. This in turn promotes the notion that women should submit to sexual victimization.

The victim's response as presented in the story also interacted with the type of beverage consumed by the story characters to predict participants' sexual arousal. Specifically, the portrayal of the characters' drinking in the story intensified the impact of the victim response cue. Participants reported the highest degree of sexual arousal when the victim expressed pleasure and the characters were drinking, but the lowest level when the victim expressed distress and the characters were drinking. This finding qualifies earlier work by Norris and her colleagues (Norris & Cubbins, 1992; Norris & Kerr, 1993) that showed that the presence of alcohol in a situation acted as a permissive cue. Unlike these earlier studies, the female character in this study was portrayed as clearly experiencing pleasure or distress. When given room for interpretation of a sexual situation, or when a sexual situation clearly results in a pleasurable experience, observers may draw on common stereotypes of alcohol's effect as a sexual disinhibitor and interpret the situation accordingly (George, Lehman, Cue, Martinez, Lopez, & Norris, 1997). But when a situation is unambiguously assaultive and results in distress, beliefs about alcohol's injurious impacts may become more prominent, heightening a negative view of the situation.

Besides the victim's response, alcohol also played an important role in predicting sexual arousal (and thus ratings of victim typicality and participants' identification with the victim) through the interaction of a priori sex-related alcohol expectancies and manipulated expectancy set. As predicted, when women believed they had consumed alcohol, those with high sex-related alcohol expectancies reported greater sexual arousal than those with low sex-related alcohol expectancies. However, contrary to our prediction, actual alcohol consumption did not predict women's sexual arousal in response to the pornographic material. These findings are consistent with results of previous studies that have examined women's arousal in response to alcohol consumption

(Wilson & Lawson, 1976, 1978). Women who believe they are intoxicated, even though they have not consumed alcohol, may be influenced by their own alcohol expectancies in a self-fulfilling fashion—those with greater expectancy endorsement subjectively experience more sexual arousal than those with lower expectancy endorsement. However, women who believe they are intoxicated, and actually are intoxicated, may experience enough of a dampening of physiological arousal that their subjective estimates of their own arousal are lowered, resulting in a null effect for alcohol consumption (Wilson & Lawson, 1978). Unfortunately, the lack of physiological measures of sexual arousal in this study did not allow us to examine this possibility directly.

Limitations of this study suggest areas that need to be addressed by future research. First, only a moderate dose of alcohol was employed; therefore, it is unknown to what extent these findings might generalize to situations in which a greater or lesser amount of alcohol has been consumed. Second, these findings might not be applicable to women who are either abstainers or heavy alcohol consumers, given that only moderate social drinkers were included in this sample. Third, the use of physiological as well as subjective measures of sexual arousal might give more insight into the influence of alcohol on women's sexual arousal in response to violent pornography.

Despite these limitations, this study provides important information regarding the negative impact that rape myth supportive pornography can have on women. In particular, our findings highlight the crucial role of sexual arousal in women's reactions to violent pornography. When sexual arousal is not considered, women view distress as the typical response to rape, and thus ultimately view themselves as more likely to behave like a distressed rape victim than a pleased rape victim. Thus, when examining this pathway in isolation, it would appear that exposure to rape myth supportive pornography does not necessarily harm women, for the pleased rape victim is viewed as less typical and similar behavior is given a lower likelihood. However, when the mediating variable of sexual arousal is considered, rape myth supportive pornography does have detrimental effects on women. Not only does greater sexual arousal predict an increased rating of the pleased character's normality, but it also predicts a greater likelihood of the participants behaving in a rape myth supportive fashion.

Previous work (Lonsway & Fitzgerald, 1994) has demonstrated the need for countering rape myths in men as one means of preventing sexual assault. Our work suggests that women too need to be aware of their susceptibility to portrayals of women as willing victims and ways that such portrayals might affect their own behavior. Thus, especially when beliefs about alcohol's influence on sexual behavior are primed, women who are repeatedly exposed to and aroused by rape myth supportive pornography might subsequently show a greater support of rape myths themselves. Given the widespread availability of pornography (Rich,

2001), how women are affected by its different elements deserves further attention.

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## NOTES

1. The term *pornography* in this paper refers to any sexually explicit material that is sexist and degrading to women. The term *violent pornography* refers specifically to sexually explicit material that contains acts of violence perpetrated by a man against a woman.
2. The terms *victim* and *female character* are used interchangeably throughout this paper because in the stimulus story the man forces the woman to engage in a number of sex acts against her wishes.

## REFERENCES

- Check, J. V. P., & Guloien, T. H. (1989). Reported proclivity for coercive sex following repeated exposure to sexually violent pornography, nonviolent dehumanizing pornography, and erotica. In D. Zillmann & J. Bryant (Eds.), *Pornography: Research advances and policy considerations* (pp. 159–184). Hillsdale, NJ: Erlbaum.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Come, S., Briere, J., & Esses, L. M. (1992). Women's attitudes and fantasies about rape as a function of early exposure to pornography. *Journal of Interpersonal Violence, 7*, 454–461.
- Cowan, G., & Campbell, R. R. (1995). Rape causal attitudes among adolescents. *Journal of Sex Research, 32*, 145–153.
- Cramer, E., & McFarlane, J. (1994). Pornography and abuse of women. *Public Health Nursing, 11*, 268–272.
- Crowe, L. C., & George, W. H. (1989). Alcohol and sexuality: Review and integration. *Psychological Bulletin, 105*, 374–386.
- Dworkin, A. (1981). *Pornography: Men possessing women*. New York: Penguin Books.
- George, W. H., Lehman, G., Cue, K. L., Martinez, L., Lopez, P. A., & Norris, J. (1997). Postdrinking sexual inferences: Evidence for linear rather than curvilinear dosage effects. *Journal of Applied Social Psychology, 27*, 629–648.
- George, W. H., Stoner, S. A., Norris, J., Lopez, P. A., & Lehman, G. L. (2000). Alcohol expectancies and sexuality: A self-fulfilling prophecy analysis of dyadic perceptions and behavior. *Journal of Studies on Alcohol, 61*, 168–176.
- Lang, A. R. (1985). The social psychology of drinking and human sexuality. *Journal of Drug Issues, 15*, 273–289.
- Leigh, B. C. (1989). In search of the seven dwarves: Issues of measurement and meaning in alcohol expectancy research. *Psychological Bulletin, 105*, 361–373.
- Leigh, B. C. (1990). The relationship of sex-related alcohol expectancies to alcohol consumption and sexual behavior. *British Journal of Addiction, 85*, 919–928.
- Lonsway, K. A., & Fitzgerald, L. F. (1994). Rape myths: In review. *Psychology of Women Quarterly, 18*, 133–164.

- Malamuth, N. M., & Check, J. V. P. (1980a). Sexual arousal to rape and consenting depictions: The importance of the woman's arousal. *Journal of Abnormal Psychology, 89*, 763–766.
- Malamuth, N. M., & Check, J.V.P. (1980b). Penile tumescence and perceptual responses to rape as a function of victim's perceived reactions. *Journal of Applied Social Psychology, 10*, 528–547.
- Malamuth, N. M., & Donnerstein, E. (Eds.). (1984). *Pornography and sexual aggression*. New York: Academic Press.
- Malamuth, N. M., Heim, M., & Feshbach, S. (1980). Sexual responsiveness of college students to rape depictions: Inhibitory and disinhibitory effects. *Journal of Personality and Social Psychology, 38*, 399–408.
- Mayerson, S. E., & Taylor, D. A. (1987). The effects of rape myth pornography on women's attitudes and the mediating role of sex role stereotyping. *Sex Roles, 17*, 321–338.
- Norris, J. (1994). Alcohol and female sexuality: A look at expectancies and risks. *Alcohol Health & Research World, 18*, 197–201.
- Norris, J., & Cubbins, L. A. (1992). Dating, drinking, and rape: Effects of victim's and assailant's alcohol consumption on judgments of their behavior and traits. *Psychology of Women Quarterly, 16*, 179–191.
- Norris, J., & Kerr, K. L. (1993). Alcohol and violent pornography: Responses to permissive and nonpermissive cues. *Journal of Studies on Alcohol* (Suppl. No. 11), 118–127.
- Pernanen, K. (1976). Alcohol and crimes of violence. In B. Kissin & H. Begleiter (Eds.), *The biology of alcoholism: Social aspects of alcoholism* (Vol. 4; pp. 351–444). New York: Plenum Press.
- Rich, F. (2001, May 20). The naked capitalists. *New York Times Magazine, 51*.
- Rohsenhow, D. J., & Marlatt, G. A. (1981). The balanced placebo design: Methodological considerations. *Addictive Behaviors, 6*, 107–122.
- Russell, D. E. H. (Ed.). (1993). *Making violence sexy: Feminist views on pornography*. New York: Teachers College Press.
- Senn, C. Y. (1993). The research on women and pornography: The many faces of harm. In D. E. H. Russell (Ed.), *Making violence sexy: Feminist views on pornography* (pp. 179–193). New York: Teachers College Press.
- Silbert, M. H., & Pines, A. M. (1993). Pornography and sexual abuse of women. In D. E. H. Russell (Ed.), *Making violence sexy: Feminist views on pornography* (pp. 113–119). New York: Teachers College Press.
- Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia: Its prized and dangerous effects. *American Psychologist, 45*, 921–933.
- Stock, W. E. (1996). *Women's pleasurable and coercive experiences of pornography*. Paper presented at the meeting of the American Psychological Association, Toronto, Ontario.
- Taylor, S. P., & Leonard, K. E. (1983). Alcohol and human physical aggression. In R.G. Geen & E. J. Donnerstein (Eds.), *Aggression: Theoretical and empirical reviews* (Vol. 2): *Issues in research* (pp. 77–101). New York: Harper Collins.
- West, S. G., Aiken, L. S., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality, 64*, 1–48.
- Wilson, G. T. (1981). The effects of alcohol on human sexual behavior. *Advances in Substance Abuse, 2*, 1–40.
- Wilson, G. T., & Lawson, D. M. (1976). Effects of alcohol on sexual arousal in women. *Journal of Abnormal Psychology, 85*, 489–497.
- Wilson, G. T., & Lawson, D. M. (1978). Expectancies, alcohol, and sexual arousal in women. *Journal of Abnormal Psychology, 87*, 358–367.