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## THE EFFECTS OF PAST SEXUAL ASSAULT PERPETRATION AND ALCOHOL CONSUMPTION ON MEN'S REACTIONS TO WOMEN'S MIXED SIGNALS

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### Abstract

Theories about misperception of sexual intent, cognitive distortions among rapists, and alcohol's effects on cognition describe processes that may contribute to acquaintance sexual assault. Drawing on these literatures, an experiment was conducted to examine hypotheses about the effects of past sexual assault perpetration and alcohol consumption on 153 college men's reactions to a female confederate. As compared to nonperpetrators, self-acknowledged rapists and verbal coercers reported being more sexually attracted to the confederate. Trained coders were least certain that rapists noticed specific positive and negative cues that the confederate used and most certain that verbal coercers did. Intoxicated participants perceived themselves and their partner as acting more sexually than did sober or placebo participants. Suggestions are discussed for research and treatment programs with college sexual assault perpetrators.

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Sexual assault is extremely common in the United States and typically occurs between a man and woman who know each other (Brener, McMahon, Warren, & Douglas, 1999; Bureau of Justice Statistics, 1995; Koss, Gidycz, & Wisniewski, 1987; Tjaden & Thoennes, 1998). Most sexual assaults are not reported to the police, and even among those reported, incarceration of the perpetrator is a rare outcome (Bureau of Justice Statistics, 1995; Tjaden & Thoennes, 1998). College men frequently acknowledge having committed sexual assault, almost always with women they know in the context of a date or other type of social interaction and often when under the influence of alcohol. Depending on the precise questions asked and the universities sampled, up to 15% of college men reported that they perpetrated an act that met standard legal definitions of attempted or completed rape and up to 57% indicated that they perpetrated some form of sexual assault (Abbey, McAuslan, & Ross, 1998; Koss et al., 1987; Muehlenhard & Linton, 1987; Rapaport & Burkhart, 1984). Rape typically is defined as physically forced oral, anal, or vaginal intercourse and as sexual intercourse that occurs when consent cannot be given because of the victim's age or impaired mental status, which includes intoxication (Bureau of Justice Statistics, 1995; Koss, 1992). Sexual assault includes rape, as well as other types of physically forced sexual

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activity and verbally coerced sexual intercourse (Koss, 1992). Approximately half of all college students' sexual assaults involve alcohol consumption by the perpetrator, the victim, or both (Abbey, 2002).

In this study, college men talked for 20 min with a female confederate. She was generally friendly, but also provided mixed signals by using some specific cues that signaled that she was interested in the conversation and some cues that signaled disinterest. This paradigm was designed to simulate a situation in which a man might meet a woman at a party or a bar, talk to her for a while, and then decide if he should pursue further interaction. We were interested in the effects of men's prior sexual assault perpetration and alcohol consumption on their sexual perceptions. Although there are many possible outcomes to this type of interaction, misperception of a partner's degree of sexual interest has been linked to sexual assault perpetration. The relevant theory and literature on misperception of sexual intent, sexual assault, and alcohol are described below, and then the study's hypotheses, design, and results are presented.

## MISPERCEPTION OF SEXUAL INTENT

Laboratory studies consistently find gender differences in perceptions of sexual intent, with men perceiving women as behaving more sexually and being more interested in a sexual relationship than do women (Abbey, 1982; Abbey, Zawacki, & McAuslan, 2000; Edmondson & Conger, 1995; Shea, 1993). These findings have been explained with theories of gender role socialization and the self-fulfilling nature of expectancies and stereotypes. Men's traditional responsibility for initiating dates and sexual behavior puts them in the position of needing to focus on a potential sexual partner's cues in order to decide if they should make a sexual advance. Although not all men want to have sex with every available woman, research suggests that, on average, men are more interested in casual sexual relationships than are women (Buss & Schmitt, 1993; Oliver & Hyde, 1993).

Research on the power of stereotypes and self-fulfilling prophecies demonstrates that when people have an expectation about a situation or another person, they tend to observe and recall the cues that fit their hypothesis and to minimize or ignore the cues that disconfirm their hypothesis (Snyder & Stukas, 1999). People tend to believe that their hypothesis has been supported when the evidence is only mixed, and they act on their hypothesis as if it has been confirmed. This implies that if a man thinks that a woman is interested in having sex with him, he will pay most attention to the cues that fit this hypothesis and ignore or minimize cues that disconfirm this hypothesis. If he ignores cues that a less biased observer would have noticed, then he may misinterpret the woman's intentions because of his own preconceived expectations.

## THE RELATIONSHIP BETWEEN SEXUAL ASSAULT PERPETRATION AND MISPERCEPTION OF SEXUAL INTENT

The relationship between misperception and sexual assault usually is explained within the context of American gender role beliefs that encourage forced sex. American gender role norms about dating and sexual behavior invite men to be forceful and dominant and to think

that “no” means “convince me.” For example, Goodchilds and Zellman (1984) found that more than half of the high school boys and more than a quarter of the high school girls they surveyed believed that forced sex was acceptable if the woman “led him on,” if she first said “yes” and then changed her mind, or if he was “so excited” that he could not stop. If a man has misperceived a woman’s friendly cues as sexual, then he is likely to feel that he has been led on, and this belief may make him feel justified in forcing sex (Ward, Hudson, Johnston, & Marshall, 1997). Such beliefs do not morally or legally justify sexual assault; however, they help explain how the interaction of pre-existing attitudes and situational factors might contribute to misperception and, in turn, to sexual assault perpetration. For example, Muehlenhard and Linton (1987) asked college students to describe a sexually assaultive date (if they had such an experience) and their most recent date. Men reported that women had led them on to a greater extent on dates in which they were sexually aggressive as compared to their most recent dates. In another survey of college perpetrators, the frequency of misperception of a woman’s sexual intentions was strongly, positively related to the number of sexual assaults committed (Abbey et al., 1998).

Using a different methodological approach to study misperception among perpetrators, Shea (1993) expanded upon Abbey’s (1982) paradigm, in which unacquainted women and men college students interacted with each other, by prescreening men for past verbal sexual coercion. There were main effects of participants’ gender and past sexual coercion. As found in past misperception research, men perceived their female partners and themselves as behaving more sexually than did women. Sexually coercive men rated their partners as behaving more sexually than did noncoercive men. Shea’s study does not show definitively that misperception precedes sexual assault, but, it does demonstrate that men who have committed one type of sexual assault are more likely than other men to misperceive a woman’s level of sexual interest.

## **COGNITIVE DISTORTIONS AMONG SEXUAL ASSAULT PERPETRATORS**

Another line of research that was conducted primarily with incarcerated rapists examines the accuracy of perpetrators’ perceptions of women’s behavior. Overall, the results of this research have been promising but mixed (for reviews see Geer, Estupinan, & Manguno-Mire, 2000; Ward et al., 1997). For example, Lipton, McDonel, and McFall (1987) found that incarcerated rapists were worse than other prisoners at accurately decoding women’s cues when evaluating brief videotapes of first date situations. Furthermore, rapists were less accurate when the videotaped woman acted negatively than when she acted positively. In a conceptual follow-up, college men who were less accurate at decoding the videotaped woman’s negative cues were more likely to report that they could commit rape (McDonel & McFall, 1991). As Ward and colleagues (1997) noted, these findings suggest that sexual assault perpetrators engage in selective attention processes, responding only to cues that support their perceptions of a woman. Thus, “the rapist who does not attend to negative cues from his victim may truly believe that the woman ‘enjoyed it’ since he has no evidence to the contrary. Similarly, if friendly cues are interpreted as seductiveness, the offender has support for his belief that ‘she asked for it’” (p. 492).

## RELATIONSHIPS AMONG ALCOHOL CONSUMPTION, MISPERCEPTION OF SEXUAL INTENT, AND SEXUAL ASSAULT

Current alcohol theory and research focus on cognitive deficits as the cause of many of alcohol's undesirable effects, such as aggression and risky sexual behavior (MacDonald, MacDonald, Zanna, & Fong, 2000; Sayette, Wilson, & Elias, 1993). Alcohol disrupts higher-order cognitive processes, including abstraction, conceptualization, planning, and problem solving (Chermack & Giancola, 1997; Steele & Josephs, 1990). Intoxication leads people to focus on the most salient cues in a situation and to ignore or minimize peripheral cues. There is some debate among alcohol theorists regarding the precise circumstances in which alcohol's effects on cognitive processing contribute to behaviors such as aggression and sexually inappropriate behavior. Steele and Joseph's (1990) alcohol myopia model focuses on high conflict situations in which there are strong instigatory and inhibitory cues. Although this theory has generated a great deal of attention, research suggests that strong inhibitory cues are not necessary for alcohol to affect behavior (see the review by Ito, Miller, & Pollock, 1996). This study's hypotheses are based on more general models of alcohol's effects on cognition (Chermack & Giancola, 1997; Taylor & Leonard, 1983). For example, Taylor and Leonard (1983) argue that "alcohol intoxication might facilitate aggressive behavior in the presence of dominant, instigatory cues by increasing one's attention to those cues and by concomitantly reducing one's attention to incompatible, inhibitory cues" (p. 96). As described above, sober men are also capable of missing some inhibitory cues because of their expectations. However, sober men are unlikely to be able to ignore repeated inhibitory cues, whereas intoxicated men may remain focused on instigatory cues in the situation and be oblivious to inhibitory cues. Thus, if a man is sexually attracted to his female companion and looking for signs that she is similarly attracted to him, potential signs of sexual attraction will be the most salient to him. Alcohol's effects on cognitive processing, therefore, encourage a man to focus on any sign of interest and to ignore signs of disinterest. Intriguingly, Geer and colleagues (2000) describe sexual assault perpetrators' cognitive deficits using terminology similar to that used by alcohol theorists when describing the cognitive effects of intoxication. Both groups of researchers note that impairments are associated with focusing on cues that relate to immediate positive consequences rather than on cues that relate to long-term negative consequences.

Alcohol and misperception may act synergistically in sexual assault situations. Abbey, McAuslan, Zawacki, Clinton, and Buck (2001) found that, compared to nonperpetrators, men who had perpetrated sexual assault reported drinking more alcohol on occasions when they had misperceived a woman's sexual intent. Additionally, during the interaction in which they committed sexual assault, past perpetrators consumed more alcohol and misperceived a woman's sexual intentions for a longer period of time than did nonperpetrators on their worst date. Although survey data cannot demonstrate causality, in conjunction with data showing that men who feel "led on" feel justified in using force (Ward et al., 1997), these findings support the hypothesis that alcohol increases the probability that a man who has misperceived a woman's level of sexual interest will feel entitled to force sex because he will have focused only on aspects of the situation that support this belief.

## OVERVIEW OF STUDY AND HYPOTHESES

Based on the theory and literature reviewed above, an experiment was conducted to test several hypotheses about the effects of past sexual assault perpetration and of alcohol consumption on men's reactions to a female confederate. During most of the 20-min "get acquainted" conversation, the woman was friendly, although she never behaved in an overtly sexual manner. The participants were expected to find the woman sexually desirable and to be interested in getting to know her better. All of the participants received mixed cues. At four specified points in the conversation, the confederate acted particularly interested in the man and the conversation. At another four points, she acted disinterested. Her ambiguous behavior created a situation in which cognitive biases could operate.

We hypothesized that men who previously had perpetrated sexual assault and men who consumed alcohol would perceive themselves as acting more sexually during the interaction, be more sexually attracted to the confederate, and express more interest in future interaction with her than would other men. Furthermore, we anticipated that these men would be strongly motivated to find signs in the confederate's behavior that she was sexually attracted to them. Known perpetrators and intoxicated men were expected to focus on the confederate's positive cues and to minimize her negative cues. Therefore, they would perceive the woman as acting more sexually during the interaction and as being more sexually attracted to them than would other men. We also hypothesized that there would be an interaction between prior perpetration and alcohol consumption such that men who previously had committed sexual assault and drank alcohol would make the highest sexual ratings.

In past misperception research, gender differences in perceptions of one's own and one's partner's behavior have been restricted to the sexual domain—differences have not been found in perceptions of friendliness (Abbey, 1982; Abbey et al., 2000). This research demonstrates that men who overattribute sexuality to their female partner are not simply rating her highly on all dimensions, they are focusing specifically on her sexuality. Thus, no differences were expected in perceptions of friendliness or trustworthiness.

In order to test the hypothesis that cognitive biases underlie the effects of alcohol and past perpetration on perceptions of the confederates' behavior, a self-report measure was included to assess participants' awareness of the confederates' cues. We hypothesized that men who drank alcohol and men who previously perpetrated sexual assault would recall, on balance, more positive than negative cues as compared to nondrinkers and nonperpetrators. The conversations were videotaped and coded by trained raters who were unaware of the study's independent variables and hypotheses. Based on research regarding alcohol's cognitive effects, we hypothesized that raters would evaluate intoxicated participants as being more responsive to the confederate's positive cues and less responsive to her negative cues than nondrinking participants. Because of this biased focus, intoxicated participants also were expected to act more encouraged than nondrinkers after positive and negative cues. Similar hypotheses were made about past perpetrators based on theories about their cognitive biases. As compared to nonperpetrators, perpetrators were expected to be more

responsive to the confederate's positive cues, less responsive to her negative cues, and more encouraged after positive and negative cues.

Although Shea (1993) examined the effects of past sexual assault perpetration on sexual perceptions, she used only one item that assessed verbal coercion. In contrast, this study used a multi-item scale to form three groups: men who reported that they had committed an act that met standard definitions of completed or attempted rape, men who reported that they had used verbal coercion to obtain sexual intercourse, and men who reported that they had not forced any type of sexual activity. Surprisingly, few researchers have empirically examined differences between men who use physical as opposed to verbal methods to force sex (Byers & Eno, 1991; Muehlenhard & Falcon, 1990). Muehlenhard and Falcon (1990) found that college men who indicated that they were skilled at initiating interactions with women whom they did not know well were more likely than other men to have committed sexual coercion. This skill was unrelated to their likelihood of committing rape, however. Given how little research has been conducted in this area, no specific hypotheses were made about differences between verbal coercers and rapists.

Three alcohol conditions were included: intoxicated, placebo, and sober. The placebo condition was included as an additional control condition in order to insure that alcohol's effects were due to actual alcohol consumption rather than to beliefs about alcohol's effects. Although some early alcohol and sexuality research found significant placebo effects (Abrams & Wilson, 1983; George & Marlatt, 1986), the majority of recent sexuality research has not (Abbey et al., 2000; Fromme, D'Amico, & Katz, 1999; MacDonald, Zanna, & Fong, 1996; Norris & Kerr, 1993). Aggression research also has not found significant placebo effects (Chermack & Giancola, 1997; Leonard & Roberts, 1998).

## METHOD

### PARTICIPANTS

Participants were 153 men who were students at a large, urban commuter university. They were recruited from a list of students provided by the Registrar's office and through flyers posted on campus. Of the participants, 49% were African-American ( $n = 75$ ), 48% were Caucasian ( $n = 73$ ), 2% were Asian ( $n = 3$ ), and 1% ( $n = 2$ ) were another ethnic background. Because of the requirements of alcohol administration studies, all of the participants were at least 21 years of age. Their mean age was 25.57 years ( $SD = 3.61$ ). The participants were required to drink alcohol on a regular basis. They averaged 34.83 drinks per month ( $SD = 34.96$ ).

### PROCEDURE

There were three contacts with participants: (1) a telephone screening to ensure that the participants were eligible for the study, (2) a survey administration session to assess past sexual assault perpetration, and 3) a laboratory session in which they interacted with the confederate.

**Telephone Screening**—Potential participants were called by a research assistant who told them that the Department of Community Medicine was looking for students who were

interested in completing a survey on health and well-being. They were told that everyone who completed the survey would be paid \$20 and considered for additional department studies. Potential participants were screened to insure that they met the recommended requirements for alcohol administration studies. They were required to have consumed at least one alcoholic beverage in the past 30 days, to have consumed at least four standard drinks on one occasion in the past year, to have no history of alcohol or drug abuse, and to have no health problems or medication use that contraindicated alcohol consumption (National Institute on Alcohol Abuse and Alcoholism, 1989). Because of the study's focus on men's sexual attraction to the female confederate, participants were required to be heterosexual, not in an exclusive relationship, and interested in dating Caucasian or African-American women. Most Wayne State University students are Caucasian or African-American; thus, we trained both Caucasian and African-American confederates. Dating relationships usually are intraracial, so Caucasian and African-American participants were matched with a confederate of the same race. Potential participants from other ethnic backgrounds were eligible if they dated Caucasian or African-American women. No ethnic differences were found using the dependent measures described below, thus analyses using this variable are not described in the results section.

**Survey Session to Assess Past Sexual Assault Perpetration**—Students who met all of the criteria described above were scheduled to complete a self-administered survey. A research assistant reviewed each consent form and answered questions. To enhance confidentiality, the participants placed their completed questionnaires in a sealed envelope before returning them to the experimenter. The survey included a number of measures unrelated to this study, as well as a measure of sexual assault.

A modified 16-item version of the Sexual Experiences Survey was used to assess sexual assault perpetration since the age of 14 (Koss et al., 1987; Humphrey & White, 2000). This measure has been used extensively and has good internal consistency and test-retest reliability (Koss et al., 1987). Cronbach's coefficient alpha in the present study was 0.84. The survey uses behaviorally-specific questions that describe the elements of sexual assault without labeling the acts as criminal (Koss, 1992). Three items assessed forced sexual contact, which are acts that involve forced kissing or touching but no penetration. As found in past studies (Abbey et al., 1998; Koss et al., 1987), relatively few men had committed only forced sexual contact, thus these men were not considered for inclusion in the laboratory session. Six items assessed verbally coerced oral, anal, and vaginal intercourse. The remaining seven items assessed acts that conform to standard legal definitions of attempted or completed rape. In most jurisdictions, the same laws apply to attempted and completed rape, thus these items were combined (Bureau of Justice Statistics, 1995; Koss, 1992). As is standard procedure, men who indicated that they had committed any of the acts that constitute rape were categorized as rapists, although they may also have committed acts of sexual coercion.

**Laboratory Session**—A different experimenter called men from each of the three perpetration groups approximately one month after completing the survey. Only the first author knew participants' perpetration status and she ensured that equal numbers of men

from each perpetration group were randomly assigned to each alcohol condition (51 per cell). The laboratory session was described to the participants as a study focused on the effects of food, alcohol, and the topic of conversation on social interactions. The participants were told that they would be interacting with another student during the study, that they would be paid \$10 per hour, and that their responses to the alcohol consumption questions in the earlier survey made them eligible for this study. The participants were asked to abstain from alcohol for 24 hours and to fast for four hours prior to their laboratory appointments.

As is standard protocol for alcohol administration research involving deception (Rohsenow & Marlatt, 1981), one experimenter served as the bartender and mixed the drinks, administered breath analyzer tests, and had minimal contact with the participants. The second experimenter was unaware of the participants' drink condition. This individual explained the study procedures, started and stopped the conversation, and administered questionnaires. All experimenters were unaware of the participants' perpetration status.

The participant and the female confederate were introduced to each other when they arrived at the laboratory and were treated identically throughout the study. In order to encourage participants to consider if they would want to interact with the confederate again, they were told that they would be offered the opportunity to interact with either the same or a different partner in a later study. Then they were escorted to a private room where they reviewed and signed a consent form that described the study's procedures, including that the conversation would be videotaped. Eligibility to drink alcohol also was reverified. The participant and the confederate were then seated in another room, facing each other across a round table in chairs positioned 54 in (137 cm) apart. The participant and confederate were given their food, drink, and conversation instructions via a rigged draw. Only the participant's alcohol condition actually varied; the food and conversation selections were included to support the cover story.

The bartender poured the participant's and the confederate's beverages in front of them from apparently unopened containers in order to facilitate the alcohol deception. The confederate always was assigned to the "drink alcohol" condition.<sup>1</sup> Participants in the alcohol consumption condition were administered 2 ml/kg of bodyweight of 80-proof Absolut vodka, calculated to induce a peak Blood Alcohol Content (BAC) of .080%. This dose was mixed in a 3:1 ratio with Canada Dry tonic and divided into three cups. Participants in the placebo and no-alcohol conditions and the confederates were given an amount of non-alcoholic mixture calculated according to the formula given above, but with flattened tonic replacing the vodka. A vodka floater was added to the placebo participants' beverage in order to give it the smell and taste of alcohol (Sayette, Smith, Breiner, & Wilson, 1992). Participants were given five min to consume each of their three drinks, followed by a 10-min absorption period. During the drinking and absorption phases of the study, the participants and confederates individually completed a series of puzzles in order to keep them busy and to prevent them from beginning to interact. After the absorption period, a

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<sup>1</sup>In college samples, perpetrators' and victims' alcohol consumption are highly positively correlated (Abbey et al., 1998; Muehlenhard & Linton, 1987). Including the confederate's drink condition as an additional independent variable would have required doubling the sample size to 306, which is unrealistic for an alcohol administration study. Given the study's focus on the effects of alcohol consumption, it seemed most important and realistic to portray the confederate as drinking alcohol.



breath analyzer test was administered. The experimenter always reported that the confederate's BAC was .080%. In the alcohol and the placebo conditions, the experimenter always stated that the participant's BAC was 0.079. The experimenter stated that it was zero in the no-alcohol condition.

At this point, the uninformed experimenter reminded the participants and the confederate that they would talk about the first topic that they had drawn (experiences at Wayne State) for 10 min and that they would talk about the second topic (interests and background) for an additional 10 min. They were asked not to discuss what they drank during the conversation. After the conversation, the participants and the confederate received another breath analyzer test. The experimenter always reported that the confederate's BAC was 0.081%. In the alcohol and placebo conditions, the experimenter always stated that the participant's BAC was 0.080%. The experimenter stated that it was zero in the no-alcohol condition.

The participant and the confederate were then placed in separate rooms to complete their questionnaires (described below). Afterwards, participants answered feedback questions that were designed to assess whether they were suspicious about any aspect of the study. Participants were then thoroughly debriefed. Participants who received alcohol were required to remain in the laboratory until their BAC returned to 0.005%.

**Confederate Training and Manipulation**—Nine different women were employed to play the role of the confederate. The use of multiple confederates insured that the study's findings were generalizable, rather than specific to individual women's appearance or behavioral style. An item included in the questionnaire that the participants completed after the conversation indicated that the confederates were perceived as equally attractive,  $F(8,144) = .82, p > .58 (M = 4.71, SD = 1.64)$ , and preliminary analyses indicated that the confederates were perceived comparably on the focal dependent measures. All of the confederates were trained extensively to adopt the same persona, which was developed through pilot testing with women undergraduates. Confederates assumed the role of Ann, who had been at Wayne State for two years, was considering journalism as her major, shared an apartment with a female friend, had recently started to jog, and enjoyed going to the movies. Background materials were developed and memorized by the confederates so that they would be prepared for questions on a variety of topics. None of the study's hypotheses was explained to confederates and they did not know that participants' past sexual assault perpetration had been assessed.<sup>2</sup> Confederates heard the drink condition participants selected, thus they knew when the participant was in the sober condition. However, when participants selected the "drink alcohol" condition, confederates did not know when the men actually drank alcohol and when they did not.<sup>3</sup>

Confederates were trained to behave in a consistent manner with all participants. During most of their conversation, the confederates were friendly and attentive. At approximate 2-min intervals, the confederate introduced a specific cue into the conversation. These eight

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<sup>2</sup>To protect the confederate, the participants never learned her real name and she always left the laboratory first.

<sup>3</sup>It was important that the participant heard the confederate's drink condition so that he would believe that she was drinking alcohol. It also was important to treat the participant and the confederate comparably to avoid arousing any suspicion. Thus, she heard the same information about his drink condition as he did.

cues alternated, beginning with a positive cue and ending with a negative cue. The four positive cues were: 1) leaning forward and agreeing with the participant's opinion of the University, 2) telling him that she was enjoying being in the study, 3) extending her arms toward the participant while expressing interest in one of his hobbies, and 4) complimenting him on an aspect of his personality that he had previously mentioned. Although none of these cues included sexual content, they suggested that the confederate was enjoying the conversation and thought that the participant was interesting. The four negative cues were: 1) commenting that she was not interested in his major, 2) breaking eye contact and looking around the room, 3) leaning back and not responding for a 30-sec interval, and 4) looking at her watch. All of the cues were pilot tested to insure that they were perceived as intended. Confederates underwent multiple practice sessions until the authors determined that the women performed the cues accurately. Additionally, videocoders were asked to rate the extent to which each cue was accurately performed using a 9-point scale that included response options that ranged from "not at all accurately" to "very accurately." The mean accuracy score was very high, ( $M = 8.71$ ,  $SD = 0.36$ ; kappa coefficient = .89), and it did not significantly differ among the confederates,  $F(7, 141) = 1.35$ ,  $p > .23$ .

## MEASURES

**Participants' Self-reports**—After the conversation, participants completed a questionnaire that included measures used in past research on perceptions of sexual intent (Abbey et al., 2000), as well as several developed for this study. Based on past research, participants answered questions about their partner first and about themselves second. Unless noted otherwise, questions were answered using 7-point Likert-type scales that included response options ranging from "not at all" 1 to "very much." Factor analysis confirmed the structure of the scales described below.

Three sets of scales from past research assessed participants' sexual perceptions ( $r$ 's between these scales ranged from .32 to .60, and  $ps < .05$ ). The participants were asked how they and their partner acted during the conversation. Four of the adjectives in a longer list assessed *sexuality*: sexy, seductive, promiscuous, and romantic. Cronbach's coefficient alpha was .84 for ratings of oneself and .86 for ratings of the confederate. *Sexual behavior* was assessed with four items: the extent to which the individual flirted with their partner, came on to their partner, acted like they would want to be seduced by their partner, and behaved in a sexual manner. Cronbach's coefficient alpha was .89 for ratings of self and .91 for the confederate. Participants also were asked four questions to assess *sexual attraction*: the extent to which they were sexually attracted to their partner, would be interested in dating their partner, would be receptive to a sexual advance from their partner, and would be interested in having sex with their partner. Cronbach's coefficient alpha was .86 for ratings of self and .89 for the confederate.

Participants were also asked to describe, in an open-ended format, what specific things they did during the conversation that might have let their partner know that they were interested in her. These responses were coded by two trained raters for the presence of *hints about dating* (e.g., telling the confederate that he was single or suggesting activities that they could do together). Cohen's kappa was .89.

How friendly and trustworthy the participant and confederate acted during the conversation also was assessed. These items were intermixed in a long list of adjectives that included the sexual adjectives described above and filler items. *Friendliness* was measured with six adjectives: friendly, cheerful, kind, likable, sociable, and warm. Cronbach's coefficient alpha was .86 for self and .86 for the confederate. *Trustworthiness* was measured with four adjectives: credible, honest, sincere, and trustworthy. Cronbach's coefficient alpha was .74 for self and .76 for the confederate.

In order to determine if participants noticed the specific positive and negative cues that confederates used during the interaction, they were given a list of behaviors and asked to indicate the ones that their partner exhibited during the conversation. Within a longer list, 14 items reflected the nonverbal and verbal components of the manipulated positive and negative cues that the confederate provided during each interaction (e.g., disagreed with you, complimented you, looked bored, or leaned toward you). Cronbach's coefficient alpha was .80 for positive cues and .63 for negative cues. These were combined into a *positive to negative cue ratio*. Higher scores on this measure indicate that, proportionately, participants recalled more positive cues than negative cues.

The participants reported how interested they would be in future interaction with the confederate in *future studies* on four different topics. Cronbach's coefficient alpha was .79.

**Confederates' Perceptions**—After the conversation ended, each confederate rated the extent to which the participant was *sexually attracted to her* using the same 7-point response scale that the participants used.

**Videocoding**—Two undergraduate research assistants, one woman and one man, coded segments of each videotaped conversation.<sup>4</sup> Raters were extensively trained using tapes of practice sessions. Raters coded 30-sec segments of conversation immediately before, during, and after each of the eight cues for a total of 90 sec per cue and 12 min total. The coding sheet provided a list of potential verbal and nonverbal behaviors that the participants might use and raters marked those that occurred during the interval. Some of these behaviors indicated a direct response to the cue (e.g., making a verbal response directly related to what the confederate just said or looking at his watch immediately after the confederate looked at hers). Thus, for each cue, the video coders noted whether the participant emitted any direct verbal or nonverbal behavioral response. The four positive cues were combined into an indicator of *responsiveness to positive cues* and the four negative cues were combined into an indicator of *responsiveness to negative cues*. For each variable, scores could range from 0 to 4. The reliability between coders was assessed with the intraclass correlation coefficient, which was .78 for positive cues and .75 for negative cues.

Coders also answered several subjective questions after each cue. They were asked how sure they were that the participants noticed the cue using a 9-point scale with response options ranging from "very sure he did not notice" to "very sure he did notice." These were combined for positive and negative cues to form two scales: *certainty positive cues were*

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<sup>4</sup>Three tapes were of such poor quality that they could not be coded.

*noticed* and *certainty negative cues were noticed*. The kappa coefficients were .83 and .80, respectively. Three questions assessed how the participant responded in terms of how positive a tone he used, how much affect he displayed, and how encouraged he seemed by the confederate's behavior, also using 9-point response scales. These items were highly correlated and combined into an index of participants' *encouragement after positive cues* and *encouragement after negative cues*, with intraclass correlation coefficients of .80 and .81, respectively.

For each segment of tape coded, questions were included to assess if the participant made any comments or hints about wanting to date the confederate. This *dating availability index* was based on past research and included hinting about being single or available to date, complimenting the confederate's appearance, and making sexual jokes or innuendoes (Abbey et al., 2000). As expected based on past research, these responses were fairly rare. Thus responses were dichotomized to indicate whether or not any hints about dating or sexual topics were made. Cohen's kappa was .83.

## RESULTS

### PRELIMINARY ANALYSES

**Blood Alcohol Concentrations**—The participants were administered a dose of alcohol calculated according to weight to result in a 0.080% BAC peak during the 20-min interaction. Consistent with this, participants who drank vodka had a mean BAC of 0.072% ( $SD = 0.02$ ) directly prior to the interaction and a mean BAC of 0.076% ( $SD = 0.01$ ) immediately following the conversation. Mean BAC prior to and following the conversation did not differ significantly among the perpetration groups,  $F_s(2, 48) = 0.02, 0.46, p_s > .97, .63$ , respectively.

**Beverage Instruction Manipulation Checks**—In response to the question, "What beverage did you drink during the study?" all participants responded that they drank the beverage that matched their instructions. Participants were also asked to estimate their highest BAC during the study. Participants in the intoxicated condition ( $M = 0.081, SD = 0.01$ ) and the placebo condition ( $M = 0.073, SD = 0.02$ ) reported a mean BAC significantly higher than participants in the sober condition ( $M = 0.000, SD = 0.00$ ),  $F(2, 144) = 571.70, p < .001$ , (follow-up Tukey comparison  $p_s < .001$ ). Additionally, participants in the intoxicated condition reported a significantly higher mean BAC than participants in the placebo condition (follow-up Tukey comparison  $p < .01$ ). There were no significant differences among the perpetration groups' mean BAC estimates,  $F(2, 144) = 1.45, p > .24$ . Participants were also asked to estimate how intoxicated they felt during the conversation. Participants in all three drink conditions reported significantly different mean levels of intoxication,  $F(2, 144) = 141.85, p < .001$  (follow-up Tukey comparison  $p_s < .001$ ). Participants who drank vodka during the study reported the highest score ( $M = 3.63, SD = 0.89$ ), followed by participants in the placebo condition ( $M = 2.37, SD = 0.92$ ) and then by participants who drank only tonic ( $M = 1.06, SD = 0.31$ ). There were no significant differences among the perpetration groups' reported feelings of intoxication,  $F(2, 144) = 0.93, p > .39$ .

## ANALYSES OF QUESTIONNAIRE DATA

A 3 (Past Sexual Assault Perpetration: None, Verbal Coercion, Rape)  $\times$  3 (Alcohol Condition: Sober, Placebo, Intoxicated)  $\times$  2 (Target Rated: Self, Confederate) repeated measures Multivariate Analysis of Variance (MANOVA) was conducted for the five variables on which both the participants and the confederates were rated, with target as the repeated measure. The only significant within–subject effect was the main effect of target, Pillai’s  $F(5, 140) = 35.51, p < .001$ . The participants thought that they were more sexually attracted to the confederate than she was to them ( $M = 4.91, SD = 1.48$  vs.  $M = 3.49, SD = 1.40$ ); that they behaved in a more sexual manner than the confederate ( $M = 2.56, SD = 1.33$  vs.  $M = 2.19, SD = 1.18$ ); and that they were more trustworthy ( $M = 5.91, SD = 1.02$  vs.  $M = 5.69, SD = 1.09$ ),  $F_s(1, 152) = 138.11, 18.89,$  and  $11.54, p_s < .001$ , respectively.

Because the participants rated themselves and the confederate separately and because different measures were developed for each of them, between–subject effects were analyzed for self and partner separately. A 3 (Past Sexual Assault Perpetration: None, Verbal Coercion, Rape)  $\times$  3 (Alcohol Condition: Sober, Placebo, Intoxicated) MANOVA for self-ratings indicated significant main effects of the sexual assault perpetration group and the alcohol condition, Pillai’s  $F(14, 278) = 2.06, p < .02$  and  $F(14, 278) = 1.91, p < .03$ , respectively. A parallel MANOVA for partner-ratings indicated a significant main effect for the alcohol condition, Pillai’s  $F(12, 280) = 2.05, p < .02$ . There were no significant interaction effects. Univariate ANOVAs were examined for effects that were significant in the MANOVAs. Mean levels of self and partner trust and friendliness were extremely high (trust means appear earlier in this section; friendly self-rating,  $M = 6.01, SD = 0.90$ ; partner rating  $M = 6.07, SD = 0.84$ ). Furthermore, none of the between–subject univariate effects involved friendliness or trustworthiness. Thus, these variables are not mentioned below.

**Main Effects of Past Sexual Assault Perpetration—**As can be seen in the top half of Table 1, there were three significant univariate effects for self–ratings that were associated with past sexual assault perpetration. Compared to participants who had not perpetrated any type of sexual assault, participants who reported that they had previously committed an act that met standard legal definitions of rape were more sexually attracted to their partner, thought that their partner behaved more sexually during their interaction, and were more interested in being in a future study with their partner. For the sexual attraction measure, men who reported that they had verbally coerced a woman to have sexual intercourse also were significantly more sexually attracted to their partner than were nonperpetrators. For the other two significant effects, verbal coercers’ scores fell between those of rapists and nonperpetrators. Contrary to our hypotheses, there were no significant effects of past sexual assault perpetration on perceptions of the confederate.

As can be seen in Table 2, about one–third of participants wrote in response to an open–ended question that they hinted to the confederate that they would like to date her. Contingency table analysis was used to determine if the proportion of participants who gave these hints varied as a function of past sexual assault perpetration. Rapists were significantly more likely than verbal coercers and nonperpetrators to report they made such hints.

Confederates' responses to how sexually attracted the participant was to them were skewed, with confederates assigning low scores to most participants. Therefore, the variable was dichotomized. As can be seen in Table 2, confederates perceived more rapists and verbal coercers as being sexually attracted to them than nonperpetrators.

**Main Effects of Alcohol Condition**—As can be seen in the top half of Table 3, there were four significant main effects for self-ratings associated with the alcohol condition. As compared to sober participants, intoxicated participants rated themselves higher on all three sexual dependent measures and were more interested in being in a future study with the confederate. Placebo participants' scores were not significantly different from sober participants' scores on any of these measures.

Additionally, there were two significant main effects of participants' alcohol condition on their perceptions of the confederate's behavior (see bottom half of Table 3). Intoxicated participants perceived the confederate as being higher in sexuality than did sober or placebo participants. The positive to negative cue ratio also was significantly higher for intoxicated participants than for sober participants, with placebo participants' scores falling in between. This indicates that, on balance, intoxicated participants recalled the most positive confederate behavior.

## VIDEOCODING ANALYSES

A 3 (Past Sexual Assault Perpetration: None, Verbal Coercion, Rape)  $\times$  3 (Alcohol Condition: Sober, Placebo, Intoxicated)  $\times$  2 (Cue Type: Positive, Negative) repeated measure MANOVA was conducted to determine if raters, who were not told that the study examined the effects of past perpetration status or of alcohol consumption, evaluated men who committed sexual assault or who drank alcohol differently from other participants. Because parallel measures were included of positive and negative cues, they were treated as a repeated measure. There was a significant within-subject main effect of cue type, Pillai's  $F(3, 139) = 680.98, p < .001$ , but no interactions. As can be seen in the bottom half of Table 1, for each set of parallel measures, means were higher for positive than for negative cues. There also was a significant multivariate main effect for perpetration group status, Pillai's  $F(6, 280) = 3.52, p < .01$ . Follow-up univariate ANOVAs indicated that there were significant effects for responsiveness to negative cues, for certainty that positive and negative cues were noticed, and encouragement after positive and negative cues. Rapists were significantly less responsive to negative cues than were verbal coercers, with nonperpetrators' scores falling in between (see Table 1). Although raters were quite certain that participants had noticed confederates' positive cues, they were least certain that rapists noticed them and most certain that coercers noticed them. In a parallel manner, raters were least certain than rapists noticed negative cues and most certain that coercers noticed them. Finally, rapists were also judged to be significantly more encouraged than other participants after receiving both positive and negative cues. For positive cues, rapists' scores were significantly different from those of nonperpetrators, whereas, for negative cues, rapists' scores were significantly different from those of coercers.

There were no significant interactions between perpetration status and alcohol condition for the videocoding variables. Also, there was only one videocoding variable that showed a significant alcohol effect, although this variable did not show a significant perpetration effect. Differences in giving hints about dating availability were examined through contingency table analysis. Raters indicated that 28% of intoxicated participants made hints at some point during their conversation about wanting to date the confederate as compared to 10% of placebo and 10% of sober participants,  $\chi^2(2, N = 150) = 8.04, p < .02$ .

## DISCUSSION

### EFFECTS OF PAST SEXUAL ASSAULT PERPETRATION

As hypothesized, college men who indicated that they had committed an act that met standard legal definitions of rape reported that they were more sexually attracted to the confederate, engaged in more sexual behavior, gave more hints about wanting to date her, and were more interested in future interaction with her than nonperpetrators. College men who indicated that they had committed verbal coercion reported feeling as sexually attracted to the confederate as did rapists, and their ratings were significantly higher than those of nonperpetrators. This was the only self-report measure on which verbal coercers and nonperpetrators significantly differed, however confederates, who were unaware that past perpetration had been assessed, thought that more rapists and verbal coercers were sexually attracted to them than nonperpetrators; thus, these men's feelings were conveyed to their partners.<sup>5</sup> Contrary to expectations, men who had previously committed either type of sexual assault did not perceive the confederate as behaving more sexually than did men who had not committed sexual assault, nor did they recall more of her positive than her negative behaviors.

Trained raters, who also were unaware that perpetration status had been assessed, were least certain that rapists noticed confederates' specific positive and negative cues or that they responded to negative cues. They did perceive rapists as being most encouraged after both positive and negative cues. Also, for most of the variables evaluated by the videocoders, the largest (and significant) difference in scores was between rapists and verbal coercers, with nonperpetrators' scores falling in between.

Within a self-fulfilling prophecy and cognitive distortion framework, we had anticipated that past perpetrators' sexual attraction to the confederate would prompt a biased appraisal of her actions—that perpetrators would focus on her positive cues more than on her negative cues and see her as reciprocating their sexual interest. Instead, rapists seemed relatively oblivious to the confederate's specific cues, acting encouraged regardless of how she behaved. Rapists expressed sexual interest without necessarily noticing whether it was mutual. In contrast, verbal coercers seemed to notice and react to the differences in her behavior, yet they were equally as sexually attracted to the confederate as rapists. Some authors have argued that verbal coercers have better social skills than other men, and that

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<sup>5</sup>Interestingly, confederates perceived participants' level of sexual attraction to them to be much lower than the level marked in the participants' self-reports. This suggests that confederates were not good judges of men's overall level of interest, perhaps because they were playing a role and not being themselves. Confederates were accurate in their relative rankings, however, as evidenced by the finding that they accurately reported that perpetrators were more sexually attracted to them than were nonperpetrators.

they use these skills to obtain sex from unwilling women (Muehlenhard & Falcon, 1990). Although this study's findings do not tell us how perpetrators act immediately before forcing sex, they do suggest that verbal coercers and rapists differ in their attentiveness to women's cues, but not in their sexual attraction to women. Additional research is needed to test the hypothesis implied by these findings that verbal coercers and rapists have different types of deficits that motivate their sexual aggression. Rapists may have encoding deficits that make them miss women's negative cues, whereas sexual coercers may have empathy deficits that make them comfortable using their superior decoding skills as part of their sexually coercive strategy. One limitation of this study is that participants always thought that they were interacting with an intoxicated woman. Future research is also needed to determine if past perpetrators respond differently to sober and to intoxicated women, and if they sometimes target intoxicated women because they may be easier to subdue verbally or physically (Abbey, 2002).

All of the perpetrators in this study had sexually assaulted a woman they knew. The situation in the laboratory was not intended to be completely comparable to the situations in which these men had committed sexual assault. Our findings suggest that it may be past perpetrators' own sexual desire that initially distinguishes them from other men in social interactions with women. Sexual assault perpetrators' initial sexual attraction to a woman may encourage them to pursue sexual relations, and eventually to use force or coercion if necessary to satisfy themselves. This finding indirectly supports etiological theories that describe rapists' narcissism and inability to empathize with their victims (Geer, Estupinan, & Manguno-Mire, 2000; Ward et al., 1997). Theorizing about aggression in general (not sexual aggression), Bushman and Baumeister (1998) argued that ego threats are most likely to trigger aggression among narcissists. It seems likely that sexual rejection would be an ego threat to most sexual assault perpetrators and that it could trigger sexual aggression. Narcissism was not assessed in this study, and this hypothesis needs to be confirmed in future research.

Although previous studies of men's misperceptions of women's sexual intent stimulated this research, and we hypothesized that past perpetrators would perceive the confederate as acting more sexually than would nonperpetrators, this study was not designed to examine misperception directly. Using a confederate does not allow the woman's intentions to be compared to the man's perceptions to determine if he correctly estimated her level of sexual interest. Past survey research has demonstrated that, as compared to nonperpetrators, sexual assault perpetrators misperceive women's sexual cues more frequently and their victim's interest in sexual activities for a longer period of time (Abbey et al., 2001). Although we found no evidence in this study that past perpetrators perceived their female partner's level of sexual interest differently than did nonperpetrators, this may occur at a later stage in the relationship than was evaluated in this study. Perhaps initially, perpetrators' own sexual attraction is enough to cause them to pursue future interaction. Over time, however, they may expect it to be reciprocated and begin to overestimate women's level of sexual interest. Several studies have examined men's perceptions of the events immediately prior to sexual assault and compared them to nonassaultive dates (Abbey et al., 2001; Muehlenhard & Linton, 1987). We are not aware of any studies that go further back in time and compare the characteristics of the relationships that perpetrators have with the women that they sexually



assaulted to the relationships that nonperpetrators have with women they have known a similar length of time. Research is needed that examines how sexual assault perpetrators differ from other men in the way they initiate and develop relationships with women.

## EFFECTS OF ALCOHOL CONSUMPTION

Intoxicated participants scored higher than sober and placebo participants on the primary self-report dependent measures. As compared to sober participants, intoxicated participants thought they acted more sexually, were more sexually attracted to the confederate, and were more interested in interacting with her in the future. Intoxicated participants also perceived their partner as being more sexual than did other participants and they recalled relatively more of her positive than negative behaviors. Placebo participants' responses were similar to those of sober participants, suggesting that alcohol's effects are not due to psychological expectancies.

Although alcohol consumption had the anticipated effects on participants' sexual perceptions, these were not evidenced in videocoders' ratings of reactions to positive and negative cues. Past research that has examined alcohol's effects on cognitive processing has relied on self-reports, not on outside raters' assessments of drinkers' behavior. Although it seems reasonable that some of alcohol's effects on cognitive processing can be observed by outside raters, perhaps they were too subtle to be noticeable in this case. Alternatively, the cognitive impairments induced by alcohol may operate more strongly during recall (when participants made judgments about the interaction) as compared to the encoding stage (which raters viewed). Additional studies are needed that evaluate drinkers' behavior to further develop measures that assess the cognitive impairments that have been linked to intoxication.

Alcohol's effects were not enhanced for men who had previously perpetrated sexual assault. Although past perpetration and alcohol consumption did not interact, the main effects of alcohol consumption were as strong as the main effects of past perpetration. Intoxicated participants were very sexually attracted to the confederate, at a level slightly higher than that of rapists and sexual coercers. We have argued that, for some men, their sexual attraction to a woman can set in motion a chain of events by which they convince themselves that she has led them on and that they have the right to use physical force and/or verbal pressure if she does not agree to sex. However, not all men who share the characteristics found in many perpetrators (e.g., hostile attitudes toward women, casual attitudes toward sex, or delinquency) actually commit sexual assault. Factors like empathy may keep them from acting on their desires (Dean & Malamuth, 1997; Wheeler, George, & Dahl, 2002). Thus, alcohol may enhance the sexual feelings that can encourage sexual assault, but personality traits or situational factors may inhibit some men from acting on these feelings. Additional research is needed to determine what types of factors encourage some intoxicated men to act on their sexual desires and discourage other intoxicated men from doing so.

## TREATMENT AND PREVENTION IMPLICATIONS

These findings have a number of implications for prevention and treatment. Men need to know that it is unwise to trust their own judgments about a companion's interest in having sex with them when they are intoxicated. In most jurisdictions, sexual assault perpetrators' intoxication cannot be used in court to defend their actions and the United States Supreme Court recently upheld states' rights to hold intoxicated perpetrators fully responsible for their actions while they are intoxicated (Keiter, 1997). Although sexual assault programs should focus on men, the alcohol findings suggest that women need to be more aware of the effects of intoxication on men's perceptions of their behavior. Women often want to "let men down gently"; however, past theory and research suggest that they need to be particularly strong and forceful in their refusals of intoxicated men's advances (cf. Norris, Nurius, & Dimeff, 1996; Steele & Josephs, 1990; Taylor & Leonard, 1983).

Our findings that past perpetrators were more sexually attracted to the woman they met in this study than were nonperpetrators suggest that these men need to learn that it is inappropriate to use their own sexual desire as a reason to pressure women into sexual relations. Although treatment programs are needed for known offenders, rates of sexual assault among college students are so high that general programs designed for all students also are necessary. Programs that teach men communication skills would be particularly valuable. Through role playing, participants can practice asking potential sexual partners about the types of sexual activity in which they are willing to engage. To counteract traditional stereotypes, men need to practice listening to women and respecting their refusals, even when women previously were positive and friendly. Although communication skills programs have been suggested in the past (Geer et al., 2000), this study's videocoding results suggest that men who have committed rape are poor at distinguishing women's positive and negative cues. This indicates the importance of emphasizing that one cannot assume that one knows what one's partner wants. These data also suggest that verbal coercers are particularly good at decoding women's cues and may use this skill to obtain sex. Thus, programs need to emphasize that manipulation is not an acceptable strategy to obtain sex, and they need to encourage empathy and respect for others.

As Treat, McFall, Viken, and Kruschke (2001) observed, different perpetrators might have deficits at different points in the communication process. For some men, decoding may be the largest problem, whereas for others, the decision of how to respond or how to enact their response may be problematic. In the decoding stage, some men may use criteria that are too "liberal" as they interpret women's positive behavior, whereas other men may have difficulty decoding negative affect. Basic communication programs may be ineffective because they do not address individual participants' specific deficits. Communication programs that provide individual feedback based on deficits demonstrated during role-playing exercises may be more effective for sexual assault perpetrators.

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**TABLE 1**

Main Effects of Past Sexual Assault Perpetration (*N* = 153)

Variable	Perpetration Group			<i>F</i>
	Rapists Mean ( <i>SD</i> ) ( <i>n</i> = 51)	Verbal Coercers Mean ( <i>SD</i> ) ( <i>n</i> = 51)	Non-perpetrators Mean ( <i>SD</i> ) ( <i>n</i> = 51)	
Perceptions of Self				(2, 144)
Sexuality	2.63 (1.31)	2.54 (1.34)	2.61 (1.46)	0.07
Sexual Attraction	5.07 (1.31) <sup>a</sup>	5.20 (1.44) <sup>a</sup>	4.46 (1.58) <sup>b</sup>	3.93*
Sexual Behavior	2.84 (1.61) <sup>a</sup>	2.67 (1.23)	2.16 (1.02) <sup>b</sup>	3.85*
Future Studies	6.09 (0.90) <sup>a</sup>	5.72 (1.43)	5.50 (1.42) <sup>b</sup>	3.05*
Raters' Judgments				(2, 141)
Responsiveness to Positive Cues	3.37 (0.74)	3.54 (0.64)	3.45 (0.68)	0.74
Responsiveness to Negative Cues	1.57 (0.93) <sup>a</sup>	2.05 (0.85) <sup>b</sup>	1.80 (1.07)	3.04*
Certainty Positive Cues Noticed	8.78 (0.58) <sup>a</sup>	8.97 (0.12) <sup>b</sup>	8.92 (0.34)	3.05*
Certainty Negative Cues Noticed	6.28 (0.69) <sup>a</sup>	6.62 (0.61) <sup>b</sup>	6.40 (0.72)	3.48*
Encouraged After Positive Cues	7.40 (0.48) <sup>a</sup>	7.30 (0.33)	7.16 (0.49) <sup>b</sup>	4.03*
Encouraged After Negative Cues	6.96 (0.49) <sup>a</sup>	6.75 (0.43) <sup>b</sup>	6.79 (0.47)	2.96*

Note. Self-reports were made on 7-point scales. The responsiveness measures ranged from 0 to 4. Raters' certainty and encouragement judgments were made on 9-point scales. Three videotapes were of such poor quality that they could not be coded. Means in the same row with different letter superscripts differ from each other (*p* < .05) using the Tukey honestly significant difference comparison.

\* *p* < .05.

**TABLE 2**

Differences in the Proportion of Perpetrators Who Hinted About Dating and Whom Confederates Thought Were Sexually Attracted to Them ( $N = 153$ )

Variable	<i>n</i>	Perpetration Group			$\chi^2$
		Rapists ( $N = 51$ ) Percent	Verbal Coercers ( $N = 51$ ) Percent	Non-perpetrators ( $N = 51$ ) Percent	
Participant Reported He Hinted About Dating Her?					
Yes	52	47.1	29.4	25.5	6.00*
No	101	52.9	70.6	74.5	
Confederate Thinks He's Sexually Attracted to Her?					
Yes	83	66.7	56.9	39.2	7.95*
No	70	33.3	43.1	60.8	

\*  $p < .05$ .

**TABLE 3**

Main Effects of Alcohol Condition ( $N = 153$ )

Variable	Alcohol Group			$F(2, 144)$
	Intoxicated ( $n = 51$ ) Mean (SD)	Placebo ( $n = 51$ ) Mean (SD)	Sober ( $n = 51$ ) Mean (SD)	
Perceptions of Self				
Sexuality	3.22 (1.51) <sup>a</sup>	2.23 (1.07) <sup>b</sup>	2.33 (1.27) <sup>b</sup>	9.16 <sup>**</sup>
Sexual Attraction	5.39 (1.22) <sup>a</sup>	4.73 (1.34) <sup>b</sup>	4.62 (1.73) <sup>b</sup>	4.32 <sup>*</sup>
Sexual Behavior	2.96 (1.51) <sup>a</sup>	2.40 (1.12)	2.31 (1.28) <sup>b</sup>	3.81 <sup>*</sup>
Future Studies	6.13 (1.06) <sup>a</sup>	5.61 (1.27)	5.56 (1.36) <sup>b</sup>	3.45 <sup>*</sup>
Perceptions of Partner				
Sexuality	3.15 (1.56) <sup>a</sup>	2.49 (1.26) <sup>b</sup>	2.46 (1.42) <sup>b</sup>	3.86 <sup>*</sup>
Sexual Attraction	3.78 (1.44)	3.52 (1.41)	3.18 (1.32)	2.47
Sexual Behavior	2.29 (1.47)	2.23 (1.15)	2.04 (1.25)	0.65
Positive/Negative Cue Ratio	3.71 (1.69) <sup>a</sup>	3.37 (1.43)	2.80 (1.20) <sup>b</sup>	4.99 <sup>**</sup>

*Note.* Responses were made on 7–point scales. Means in the same row with different letter superscripts differ from each other ( $p < .05$ ) according to the Tukey honestly significant difference comparison.

\*  $p < .05$ ;

\*\*  $p < .01$

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