EFFECTS OF ALCOHOL AND GENDER ON SOCIAL INFORMATION
PROCESSING OF SEXUAL AGGRESSION

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ABSTRACT

The purpose of this study was to examine the effects of alcohol intoxication and gender on social information processing in the context of a sexual coercion scenario. It was hypothesized that alcohol intoxication would affect social information processing patterns related to sexually aggressive behavior. One hundred and three participants were recruited for this study, 48 female and 55 male. These participants were grouped into either a high BAC condition or a low BAC condition using a BAC cutoff of .06. Participants completed a demographics questionnaire, an alcohol quantity frequency assessment and a social information processing protocol. The social information processing protocol consisted of a written sexually coercive scenario. Participants answered questions after reading the scenario which assessed the domains of response representation, goal selection, response evaluation and response selection. Multivariate Analysis of Variance (MANOVA) was used to test the 3 hypotheses for both men and women. No significant results were found for women for any areas of social information processing. Significant results were found in the areas of goal selection and response evaluation for men. These results point to the utility of using social information processing models in the study of sexual aggression.

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DEDICATION

I'd like to dedicate this thesis to my family, who has always supported me; especially my father, William Mullis, who always stressed the important of education and who helped inspire me to study substance abuse.

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EFFECTS OF ALCOHOL AND GENDER ON SOCIAL INFORMATION
PROCESSING OF SEXUAL AGGRESSION

In the United States, the high rates of sexual assault are alarming. Sexual assault

is a term used by researchers to "describe the full range of forced sexual acts including

forced touching or kissing; verbally coerced intercourse; and physically forced vaginal,

oral and anal penetration" (Abbey, 2002). The crime of rape is included in this

definition. According to the Bureau of Justice Statistics (2002), an annual average of

152,680 completed and attempted sexual assaults occurred between the years of 1992 and

2000. Though this is a high rate, sexual assaults typically go unreported to the police and

it was estimated that 74% were not reported between 1992 and 2000 (Bureau of Justice

Statistics, 2002). Of the sexual assaults that are reported, most involve a stranger;

however, it is important to note that most perpetrated assaults involve an acquaintance

(Abbey, Zawacki, Buck, Clinton & McAuslan, 2001).

The various forms of sexual assault happen in multiple contexts and can happen at

any point in an individual's life; generally, college students are particularly at risk. Koss

et al. (1987) completed an often cited and possibly the most methodologically rigorous

study of sexual aggression. They surveyed 6,159 students from 32 colleges across the

United States. The survey found that 54% of college women had experienced some form

of sexual assault. Other studies have found similar prevalence rates at colleges across the

United States (Abbey, 1998; Muehlenhard & Linton, 1987). Muehlenhard and Linton

(1987) found 77.6% of women and 57.3% of men had been involved in some form of

sexual aggression. One of the surprising facts of their study was that the mean length of

time the couples had known each other was almost a year. Though sexual assault is often

perpetrated by strangers, most sexual assault is perpetrated by an acquaintance.

Muehlenhard and Linton's (1987) findings seem to support the case of sexual aggression coming from an acquaintance of the victim. Koss (1985) also found that over half of all rapes were committed by an acquaintance. Abbey (2002) reports that 90% of sexual assaults on women were from someone they know and about half of those were on a date. As mentioned above college-age females are at particular risk for this type of sexual assault.

Risk factors for date rape

The number of dating and sex partners a woman has is associated with experiencing sexual aggression (Koss & Dinero, 1989). Women who frequently date and engage in sexual activity have an increased chance to interact with a man who is willing to force sex (Abbey et al, 1996). Muehlenhard and Linton (1987) found that power differential and dating location were risk factors for sexual aggression. Power differential was described as age differences, who initiated the date, who paid and who drove during the date. The man initiating the date, driving, and paying all the expenses for the date, were all factors of power differential that Muehlenhard and Linton (1987) found to be associated with sexual aggression. Dating locations such as parking, parties and the man or women's apartment were all associated with sexual aggression as well (Muehlenhard & Linton, 1987). A man's apartment was also twice as likely as the woman's apartment to involve sexual aggression, and parking was found to be most strongly associated with sexual aggression (Muehlenhard & Linton, 1987).

Miscommunication about sex is also a factor in sexual aggression. Men frequently interpret a woman's behavior as more sexual than the woman intended (Abbey, 1982; Abbey et al., 1996; Abbey et al., 2000). Men also misperceive even

friendly behavior as having a sexual intent (Abbey, 1987). Abbey (2000) stated that men

rate their own behavior as more sexual than women do, and labeled this a misperception

effect. It can easily be seen how a women may be surprised at the aggressiveness of a

man due to these misperceptions. This line of reasoning suggests that men hold sex

schemas more central and more salient than women (Abbey et al., 2000).

Men perceiving women as behaving more sexually could also lead men to believe

that resistance on the woman's part could be due to token resistance. Token resistance is

when women say no to sex even when they mean yes (Muehlenhard & Hollabaugh,

1988). There is a common belief that women do offer token resistance, and they may

offer token resistance so as not to appear promiscuous (Check & Malamuth, 1983).

Muehlenhard and Hollabaugh (1988) found that 90% of women reported that they offered

token resistance for fear of appearing promiscuous. They found that among sexually

experienced women, 60.8% had engaged in token resistance to sex, and of the 610

participants, 39.3% reported saying no when they meant yes. In addition to the above

mentioned risk factors, it appears that alcohol use by both victim and perpetrator is

significantly related to sexual assault (Abbey et al, 1996; Muehlenhard & Linton, 1987).

Alcohol as a risk factor for date rape

Alcohol is one of the most significant risk factors for all forms of sexual assault,

but it is especially important in the perpetration of date rape. At least 50% of college

sexual assaults involve alcohol (Abbey, 2002). Abbey et al. (1998) found that 47% of

sexual assaults reported by men involved alcohol and 81% of these assaults involved both

the victim and the perpetrator consuming alcohol. Harrington and Leitenberg (1994)

found that 55% of women reported being drunk at the time of the sexual aggression. Carr

and VanDeusen (2004) found that 15% of men in their sample acknowledged using some form of alcohol-related sexual coercion and 35% reported that their friends approved of getting a woman drunk to have sex with her. Though drinking near the time of sexual assault is a known risk factor, the quantity of alcohol consumed as well as level of intoxication was not found to be risk factors. Muehlenhard and Linton (1987) found one notable exception, moderately or extremely intoxicated individuals were more likely to be involved in sexual assault than no alcohol consumption or mild intoxicated individuals. Canterbury, Grossman, and Lloyd (1993) found that women who drink frequently were more likely to be involved in date rape. Men who drink heavily are more likely to commit an act of sexual aggression (Koss & Dinero, 1998).

Alcohol has been shown to enhance perceived sexuality for both men and women (Abbey et al., 2000). Abbey et al. (2005) found that intoxicated males thought they acted more sexually and perceived their partner as being more sexual. They also found that intoxicated males were more sexually attracted to the female confederate and were more interested in seeing her in the future. Alcohol has also been found to influence the way in which people interpret social cues (Abbey et al., 2000). Alcohol consumption affects the way men view attention cues. Sober men rated attentive women as more sexually attracted to them than women who did not act attentive. Intoxicated individuals ignored these cues and perceived the women being attracted to them regardless of whether they acted attentive or not (Abbey et al., 2000).

Female behavior was also found to affect acceptance of forced sex and female responsibility. In a study by Johnson, Noel, and Sutter-Hernandez (2000), alcohol consumption increased the participant's acceptance of forced sex and attribution of

female responsibility in receptive conditions. Johnson et al. (2000) used videotaped scenarios with two different conditions, a receptive condition and a non-receptive condition. Alcohol only affected the receptive condition, which begs the question why alcohol only influenced one condition. To answer this, the mechanisms of alcohol need to be applied to date rape.

Proposed mechanisms of the role of alcohol and date rape

A number of researchers have written about the manner in which alcohol intoxication increases the likelihood of date rape. Expectancies of alcohol can influence behavior independently of the pharmacological effects of alcohol. Men anticipate feeling more sexual and aggressive after drinking alcohol (George & Norris, 1991). Research on expectations about alcohol's effects have had mixed results, and unfortunately most alcohol research has been conducted on men. The view on men's alcohol expectancies is that it heightens sexual responsiveness (Abbey, McAuslan, Ross, & Zawacki, 1999). Nurius (2000) reported that "no research to date has assessed women's alcohol expectancies associated with male sexual aggression".

Nurius (2000) also comments on how alcohol can alter the task of risk perception. She argued that alcohol can lead to amplification of attention to cues in women for their own personal goals, such as meeting males they find attractive and engaging in physical sexual activity up to a certain point. The effects of alcohol are combined with the effect of women misinterpreting inhibitory cues that may be early warning signs for sexual aggression. Throughout the paper from Nurius (2000), there is a push for the further use of social-cognitive approaches to explain the underlying mechanism for sexual aggression along with examining it on multiple levels

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Most current models for how alcohol influences antisocial behavior are cognitive models. Cognitive models postulate that intoxicated individuals focus on more salient factors and less able to attend to multiple situational cues and distal consequences (Chermack & Giancola, 1997; Steele & Joseph, 1990). Cognitive models have been repeatedly used to explain experimental findings in research on sexual aggression (Abbey 2000; Johnson et al., 2000; Martell et al., 2005; Norris & Kerr, 1993).

Although cognitive theories have had much support, there is some criticism of these models. Giancola (2000) offers the criticism of most cognitive theories on the point that each only addressed a single cognitive ability as a causal mechanism and suggests a new framework. Both Nuirus (2000) and Giancola (2000) support the notion that multiple levels, or mechanisms need to be examined in social cognitive models. One social-cognitive model that is multidimensional and has been successfully used to examine the social cognitive processes in nonsexual forms of aggression is the social information processing model of aggressive behavior (Dodge, 1986; Dodge & Crick, 1994).

Social information processing model of aggression

Crick and Dodge (1994) formulated a social information processing model to describe the development of aggressive behavior. This model assumes that individuals receive social input as an array of cues. The model proposes that individuals come into a social situation with a set of biologically influenced capabilities; such as intelligence, processing speed and memory (Crick & Dodge, 1994; Dodge, 1986). Individuals also come to the situation with a database of experiences and memories. Their response to social situations is a function of these biological capabilities and databases, as well as

their processing of the incoming cues. Processing occurs in six nonlinear parallel steps.

Even though normal processing occurs simultaneously at each step, the path to a

behavioral response from a particular stimulus must logically follow a time-related linear

sequence of steps. The six steps in which processing occurs are (1) encoding of cues, (2)

interpretation of cues, (3) clarification of goals, (4) response access or construction, (5)

response decision, and (6) behavioral enactment.

Step one, encoding of cues, is the encoding of internal and external cues that are

present. The second step, interpretation of cues, may consist of one or more independent

processes, including (1) a mental representation that is stored in memory, (2) causal

attributions, (3) intent attributions, and (4) evaluation of outcome expectations based on

past performance. Causal attributions and intent attributions play an important role in the

remaining steps and biases affect this domain heavily   Step three uses the information

that is interpreted to select a desired outcome (a goal) of the situation.   Goals are decided

upon by interpretations of cues, and the source of goals can include feelings,

temperament, social norms, and cultural norms.   In step four individuals then access

from memory possible responses to the situation, or construct new behaviors if the

situation is novel. In step five individuals evaluate each response that was constructed in

step four and then select the most positively evaluated response. They then enact the

chosen behavior in step six.

Alcohol and social information processing

As mentioned, the social information processing model has been highly successful in

predicting aggressive behavior as well as other social behaviors (Crick & Dodge, 1994;

Dodge and Schwartz, 1997). The model has also been used to examine the relationship

between alcohol intoxication and aggression (the alcohol-aggression link). Sayette et al. (1993) found that alcohol increased the generation and evaluation of aggressive responses in conflict situations in an intoxication study using video enactments of social situations. The only other study using the current social information processing model on the alcohol aggression link was conducted by Ogle and Miller (2004). In this study intoxicated men endorsed greater hostile attributions, greater aggressive goal selection, and constructed and endorsed more aggressive behaviors when shown video enactments of social situations. Also Ogle and Miller (2004) bring up the interesting point that female participants are included in few alcohol aggression studies, which also seems to be the case for sexual aggression studies as well. The above study seems to be the only study that examines social cognitive mechanisms that underlie gender differences in alcohol induced aggression. Although this model has not been used to examine social cognitive processes related to sexual aggression, it stands to reason that its utility in understanding general aggression as well as the alcohol-aggression link can be transferred to the domain of sexual aggression.

Purpose of the present study

The purpose of the present study was to examine the effects of alcohol intoxication on social-cognitive processes related to sexual aggression. Specifically, we examined social information processing in the context of an ambiguous sexual coercion scenario in both males and females. It was hypothesized that in the context of reading the sexual coercion scenarios, intoxicated men compared to non-intoxicated men, would: (1) interpret greater sexual arousal in the female; (2) rate the goal of pursuing sex greater, and (3) evaluate the pursuit of sex as more effective. Intoxicated women compared to

non-intoxicated women, would (1) interpret less anxiety, anger and force from the scenario, (2) rank the goal of stopping the situation as less important, and (3) evaluate the resistive responses as less effective.

<div align="center">Method</div>

Participants

One hundred and three participants were recruited for this study, 48 female and 55 male. Participants were approached at local bars using a randomization procedure where the experimenter rolled a die and the number indicated the number of people to count before an individual was approached. This procedure was repeated after each individual was approached. For their participation, participants were given a $5 gift certificate for food. A previous study used a similar approach over six nights and 297 people agreed to participate (Lange, 2002).

Materials

Participants completed 3 brief questionnaire assessments: (1) Demographics questionnaire (DQ), which assessed age, gender, marital status and education level, (2) a Modified Quantity and Frequency Index (MQFI), that assessed how many days and how much alcohol participants drank in the preceding 30 days, and (3) The Subject Tolerance Index (STI) which assessed the individual's subjective view of how much alcohol they can tolerate compared to others. These questionnaires can be found in Appendixes A & B.

Social information processing vignettes

The scenario is presented in Appendix D and was adapted from the study by Testa, Vanzile-Tamsen, Livingston, and Buddie (2006). To mask the nature of this

experiment, a second scenario was also placed in the packet. This scenario was designed

to be an ambiguous aggressive scenario matched to gender.

Social information processing assessment

After reading the vignette, participants answered questions (see Appendix C)

assessing the domains of (1) response representation, (2) goal selection, and (3) response

evaluation. This protocol was adapted and modified from social information protocols

shown to have predictive validity and to be reliable (Dodge 1986; Dodge & Schwartz,

1997; Ogle & Miller, 2004; Sayette et al., 1993). The protocol was adapted to include

sexual aggression responses. To assess response representation, participants were asked

to rank levels of perceived sexuality, hostility, anxiousness, anger, and friendliness on a

10 point Likert scale with anchors corresponding to "not at all" to "extremely". To assess

goal selection, participants were asked to rank various goals on a 10 point Likert scale

with anchors corresponding to "not at all" to "extremely". An example goal question is

"how much would you want the situation to turn out such that the most important thing

was to have sex". Goals reflected avoidant, aggressive and relationship maintenance

outcome expectancies. To assess response evaluation, participants were asked to rank the

effectiveness of a set of behavioral responses, such as "what is the likelihood that you

would use physical force (push, grab or hit)", using a 10 point Likert scale with anchors

corresponding to "very ineffective" to "very effective".

Procedure

Participants were approached and asked if they would participate in a study that

investigates how people perceive different social situations and told they would receive a

$5 gift certificate if they participated. After the individual agreed to participant, they

were consented, given the experiment packet, and then the experimenter gave instructions. Participants were asked to imagine themselves as the person labeled as "you" in the scenario. The social information processing protocol was then administered after reading the vignette. The aggression scenario and the sexual aggression scenario were counterbalanced. The scenarios were followed by the demographics, QFI, and the STI. After completing the packet, an assistant measured BAC using a hand-held breath test device. Participants were then debriefed, thanked and given the gift certificate for food.

Results

Preliminary Analyses

An analysis of variance (ANOVA) was conducted on the demographic data to test for group differences using a 2 (group: High BAC/ Low BAC) X 2 (Gender) design. The BAC grouping was determined using a BAC cutoff of .06; participants who had a BAC of less than .06 were grouped in the low BAC group, while participant at or above .06 were put in the high BAC group. The demographic data that was tested using an ANOVA were: BAC, age, education level and number of days drinking within the past 30 days. A group main effect of BAC was found indicating that the low BAC group had a significantly lower BAC rating than the high BAC group $\underline{F}$ (1/99) = 247.58, p < .001. A significant group main effect for age was found that indicated the low BAC group was significantly younger than the high BAC group, $\underline{F}$ (1/99) = 7.50, p < .01. There was a significant gender main effect for education level, indicating that women had a higher education level than men, $\underline{F}$ (1/99) = 4.62, p < .05). There were no significant differences

for any of the other demographic data and no significant differences for any interaction.

These data are presented in Table 1.

TABLE 1. DEMOGRAPHIC DATA

Measure	Men Mean (SD)	Women Mean (SD)	Total Mean (SD)
Age			
High BAC Group	26.50 (6.48)	25.00 (5.44)	25.92 (6.07)
Low BAC Group	24.23 (4.01)	21.82 (3.06)	22.98 (4.01)
Total	25.22 (5.54)	22.81 (4.17)	
Education Ranking			
High BAC Group	2.79 (1.10)	3.47 (0.84)	3.05 (1.05)
Low BAC Group	2.81 (.91)	3.00 (1.00)	2.91 (0.96)
Total	2.80 (0.99)	3.15 (0.97)	
BAC score			
High BAC Group	0.10 (0.04)	0.09 (0.03)	0.10 (0.04)
Low BAC Group	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Total	0.52 (0.06)	0.38 (0.04)	

Hypothesis Testing

Following Testa et al., 2006, BAC measures were grouped using a .06 cutoff, yielding a 2 (group: low BAC/ high BAC) X 2 (gender: male/female) factorial design. A Multivariate Analysis of Variance (MANOA) was used to examine each question within the domains of social information processing. Due to the significant difference found for age and education level, these variables were used as covariates in the MANOVA.

Response representation

No significant effect for any question within this domain was found for either men or women. Data for this domain are found on questions SA1 through SA5 in Table 2.

Goal selection

There was a significant intoxication group effect for men on question SA7, $F (1/47) = 4.19$, $p < .05$. Men in the high BAC group ($M = 5.73$) endorsed the goal of having sex higher than men in the low BAC group ($M = 4.14$). A significant intoxication group effect for the question SA8 was found for men, $F (1/47) = 4.35$, $p < .05$. Effects showed that men in the high BAC group ($M = 5.32$) rated the goal of maintaining the relationship lower than men in the low BAC group ($M = 7.21$). No significant effect was found for women for any of the questions within the domain. Data for this domain are found on questions SA6 through SA11 in Table 2.

Response evaluation

A significant intoxication group effect for men was found for the question SA14, $F (1/47) = 7.35$, $p < .01$. Men in the high BAC group ($M = 4.82$) rated the pursuit of sex as higher than the low BAC group ($M = 3.03$). There were no other significant variables

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within the domain for men or women. Data for this domain are found on questions SA12

through SA18 in Table 2.

TABLE 2. HYPOTHESIS TESTING DATA

Question	High BAC Group Mean (SD)	Low BAC Group Mean (SD)	Significance Level
Men			
SA1	4.32 (2.75)	4.17(2.87)	.505
SA2	5.36 (3.32)	5.66 (3.22)	.759
SA3	1.50 (2.35)	1.10 (1.70)	.487
SA4	2.14 (2.57)	2.00 (2.34)	.711
SA5	5.68 (4.12)	4.45 (2.87)	.092
SA6	4.09 (3.60)	4.62 (2.82)	.591
SA7	5.73 (3.51)	4.14 (2.79)	.046
SA8	5.32 (3.34)	7.21 (3.00)	.042
SA9	6.27 (4.03)	7.31 (2.88)	.202
SA10	4.64 (4.27)	4.79 (2.98)	.519
SA11	4.73 (3.89)	5.28 (3.50)	.679
SA12	0.50 (1.37)	0.69 (1.34)	.882
SA13	3.68 (3.21)	3.07 (2.79)	.683
SA14	4.82 (3.03)	3.03 (2.68)	.009
SA15	6.45 (3.90)	7.34 (3.03)	.253
SA16	0.77 (2.00)	0.24 (0.95)	.159
SA17	6.05 (3.77)	5.55 (3.21)	.645
SA18	2.18 (2.97)	1.62 (2.74)	.309
Women			
SA1	7.87 (3.40)	8.73 (2.02)	.519
SA2	5.87 (2.97)	6.09 (2.88)	.923
SA3	3.40 (2.35)	4.45 (3.48)	.626
SA4	6.80 (2.01)	7.15 (2.09)	.712
SA5	4.47 (3.11)	4.03 (2.76)	.416
SA6	5.27 (3.17)	4.85 (3.01)	.680
SA7	2.67 (2.38)	2.85 (3.23)	.729
SA8	6.27 (3.47)	4.91 (3.17)	.341
SA9	6.73 (2.76)	5.79 (3.51)	.476
SA10	6.20 (3.10)	5.61 (3.36)	.599
SA11	4.73 (3.79)	2.88 (3.64)	.066
SA12	4.33 (3.68)	5.97 (3.27)	.187
SA13	6.07 (2.69)	6.18 (3.07)	.894
SA14	2.27 (1.80)	3.06 (3.02)	.981
SA15	2.20 (2.37)	1.91 (2.91)	.224
SA16	2.80 (3.26)	2.58 (3.07)	.455
SA17	7.07 (2.96)	8.18 (2.49)	.326
SA18	5.27 (3.90)	4.42 (3.55)	.359

Exploratory Analysis

Because women often show cognitive deficits at lower BAC levels, the variables were also examined using the same analysis with a MANOVA, but at a BAC cutoff of .04. Analysis at this level revealed that there was a significant effect for women on variable SA12 (F=6.40, 1/44 df, $p < .05$). Women in the high BAC group (mean = 4.20) were less likely to endorse using physical force than women in the low BAC group (mean = 6.36). Data are shown in Table 3.

TABLE 3. BAC .04 ANALYSIS FOR WOMEN

Question	High BAC Group Mean (SD)	Low BAC Group Mean (SD)	Significance Level
SA1	8.05 (2.98)	8.75 (2.15)	.717
SA2	5.45 (2.98)	6.43 (2.78)	.344
SA3	2.85 (2.30)	5.04 (3.49)	.062
SA4	6.40 (2.06)	7.50 (1.95)	.065
SA5	4.60 (2.70)	3.86 (2.95)	.140
SA6	5.60 (2.91)	4.54 (3.10)	.132
SA7	2.70 (2.62)	2.86 (3.24)	.610
SA8	6.00 (3.31)	4.86 (3.19)	.467
SA9	6.40 (3.02)	5.86 (3.51)	.832
SA10	5.90 (3.08)	5.71 (3.44)	.770
SA11	3.95 (3.72)	3.11 (3.79)	.475
SA12	4.20 (3.42)	6.36 (3.33)	.015
SA13	5.35 (2.70)	6.71 (2.99)	.111
SA14	2.30 (1.98)	3.18 (3.10)	.965
SA15	2.20 (2.86)	1.86 (2.68)	.160
SA16	2.40 (3.05)	2.82 (3.18)	.956
SA17	7.55 (2.80)	8.04 (2.60)	.800
SA18	4.25 (3.84)	5.00 (3.54)	.425

DISCUSSION

The results of this study showed that alcohol intoxication was related to social information processing variables for men and to some degree women. The second hypothesis for men was supported, in that intoxicated men endorsed the goal of having sex higher than less intoxicated men. Intoxicated men above .06 ranked the goal of maintaining the relationship as significantly less than men with lower BAC levels. Hypothesis three for men was also supported with men in the higher intoxication group rated the pursuit of sex as higher. Although none of the hypotheses for women were confirmed at the a priori BAC level of .06, when groups were cut at .04 the higher intoxication group reported less of a likelihood of using physical force.

Men's Social Cognition and Sexual Aggression

Hypothesis one was not supported. This may suggest that alcohol does not influence this stage of processing, for men this conflicts with past research, Abbey (1982, 1996, 2000) found that men both misperceive cues from women, and that alcohol increases these misperceptions. These results could be due to the high levels of intimacy in the vignette, where there was not sufficient ambiguity in the scenario for alcohol to have an effect at this level of processing.

The most robust finding in this study of high BAC intoxicated men endorsing the pursuit of sex gives insight to the fact that alcohol can influence men's intentions and not just perceptions as in past studies. Alcohol theories posit (Chermack and Giancola 1997, Steel and Josephs 1990) that alcohol may cause individuals to focus more on salient factors and less able to attend to multiple situational cues. This pursuit of sex combined

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with the other finding of intoxication effects on relationship maintenance could be a pathway that leads to sexual aggression. Men's decreased goal of maintaining the relationship and focus on the internal cues of pursing sex combined with alcohols effect of being less able to attend to the situational cues, such as the women's discomfort, could increase risk of engaging in a form of sexual aggression without the strong cues such as direct resistance from women. Lessened care for a continued relationship may suggest a cognitive mechanism for increased aggression in men with higher BAC levels. Though it does go with reason that a higher endorsed goal would lead higher response evaluation of the pursuit of that goal, the finding of the reduced endorsement of the goal to maintain the relationship needs to be added to the picture.

Women's Social Cognition and Sexual Aggression

For women there has been little research done in both the sexual aggression field as well as the social information processing field when combined with the effects of alcohol. Though results have been found, often no results can be found with women in studies including alcohol (Ogle & Miller 2004). Within the analysis using BAC cutoff of .04 there were significant variables as well as strong trends between high BAC women and low BAC women. This further adds to the picture and suggests that for women there could be a smaller effect size, as well as the possibility of issues in the method, these issues will be discussed later. The BAC .04 analysis found results similar to the Testa et al. (2006) suggesting that intoxicated women endorse less direct resistance, which without such a strong cue men could go further in the situation than women want or expect. Further study is needed of women's cognitive mechanisms as well as their risk perception in these situations.

Using the SIP Model in Sexual Aggression Research

The overall result of this study supports the idea of the application of information processing to the field of sexual aggression. Variables within the domains of goal selection and response evaluation were found to be significant, along with trends associated in these domains as well. These areas could indicate where alcohol effects information processing in men that could further lead to a bias in thinking that alters further information gained in the array of processing. Results show promise that further study using this methodology can help to build path models for the effects of intoxication on sexual aggression for men especially. For women, results were not as promising, but with the inclusion of lower BAC analysis some support was shown and could aid in the much needed research for cognitive mechanisms for women. Testa (2006) included a path model for BAC effects on risk appraisal and how both effect direct resistance and the exploratory analysis supported this.

Clinical Implications

With men caring less about maintaining a relationship with women, and more about the pursuit of sex when intoxicated, a cognitive pathway can be seen for the increased risk for sexual aggression. With finding like that of Muehlenhard and Hollabaugh (1988) on token resistance, it may be possible that with the findings of women giving less direct resistance, men could misinterpret this as token resistance. With this, women need to be aware of how alcohol affects men's cognition and about rape myths as token resistance findings. The findings in the study show the implication of women should become aware that alcohol has the effect of decreasing the amount of force they will put forth in risky situations and should be trained in recognizing risk in

sexual situations as well as ways to defend against this risk, possibly by going against their impaired judgment and increase force. With findings from this study, men may need extra resistance from women to overcome the impairment from alcohol and to perceive the situation as something other than token resistance. Sensitivity training and role-play to help men with identifying the difference in playful resistance and actual resistance can be implemented to help alleviate the risk of sexual aggression.

Limitations

There are some limitations that need to be taken into account with this study. Power was a major concern with this study, since there were low amounts of subjects in certain groups, namely the high BAC women group that consisted of only 15 subjects. The presence of several strong trends in analysis suggests that an increased number of subjects may bring these variables to significance. This study was exploratory in nature, and with the trends that arose in the study having a similarity to past research, there is cause of more study using this model but with an increased number of subjects to adjust for the power issue in the present study.

Exploratory analysis brought out issues of possible covariates in the study. Number of days drinking and participant's subjective tolerance are both factors that influenced the significance of variables within all domains of the social information processing. Further testing needs to be done to fully understand the relationship these variants have on this model and intoxication. It could be the case that subjective tolerance could represent expectancies of intoxication and may have a strong effect on the outcome.

Along with covariates, there were also possible confounds within this study. Since this study was done in bars and intoxication was not controlled, groupings could have been a result from other factors. Certain pathologies, such as depression, lend itself to high levels of drinking. Individuals with high levels of aggression also have a tendency to be heavy drinkers. Results found for men could have been a result of a higher portion of participants in the high BAC group having an aggression bias, which could also explain why goals of maintaining relationship was lower.

The BAC cutoff of .06 could have had a strong effect on the results presented in this study. The BAC cutoff of .06 was used because of past research, namely Testa (2006), but using BAC cutoff at .04 produced some results suggesting that different alcohol levels influence this process. The fact that this study was not done in the laboratory and the BAC range varied, alcohol at different levels for individuals could have played a major role in this study. Alcohol administration studies done in a laboratory could alleviate these issues and remove the possible noise of grouping individuals.

Past research in the social information processing field used open ended questions in each domain. The present research was conducted using prescript responses in each of only 3 domains in the social information processing model. Due to the exploratory nature of this study, these types of responses were used and not all domains were examined in this study. Similarity to past research in the areas that were looked at lends support to the validity of this research. To gain a clearer picture of how information processing and alcohol influence sexual aggression, both open questions and inclusion of all 6 domains need to be studied.

One other issue in the method was overlooked while designing this study. The packets were sex specific, having "you" included as the person reading and then a member of the opposite sex. Sexual orientation was not taken into account with this study and was not asked in the demographics questionnaire. The issue of sexual orientation could have a major impact on the variables endorsed in the information packets given to each subject and could have skewed the data at points. This fact was brought to attention during data analysis when one subject had written on the information packet that they were of homosexual orientation. Results that were obtained in this research did share similarities with past research, so any such instances of homosexual orientation could have been averaged out in the results, but this issue needs to be addressed for any further study.

With these limitations in mind, this study contributes new information to the field of sexual aggression. Alcohol influences men's cognitions in a way that promotes the goal and pursuit of having sex. Along with supporting past research, this study provides novel findings with the inclusion of alcohol influencing men's goal of maintaining a relationship. Little has been done in past research for women's cognition in the field of sexual aggression, but this study's findings support past research's findings idea that women provide less direct resistance under the influence of alcohol. The inclusion of the social information processing model provides a possible avenue of research to aid in finding the social cognitive mechanisms of sexual aggression that is influence by alcohol.

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Appendix

Appendix A. Demographic, and QFI

Instructions: Please answer the following questions to the best of your ability

1. Age:_____

2. Race/Ethnic background:

_____White

_____Black

_____Hispanic

_____Asian or Pacific Islander

_____Other

3. Marital Status

_____Never Married

_____Married

_____Separated

_____Divorced

_____Widowed

4. Education Level

_____Never finished high school

_____Completed high school

_____Completed 1-2 years of college

_____Completed 3-4 years of college

_____Completed graduate level work

How many days in the last month (30 days) have you drank at least one alcoholic

beverage?

____Days

How much do you normally drink during weeknights when you drink?

How much do you normally drink during weekends when you drink?

How much have you had to drink today?

Do you intended to drink alcohol tonight?

Have you ever had a head injury that resulted in unconsciousness?

Have you ever been forced through verbal or physical force, to engage in a sexual activity?

Have you ever forced a sexual activity through verbal or physical force?

Have you ever been in a physical fight while intoxicated?

In the last 24 hours, have you used any of the following drugs other than alcohol?

Marijuana	___Yes ____No
Cocaine	___Yes ____No
Heroin	___Yes ____No
Crack	___Yes ____No
Inhalants	___Yes ____No
Pain Killers	___Yes ____No
Anxiolytics (Prozac, Xanax, etc.)	___Yes ____No

Appendix B: STI

This questionnaire contains 7 statements. Read each statement carefully. For each statement, circle the response that best describes your opinion.

ANSWER SCALE:

	1	2	3	4	5	6	7	
Strongly Disagree				**Neutral**				**Strongly Agree**

"In General"….

1. I can drink more than the average drinker before feeling the effects of alcohol.
   1 2 3 4 5 6 7

2. I can drink more than others without experiencing a hangover.
   1 2 3 4 5 6 7

3. I don't get drunk as quickly as average drinkers.
   1 2 3 4 5 6 7

4. I can drink most of my friends "under the table".
   1 2 3 4 5 6 7

5. I usually win drinking contests.

   1 2 3 4 5 6 7

6. Others are impressed with how much alcohol I can drink.
   1 2 3 4 5 6 7

7. Others think that I can hold my alcohol well
   1 2 3 4 5 6 7

Appendix C: SIP Questionnaire
Sexual Aggression Scenario
How ANXIOUS you would be in this situation?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How ANGRY would you be in this situation?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How SEXUAL was the individual in the scenario towards you?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How FRIENDLY was the individual in the scenario towards you?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was to preserve the friendship?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was to have sex?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was to continue kissing?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was that the person apologizes to you?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was that conflict was avoided?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

What is the likelihood that you would use physical force in this situation?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

What is the likelihood that you would end the date?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

What is the likelihood that you would try to talk the person into having sex?

0	1	2	3	4	5	6	7	8	9	10

Not at all   Extremely

Aggression Scenario

How HOSTILE was the individual in the scenario being toward you?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

How ANGRY would you be in this situation?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

How ANXIOUS you would be in this situation?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was that the person apologizes to you?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was that conflict was avoided?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

How much would you want the situation to turn out such that the most important thing was that the person "pays" for what they did?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

To what degree would you want the situation to turn out such that the most important thing is that the person gets hurt enough to not do it again?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

What is the likelihood that you would be RUDE to the person?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

What is the likelihood you would call the person a derogatory name?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

What is the likelihood you would threaten the person if the situation were not resolved?

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Not at all   Extremely

What is the likelihood that you would use physical force (push, grab or hit) if the situation were not resolved?

0   1   2   3   4   5   6   7   8   9   10
Not at all   Extremely

Appendix D: Scenarios
Sexual Aggression Scenario

Women's sexual scenario

You and John have just finished a very pleasant dinner at an Italian restaurant. You two are on your second date. You have walked back to your apartment to watch a movie. You sit on the couch and begin to move closer and cuddle. Eventually you two begin kissing. It starts to get more intense and passionate. John unbuttons the top button of your shirt and begins caressing your breast inside your bra. You pull back slightly and look at John, but you don't say anything. John is attracted to you and wants to make love. You start to say I don't know, but John kisses you again, this time more forcefully and begins to press his body against yours. He is obviously aroused as he continues to unbutton your shirt.

Men's sexual scenario:

You and Jane have just finished a very pleasant dinner at an Italian restaurant. You two are on your second date. You have walked back to Jane's apartment to watch a movie. You sit on the couch and begin to move closer and cuddle. Eventually you two begin kissing. It starts to get more intense and passionate. You unbutton the top button of Jane's shirt and begin caressing her breast inside her bra. Jane pulls back slightly and looks at you but doesn't say anything. You are attracted to Jane and want to make love. Jane starts to say something, but you kiss her again, this time more forcefully and begin to press your body against hers. You are aroused and continue to unbutton her shirt.

Appendix F: Scenarios
Aggression Scenario

Women's aggression scenario

You are at a party dancing with a friend on a crowded dance floor.   At one point you accidentally bump into someone. You turn around to say sorry and she pushes you to the ground.

Men's aggression scenario

You are at a party dancing with a friend on a crowded dance floor.   At one point you accidentally bump into someone. You turn around to say sorry and he pushes you to the ground.