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# When do Men Perceive that 'No' Means 'Yes'?: Effects of Alcohol and Men's Expectancies of Intoxicated Women's Sexual Desire and Vulnerability on Sexual Aggression

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# WHEN DO MEN PERCEIVE THAT 'NO' MEANS 'YES'?: EFFECTS OF ALCOHOL AND MEN'S EXPECTANCIES OF INTOXICATED WOMEN'S SEXUAL DESIRE AND VULNERABILITY ON SEXUAL AGGRESSION

by

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Under the Direction of Dominic Parrott, Ph.D.

## ABSTRACT

This study examined the independent and interactive effects of acute alcohol consumption, perceived alcohol consumption of a female confederate, and distal alcohol expectancies of intoxicated women, on sexual aggression. Participants were a diverse community sample (54% African-American) of heterosexual males (N = 156) between 21 and 35 years of age who were recruited to complete the study with a male friend and an ostensibly single, heterosexual female who reported a strong dislike of sexual content in the media. Sexual aggression was measured utilizing a well-validated laboratory paradigm in which participants viewed a sexually explicit or non-sexually explicit video clip as part of a contrived media rating task and made individual choices of which video clip to show the female confederate. Sexual aggression was operationalized as selection of the sexually explicit video, as opposed to the non-sexually explicit video. Results demonstrated that acute alcohol consumption, perceived female alcohol consumption, and distal alcohol expectancies of women's vulnerability to sexual coercion and sexual drive while intoxicated, were not significantly related to sexual aggression utilizing the current paradigm.

Post-hoc analyses revealed that the primary predictor variables were significantly related to participants' perceived distress of a female confederate following an act of sexual aggression. Discussion focused on understanding what factors may have been relevant in understanding why the primary predictor variables were not significantly related to sexual aggression utilizing the current paradigm. Finally, clinical implications were explored in addressing a lack of perceived distress in potential female victims by individuals who endorsed higher levels of distal alcohol expectancies of intoxicated women's vulnerability to sexual coercion and what potential interventions be utilized clinically.

INDEX WORDS: Sexual aggression, Violence, Alcohol-related aggression, Alcohol expectancies, Laboratory sexual aggression

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## DEDICATION

This manuscript is dedicated to my parents, Frank and Paulette Miller. Thanks Dad for always inspiring me to strive for and achieve the most I can in life while always keeping a smile on my face. Mom, thanks for showing me courage, strength, and love, when dealing with some of life's most difficult challenges and that no matter what- to never give up.

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# 1. INTRODUCTION

It is well established that rape and other forms of sexual victimization have deleterious effects both on an individual and systemic level. One study of a nationally representative sample of college women found that approximately 15% of women reported a completed rape while 12% reported an attempted rape since the age of 14 (Koss, Gidycz, & Wisniewski, 1987). Other more recent studies have produced similar results, finding that anywhere between 14-61% of male college students had endorsed forcing a woman into some type of sexual activity against her desire (Loh, Orchowski, Gidycz, & Elizaga, 2007; Lyndon, White, & Kadlec, 2007; Parkhill & Abbey, 2008; Warkentin & Gidycz, 2007; Wheeler, George, & Dahl, 2002). Additionally, sexual aggression has been prevalent in community samples as well with data indicating that between 16-25% of women in national studies have experienced rape or some form of sexual victimization in their lifetime (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007; Spitzberg, 1999; Tjaden & Thoennes, 1998; Ullman & Brecklin, 2000). In 2008, the FBI indicated that there were approximately 58 reports of forcible rape for every 100,000 women (FBI, 2006). In a more recent study, the National Intimate Partner and Sexual Violence Survey (NISVS) found that 18.1% of women reported rape victimization in their lifetime, while 44.6% of women reported any form of sexual violence victimization (Black et al., 2011).

While these statistics evidence a disturbing prevalence of female sexual victimization, the National Crime Victimization Survey (NCVS) found that only 38.5% of rape and sexual assaults were reported to the police (compared with 60.5% of robberies) (Bureau of Justice Statistics, 2004). It has also been estimated that 80% of perpetrated rapes by men remain unreported (Spitzberg, 1999). Critics attribute these estimates to the context in which they are gathered and the narrow wording of items used to assess victimization (Fisher, Cullen, & Diagle, 2005; Kolivas & Gross, 2007). Nevertheless, even conservative interpretations of these data make clear the far-reaching importance of understanding and preventing sexual aggression.

Relatedly, studies in both college samples (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004; Marx, Nichols-Anderson, Messman-Moore, Miranda, & Porter, 2000) and community samples (Collins & Messerschmidt, 1993; Scully, 1991; Testa, 2002) have demonstrated that approximately half of all sexual assaults are committed by a man who has been drinking alcohol. Studies also show that acts of sexual aggression that involve alcohol consumption by the perpetrator involve more force and may be more severe than assaults that do not involve alcohol consumption by the perpetrator (Martin & Bachman, 1998; Ullman, Karabatsos, & Koss, 1999). Additionally, roughly half of all sexual assault victims report that they were drinking alcohol at the time of the assault (Koss, 1988; Seifert, 1999). In a national sample of college women, it has been reported that upwards of 75% of women were under the influence of alcohol at the time of a rape (Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004; Wechsler & Nelson, 2008).

Collectively, these data establish a significant link between alcohol use and the perpetration of sexual aggression in both college and community samples. Given these data on both the pandemic nature of sexual aggression and alcohol's related role, it is important to elucidate the relation between alcohol and sexual aggression. Thus, a primary goal of the present study was to delineate both the independent and interactive effects of perpetrator alcohol intoxication and the perpetrator's perception of victim alcohol use on sexual aggression.

### 1.1 Theories of Sexual Aggression

Myriad individual and situational risk factors for sexual aggression have been examined. Factors such as hostility toward women (Anderson & Anderson, 2008), psychopathic traits (Ouimette, 1997), empathy (Wheeler et al., 2002), misperception of sexual intent (Abbey & Harnish, 1995), rape myth beliefs (Lonsway & Fitzgerald, 1994; Norris, Davis, George, Martell, & Heiman, 2002) and rape supportive attitudes (Lanier, 2001), have all been linked to the perpetration of sexual aggression. Additionally, situational factors such as alcohol intoxication (Testa, 2002), exposure to violent pornography (Davis, Morris, George, Martell, Heiman, 2006) and sports team/fraternity membership (Humphrey & Kahn, 2000) have also been associated with sexual aggression.

Understanding the individual effects of these various risk factors on the perpetration of sexual aggression is of utmost importance. However, examining their interactive effects and subsequently placing these variables within a heuristic theoretical framework further advances knowledge within this area. To this end, numerous prominent theories of sexual aggression have been developed to better organize and elucidate these myriad risk factors (Abbey, Ross, & McAuslan, 1996; Brownmiller, 1975; Hall & Hirschman, 1991; MacKinnon, 1987; Malamuth, 1998). Of recognition, theories examining rape from biological (Ellis, 1991), evolutionary (Thornhill & Thornhill, 1987; Thiessen, 1986), and social learning perspectives (Donnerstein, 1985) have been developed to understand sexual aggression. However, of these numerous theories, the Feminist model (Brownmiller, 1975) and subsequently the Confluence model (Malamuth, 1998) have been particularly influential and proffered well-supported explanations for sexual aggression.

**Feminist model.** Early models of sexual aggression focused on how gender role beliefs about dating and sex create differential power relationships between men and women, which thus promote sexual aggression. The Feminist model viewed sexual aggression as a systemic behavior motivated by a man's conquering of women through a variety of avenues including emotional, sexual, and physical domination (Brownmiller, 1975; Clark & Lewis, 1977; Sanday, 1981). From this viewpoint, men were seen as probable perpetrators and as a result, victimization was defined by a man's aggressive role in the pursuit of unwanted sexual contact. Although important in bringing awareness to sexual aggression, this model has been criticized in that it does not encompass the full spectrum of sexual aggression. For instance, Sisco, Becker, Figueredo, & Sales (2006) reported that among college students, men and women both participate in behaviors that do not always align with the image of a forceful male participant.

**Confluence model.** Whereas the feminist perspective largely views rape as a by-product of a man's need to dominate women, other models focus more specifically on the underlying mechanisms that drive male sexuality and lead to aggression (Malamuth, 1998). Malamuth and colleagues developed the confluence model, which posits that sexual aggression results from the convergence of two causal influences, *impersonal sex* and *hostile masculinity* (Malamuth, 1998; Malamuth, Sockloskie, Koss, & Tanaka,

1991; Malamuth, Heavey, & Linz, 1993). Developmentally, traits which make up these two paths arise from early home experiences and parent-child interactions. For instance, it has been demonstrated that early family interactions create the foundation for development of a variety of cognitive (Dodge, Bates, & Pettit, 1990), emotional attachment (Kohut, 1977), and behavioral (Patterson, DeBaryshe, & Ramsey, 1989) responses. It was theorized that home environments that included violence between parents and children, especially sexual abuse (Fagan & Wexler, 1988), were predictive of later aggression toward women.

The impersonal sex path involves a noncommittal orientation to sexuality, which is posited to increase one's proneness to engage in sexual aggression. This orientation is frequently interpreted from the etiologic standpoint of both evolutionary and feminist theory. According to evolutionary theory, individual differences exist in both men and women's willingness to engage in sexual relations without closeness or commitment. That is, it is theorized that men are much more likely to have a large number of women sexual partners with the intent of increasing the likelihood of procreation, whereas women have a greater investment in having children and thus are much more selective in their partners which then creates sexual relations differences between the sexes (Simpson & Gangested, 1991). Alternatively, feminist theory posits that societal norms of traditional gender roles have established impersonal sex as a more appropriate behavior for men (Brownmiller, 1975). Regardless of how this orientation develops, of the numerous developmental experiences and interactions that contribute to impersonal sex traits, association with delinquent peers may contribute to and be an indicator of having this impersonal approach in sexual relations (Malamuth, 1998). The hostile masculinity path involves two interrelated concepts, including (a) an insecure and hostile/distrustful orientation (especially toward women), and (b) satisfaction from controlling and dominating women. Within this pathway, it is predicted that men use sex as a means of asserting dominance over women. Their hostility sanctions the use of sexual aggression and reduces the likelihood that other factors (e.g., empathy) inhibit their behavior. Additionally, there are several factors within the hostile masculinity path that have been linked to sexual aggression, including sexual arousal in response

to aggression, sexual dominance motives, hostility toward women, and attitudes facilitating aggression against women (Malamuth, 1998).

Malamuth and colleagues predicted that the extent to which an individual possesses characteristics from the hostile path will influence the likelihood that an individual's impersonal sexual orientation leads to sexual aggression. Thus, it is postulated that the hostile masculinity path acts as a moderator between the impersonal sex path and sexual aggression (Malamuth et al., 1991). Numerous studies, including a 10-year longitudinal follow-up study, have shown strong support for the confluence model (Christopher, Owens, & Stecker, 1993; Dean & Malamuth, 1997; Hall, Teten, Degarmo, Sue, & Stephens, 2005; Knight & Sims-Knight, 2003; Malamuth, Linz, Heavey, Barnes, & Acker, 1995; Martin, Vergeles, Acevedo, Sanchez, & Visa, 2005; Wheeler et al., 2002). Empirical tests of the confluence model have provided support for a variety of risk factors from both paths, suggesting that the broad constructs of both impersonal sex and hostile masculinity are robust indicators of sexual aggression.

Despite the widespread support garnered by the confluence model, it does not account for the well-documented role of alcohol consumption in the perpetration of sexual aggression (Parkhill & Abbey, 2008). Indeed, the role of alcohol in the confluence model has only been examined secondarily, within its delinquency constructs (e.g., number of times participants' consumed alcohol underage, driving while intoxicated). Acknowledging the significant relation between alcohol and sexual aggression, Parkhill and Abbey (2008) extended the confluence model by examining various alcohol-related variables (e.g., drinking patterns) as predictors of sexual aggression. Utilizing a large sample of college men, they found a significant path leading from general drinking behaviors and beliefs to hostile masculinity. This finding provided compelling support for the notion that alcohol use increases men's risk of sexual aggression, perhaps via its interaction with traits associated with the hostile masculinity path. Finally, in order to gain better understanding of the role of alcohol within the confluence model, the authors suggested that future studies examining the role of alcohol on sexual aggression focus on the psychological processes that underlie this relationship.

Parkhill and Abbey's (2008) findings also highlighted several limitations in the extant literature. Most notably, most studies examining the relation between alcohol consumption and sexual aggression are correlational (Abbey, Buck, Zawacki, & Saenz, 2003; Tyler, Hoyt, & Whitbeck, 1998; Ullman et al., 1999). Thus, unlike experimental designs that assess alcohol-related sexual aggression *in vivo*, these studies are limited in their ability to directly assess the acute effect of alcohol on the perpetration of sexual aggression. In addition, many studies cannot rule out third variable explanations of the alcohol-aggression relationship. For instance, the link between alcohol and the expression of hostile attitudes toward women (including sexual aggression) may be due to peer group involvement.

### 1.2 Theories Explaining the Relation Between Alcohol and Sexual Aggression

Although many theories of sexual aggression do not include alcohol as a primary risk factor, it is well-established that alcohol facilitates aggressive behavior. Indeed, there are myriad correlational and laboratory-based studies which demonstrate that acute alcohol consumption facilitates aggression (for a review, Bushman & Cooper, 1990; Chermack & Giancola, 1997; Taylor & Chermack, 1993). In fact, Leonard (2005) stated "we have reached the point where we should conclude that heavy drinking is a contributing cause of violence" (pg. 423). Additionally, acute alcohol intoxication, or a pattern of heavy drinking which indicates regular episodes of acute alcohol intoxication, is not the only factor that contributes to sexual aggression. Indeed, as detailed above, other individual and situational risk factors are also important predictors. Thus, moving forward, it is important to examine in whom and in what situations alcohol is most likely to facilitate sexual aggression. Several theories exist that purport to explain this complex relation.

Abbey and colleagues (1991; 1996; 2001) developed a heuristic model to explain alcohol's facilitative effect on sexual aggression that incorporates both distal and proximal risk factors. Distal risk factors are more removed from the actual assault, such as personality characteristics, attitudes, pre-existing expectancies, and general life experiences of both the victim and perpetrator. Specific distal risk factors

that have been examined include the perpetrator and victim's typical alcohol consumption patterns, history of sexual assault, and their pre-existing expectancies about drinking and behavior.

Relative to distal factors, proximal risk factors are temporally closer to the assault. Specific proximal risk factors that have been examined include acute alcohol consumption, the setting of the assault, and the relationship between the perpetrator and victim. According to this framework, acute alcohol consumption acts as a proximal risk factor for sexual aggression at two different points during an interaction between a man and a woman. First, during earlier stages of an interaction, it is posited that a man evaluates the potential sexual meaning of a woman's verbal and non-verbal cues. By impairing cognitive functioning, alcohol is theorized to contribute to the man's misperception of these cues, such that he perceives her as having a greater interest in sex (Abbey et al., 1996). Second, acute alcohol intoxication acts to increase the likelihood that a man will force sex against a woman's wishes. While alcohol is not necessary for forced sex to occur, Abbey and colleagues (1996) theorized that the cognitive deficits associated with alcohol consumption enhance the likelihood of engaging in sexual aggression, in that the man is more likely to focus on the instigatory cues as opposed to the inhibitory cues. Collectively, the framework set forth by Abbey and colleagues is consistent with both Alcohol Myopia Theory (AMT; Steele and Josephs, 1990) and Expectancy Theory (Goldman, Darkes, & Del Boca, 1999) to aid in explaining both the proximal and distal risk factors associated with alcohol-related sexual aggression.

**Alcohol myopia theory.** Alcohol Myopia Theory (AMT; Steele & Josephs, 1990) provides a useful theoretical framework for understanding how acute alcohol consumption disrupts cognitive functioning to influence the likelihood of sexual aggression. According to AMT, the pharmacological properties of alcohol impair cognitive functioning in an intoxicated individual by (1) narrowing attentional focus, (2) restricting the range of internal and external cues that can be perceived, and (3) reducing capacity to process and generate meaning from cues. That is, alcohol does not act as a general disinhibitor, but instead alcohol restricts an individual's attentional capacity. Thus, an individual under the influence of alcohol is more likely to attend to the salient, obvious aspects of a given situation, instead of the whole picture (Steele & Josephs, 1990). These effects are most likely when a person is faced with competing pressures

from instigatory and inhibitory cues. Numerous studies have supported AMT in restricting attention and subsequently influencing behavioral outcomes (for a review, see Giancola, Josephs, Parrott, & Duke, 2010).

Pertinent to sexual aggression, AMT posits that alcohol consumption by a perpetrator will result in increased attention to instigatory cues (e.g., desire for sex) that facilitate sexual behavior, relative to inhibitory cues (e.g., victim expressing non-consent) that may inhibit sexual behavior (Norris et al., 2002). Indeed, research supports this hypothesis. In a study by Norris et al. (2002), intoxicated and sober male participants read a sexually graphic vignette in which a man used force to obtain sex from a female. The female in the story responded in a neutral manner, displaying neither distress nor pleasure, while the male was depicted as using clear force to gain sex. Results indicated that participants who consumed alcohol reported more female character enjoyment and less negative judgments of the male character's use of force relative to participants who did not consume alcohol. Consistent with AMT, it was concluded that alcohol facilitated attention toward the salient instigatory cues (i.e., desire for sex) rather than the inhibitory cues (i.e., use of force). This pattern of attention-allocation was deemed particularly likely because of the strong conflict between the instigatory and inhibitory cues (Norris et al., 2002).

In another study, Abbey et al. (2003) found that intoxicated, relative to sober, participants rated a man in a forced sexual coercion vignette with an ambiguous ending as acting more appropriately and rated the woman character as being more sexually aroused. Interestingly, alcohol consumption did not have a direct effect on perceived likelihood of forced completed intercourse. However, intoxication was significantly related to perceived sexual arousal of the woman, which in turn, was significantly related to perceived likelihood of sexual aggression. These data suggest that alcohol has an indirect effect on sexual aggression by focusing attention onto salient situational cues such as sexual arousal.

Consistent with this finding, other laboratory-based studies have found that acute alcohol intoxication is associated with the perception of fewer negative consequences concerning sex (Fromme, D'Amico, & Katz, 1999) and having more positive attitudes, thoughts, and intentions toward engaging in unprotected sex while sexually aroused (MacDonald, MacDonald, Zanna, & Fong, 2000). Taken to-

gether, these findings are consistent with AMT, suggesting that intoxicated individuals are more likely to focus their attention onto salient instigatory cues such as sexual arousal, as opposed to inhibitory cues such as clear nonconsent or use of force (Abbey et al., 2003; Norris et al., 2002).

**Alcohol expectancy theory.** Although there is robust support for the pharmacological effects of alcohol on sexual aggression, it has also been argued that the mere belief that alcohol has been consumed can influence behavior. In a famous anthropological study by MacAndrew and Edgerton (1969), it was shown that alcohol's effect on behavior was highly variable across different cultures. With this finding, the authors concluded that alcohol's impact on human behavior was not entirely due to pharmacological processes (as previously thought) but that expectancy and culture played a role. Thus, this seminal report introduced the notion that people possess dispositional beliefs about how alcohol will affect them, which are termed *alcohol expectancies*. Broadly speaking, there is a copious literature that examines individuals' beliefs about the effects that alcohol has on wide variety of behaviors (see Brown, Goldman, Inn, & Anderson, 1980; George, Cue, Lopez, Crowe, & Norris, 1995; Southwick, Steele, Marlatt, & Lindell, 1981). Goldman (2002) elaborated on the alcohol expectancy construct by positing that expectancies are formed from prior experiences and serve an adaptive function by helping an individual to prepare for, and negotiate, future situations. Importantly, although expectancy effects on behavior (including sexual aggression) are most often measured for the self (i.e., how does alcohol affect my behavior?), they can also be measured for others (i.e., how does alcohol affect others' behavior?).

Alcohol expectancies of the self are posited to operate as a type of self-fulfilling prophecy (Crowe & George, 1989; Leigh, 1989), wherein individuals' beliefs that alcohol consumption will result in becoming more sexually motivated and/or violent increases their risk for committing sexual aggression when drinking. Additionally, men, as compared to women, expect to feel more powerful, sexual, aggressive, and disinhibited after drinking alcohol (Abbey, McAuslan, Ross, McDuffie, & Zawacki, 1995; Goldman, Inn, & Anderson, 1980; Crowe & George, 1989; Leigh, 1989; Mooney, Fromme, Kivlahan, & Marlatt, 1987; Ratliff & Burkhart, 1984). Laboratory studies of sexual aggression have found a link between alcohol expectancies and numerous outcome variables related to increased sexuality. For example,

George et al. (2000) found that the participants' proximal belief that they had consumed alcohol increased self-reported sexual arousal and time spent viewing erotic material during a laboratory analog. With no alcohol actually administered in this study, it was concluded that the role of alcohol in stimulating sexual responding could not be occurring through a strictly pharmacological mechanism (George et al., 2000).

Gross, Bennett, Sloan, Marx, and Juergens, (2001) examined both AMT and Expectancy Theory as explanations for sexual aggression utilizing a balanced placebo design with a laboratory rape analogue paradigm. Participants (all men) were instructed to listen to a vignette in which a man and a woman character were engaged in consensual sexual foreplay that progressed to nonconsensual sexual intercourse. Participants were instructed to imagine themselves as the man and to stop the audiotape at the point in which they would stop their own sexual advances (measured by response latency). Additionally, participants were asked on four separate occasions during the vignette to rate the woman's level of sexual arousal. Results indicated that men who consumed alcohol (i.e., alcohol condition: expected alcohol and receive alcohol; antiplacebo condition: expect no alcohol, receive alcohol), compared to those who did not consume alcohol (i.e., placebo condition: expect alcohol, receive no alcohol; no-alcohol control condition: expect no alcohol, receive no alcohol), were more likely to perceive the woman as being sexually aroused before her resistance became more prominent. This finding suggests that the pharmacological effects of alcohol (but not one's expectation of consuming alcohol) facilitated attention toward the most salient cues in the situation (i.e., the woman's sexual arousal), which then resulted in higher ratings of her perceived sexual arousal. Conversely, the authors concluded that sober men (placebo and no-alcohol control) presumably had more attentional capacity to process both salient cues and nonsalient cues (e.g., early signals of the woman's nonconsent), which resulted in them rating her sexual arousal as significantly lower.

In addition to perceived sexual arousal of the woman character, Gross et al. (2001) also examined the effects of proximal alcohol expectancies on an index of sexual aggression (i.e., response latency to stop the sexual advance). Results indicated that men who expected alcohol (alcohol condition: expected alcohol and receive alcohol; placebo condition: expect alcohol, receive no alcohol), compared to those

who did not expect alcohol (antiplacebo condition: expect no alcohol, receive alcohol; no-alcohol control condition: expect no alcohol, receive no alcohol), took longer to stop the man from committing an act of sexual aggression in the vignette. The authors concluded that this finding fit expectancy models of sexual aggression, in that participants' proximal expectancy that alcohol relaxes the standards for prosocial behavior influenced alcohol and placebo beverage participants' response latency in stopping the rape vignette tape. Results also indicated a pharmacological effect of alcohol, in that men who actually consumed alcohol (i.e., alcohol, antiplacebo) took longer to stop the male character from committing an act of sexual aggression in the vignette relative to men who did not consume alcohol (i.e., placebo, no-alcohol control). However, based on the strength of their findings, the authors suggest that psychological factors involved with alcohol consumption may play a secondary role (as demonstrated by the small expectancy effect), to the primary role of acute alcohol consumption (as demonstrated by the moderately sized pharmacological effect) on sexual aggression (Gross et al., 2001).

Overall, based on their findings, Gross et al. (2001) detected both pharmacological and expectancy effects that highlights the importance of further understanding the role of both in alcohol-related sexual aggression. Of note, the authors indicated that future studies need to examine whether perceived intoxication status of a woman may further elevate the misperception of women's sexual arousal. Indeed, men have been shown to view a woman who is drinking as being more sexually available (Corcoran & Thomas, 1991), which may be related to more distal alcohol expectancies of others.

Other laboratory-based studies have produced similar results. Drinking actors, compared to non-drinking actors, have been rated as possessing more sexual initiative (Velez-Blasini & Brandt, 2000), sexiness (Leigh, Aramburu, & Norris, 1992), and sexual intent (Abbey & Harnish, 1995). Further, George et al. (2000) asked participants to engage in a task in which they viewed erotic material with a co-participant who they thought was either consuming or not consuming alcohol. Results indicated that participants rated a co-participant who was drinking alcohol as being more sexually disinhibited than a co-participant who was not drinking alcohol. Additionally, when participants were told that the co-participant was drinking alcohol, they opted to show erotica to that co-participant for longer periods of time. Replicating

time. Replicating earlier studies (George, Gournic, & McAfee, 1988; George et al., 1995; George et al., 1997), this finding further supports the notion that (1) sexual inferences about others are influenced by the target person's intoxication status, and (2) perception of and behavior toward others in live dyadic encounters is influenced by the target person's perceived intoxication status.

While understanding the proximal effect of alcohol expectancies on one's own behavior and the behavior of others is important, it is also pertinent to elucidate the role of pre-existing expectancies on sexual aggression. Indeed, as previously noted, distal pre-existing expectancies of alcohol influence a variety of outcomes including rating others as being more sexually available (Garcia & Kushnier, 1987). In addition, studies have shown that men's expectation that alcohol increases their own sexuality is associated with a greater likelihood of perpetrating sexual aggression generally (Abbey, McAuslan, & Ross, 1998; Norris et al., 2002). Likewise, Abbey and colleagues (2003) found that distal expectations that alcohol facilitates women's sex drive were positively related to the perception that a drinking woman character in a rape vignette was sexually aroused. Collectively, these findings demonstrate the importance of further elucidating both proximal and distal alcohol expectancies in the perpetration of sexual aggression (Abbey et al., 2003; Gross et al., 2001).

### 1.3 Limitations of Extent Literature

The reviewed literature indicates that proximal alcohol intoxication (Norris et al., 2002) and both proximal (Gross et al., 2001) and distal (Abbey et al., 2003) alcohol expectancies contribute to the perpetration of sexual aggression. However, there has been little experimental research that simultaneously examines the interactive effects of acute intoxication of the perpetrator and victim with distal alcohol expectancies of a woman (e.g., sexual drive, vulnerability to sexual coercion when drinking) on actual sexual aggression. Conduction of such studies necessitates a theoretical integration of both Alcohol Myopia Theory (which focuses on alcohol's acute effects on cognition) and Expectancy Theory (which focuses on beliefs of how alcohol affects behavior) within the framework put forth by Abbey and colleagues (2001). William George, speaking at a symposium at the 2004 Research Society on Alcoholism conference, stated

that recent research on factors related to sexual aggression has been "consistent with interpretations drawn from alcohol expectancy theory and/or alcohol myopia theory. Formulations that integrate ideas from both theories would be worthwhile in future research" (p. 269) (Zawacki et al., 2005). Additionally, understanding both the independent and interactive effects of these variables may shed light on men's perception that "no means yes" in which men may subscribe to the myth that women secretly enjoy and/or want to engage in sexual relations despite expressed non-consent (Lonsway & Fitzgerald, 1994; Muehlenhard, Andrews, & Beal, 1996).

Another major limitation in the extant literature is the relative lack of experimental research that randomly assigns participants to receive or not receive alcohol and subsequently assess the perpetration of sexual aggression. This methodological weakness precludes researchers from analyzing causal hypotheses regarding the effects of alcohol or expectancies on sexual aggression. Clearly, studies that employ non-experimental survey methodologies are advantageous in garnering information about acts of sexual aggression, which is often seen as a private event that is not detected by authorities and often goes unreported. However, on the flipside, acts of sexual aggression are viewed negatively by society and the accurate assessment of sexually aggressive behavior can be difficult because of social desirability issues and misperception of actual events. Additionally, biases in self-report of sexual aggression may be particularly pronounced in respondents who are willing to emphasize situational factors they believe may lessen their legal and/or moral responsibility (Scully & Marolla, 1984).

In contrast, experimental methods are ideal for the elucidation of causal pathways between alcohol (both pharmacological and expectancy effects) and sexual aggression. Although the use of experimental methods to assess sexual aggression in the laboratory have their limitations (e.g., ethical concerns), several validated laboratory analogs have been developed, including measuring preferences for sexual material (George & Marlatt, 1986; Lang, Searles, Lauerman, & Adesso, 1980) and asking participants to determine when an individual has become sexually inappropriate in a hypothetical audiotaped rape vignette (Marx & Gross, 1995).

However, given the advantage of experimental methods there are both ethical and operational limitations in attempting to measure sexual aggression in the laboratory. Indeed, Testa (2002) points out, "it is simply not possible to assess actual sexually aggressive behavior in the laboratory" (Testa, 2002, p.1254). However, several researchers have attempted to develop valid analog measure of sexual aggression. Pertinently, one such analog developed by Hall and Hirschman (1994) allows participants to display either a non-sexually explicit or a sexually explicit video clip to a female confederate who clearly states that she does like to view sexual content in the media. In the Hall and Hirschman paradigm, choosing the sexually explicit video despite this knowledge is operationalized as an analogue to committing an act of sexual aggression against a female's wishes (Hall & Hirshcman, 1994). This well-validated laboratory task has been significantly correlated with reports of past perpetration of sexual violence (Hall, DeGarmo, Eap, Teten, & Sue, 2006; Hall & Hirschman, 1994; Hall, Hirschman, & Oliver, 1994). Pertinently, this task is a direct measure of observable behavior as opposed to story analogs or vignettes where participants are asked to make judgments about other people's behavior (Hall et al., 2006). In this regard, the Hall paradigm is unique in that it measures an individual's actual response when faced with a situation in which sexual coercion is possible.

### 1.4 Overview of the Current Study and Hypotheses

The preceding review has established that proximal acute consumption of alcohol and both proximal and distal alcohol-related expectancies are associated with sexual aggression. Despite this work, a paucity of research has directly examined the interactive effects of (1) acute alcohol intoxication of the perpetrator, (2) drinking status of a female, and (3) the perpetrator's distal expectancies of how alcohol affects women's sexual behavior, on men's likelihood to perpetrate sexual aggression. The current investigation was designed to address this gap in the literature. Of note, alcohol may serve different roles for perpetrators of sexual aggression. For instance, the perpetrator's consumption of alcohol may facilitate aggression via the aforementioned pharmacological and expectancy effects. Similarly, a man who believes that an intoxicated woman is more willing to have sex may be prone to sexually assault a woman

who he perceives to have been drinking alcohol. However, perpetrators may also use alcohol as a tactic to obtain sex. That is, they may target women who consume alcohol voluntarily. Alternatively, they may purposely give a woman alcohol without her knowledge or provide her with higher doses of alcohol than she expected. In each of these examples, the primary intent of the perpetrator is to obtain sex from a woman who is incapacitated by alcohol (Kilpatrick et al., 2007). For clarity, the current study examined the pharmacological and expectancy effects of alcohol on men who have the opportunity to "take advantage" of a woman who has voluntarily consumed alcohol, as opposed to examining the utilization of alcohol as a tactic to obtain sex.

Numerous researchers have cited the dearth of laboratory studies on alcohol-related aggression (Abbey et al., 2001; George, 2005; Testa, 2002), reporting that this issue needs to be addressed in order to more clearly understand the specific role that proximal and distal factors have in predicting sexual aggression. Additionally, Parkhill and Abbey (2008) suggest that future research examine the environments in which sexual aggression is most likely to occur (e.g., group settings) which may then inform prevention more accurately. To this end, with the exception of group rape, male-to-female sexual assault typically occurs in private settings. However, these "private" assaults are commonly preceded by the perpetrator's "public" interactions with friends who are aware of the perpetrator's sexual intentions. Research has demonstrated that college men in fraternities (Boeringer, 1996) and other male groups (Schwartz & Dekeseredy, 1997) have been aware of and/or known friends who had gotten women intoxicated with the intent to have sex and were subsequently approving of this behavior. Relatedly, research indicates that in group situations (e.g., fraternity parties), men oftentimes have knowledge of an impending sexual situation between a female and a male peer (Sanday, 2007; Schwartz & Dekeseredy, 1997).

Given this literature, the current study examined sexual aggression (see sexual aggression definition below) in a laboratory setting that approximates this social context. Individuals were not studied isolation; rather, the current study incorporated the presence of a male friend into the experimental context. In doing so, the current study's use of a modified version of the Hall and Hirschman (1994) paradigm that approximates this social context was intended to be the first to directly show a causal link between acute

alcohol consumption, perceived female alcohol consumption, and pre-existing alcohol expectancies on sexual aggression. Additionally, understanding the causal mechanisms (e.g., distal alcohol expectancies) behind alcohol-related sexual aggression may be utilized to inform prevention and treatment. To this end, sexual assault programs that focus on communication skills, including role play activities that focus on listening and empathy building, may be most beneficial in learning to navigate sexual encounters while challenging pre-existing beliefs about women and alcohol consumption, in order to navigate sexual relationships in a healthier manner.

**Sexual aggression definition.** Given the complexity in both defining and measuring "sexual aggression" and/or "sexually aggressive behaviors," it is important to provide clarity in defining sexual aggression generally and how it is operationalized in a laboratory setting. Sexual aggression is defined by the Centers for Disease Control as any attempted or completed sexual act committed against someone's will, including non-contact offenses, such as exposure; coercive strategies used in sexual violence may be physical, verbal, or psychological (Basile & Saltzman, 2002). Further, Cook and Parrott (2009) defined two aspects pertinent to sexual aggressive behavior, which included both the use of a strategy (i.e., obtaining some form of nonconsensual sexual behavior) and a tactic (e.g., opportunistic exploitation of a woman who is voluntarily intoxicated). These definitions broadly reflect a perpetrator's action(s) that subject a victim to *an unwanted sexual experience*. Related to the current paradigm, participants were afforded the option to show a non-sexually explicit or a sexually explicit video clip to a female confederate who clearly stated that she does like to view sexual content in the media. Clearly, selection of the sexually explicit video clip does not constitute a sexual aggressive act as typically defined in the literature, and it is simply not possible for a laboratory paradigm to accurately assess sexual aggression (Testa, 2002). However, selection of the sexually explicit video clip despite the participant's knowledge that the female does not wish to view sexual content is operationalized as the perpetration of an unwanted sexual experience, which is very much consistent with definitions of sexual aggression. While recognizing this distinction, the term "sexual aggression" will be used for consistency and parsimony.

### 1.5 Hypotheses

**Hypothesis 1.** Acute alcohol consumption of the participant was predicted to be positively related to sexual aggression. Specifically, participants who consumed an alcoholic beverage, as opposed to a no-alcohol control beverage, were more likely to engage in sexual aggression.

**Hypothesis 2.** Perceived acute alcohol consumption of the female confederate was expected to be positively related to sexual aggression. Specifically, participants who were told that the female confederate was drinking alcohol, as opposed to the no-alcohol control beverage (i.e., orange juice), were more likely to engage in sexual aggression.

**Hypothesis 3.** Men's distal expectancies of alcohol's effect on the sexual behavior of women (i.e., sexual drive, vulnerability to sexual coercion) was hypothesized to be positively related to men's likelihood of sexual aggression toward a drinking, but not a non-drinking, woman.

**Hypothesis 4.** Acute alcohol consumption by both the participant and a female confederate and distal expectancies of alcohol's effect on the sexual behavior of women (e.g., vulnerability to sexual coercion) were expected to interact to predict sexual aggression. Specifically, the relation between expectancies that alcohol increases women's vulnerability to sexual coercion and men's likelihood of perpetrating sexual aggression was expected to be strongest among men who consumed alcohol and were told that the female confederate was drinking alcohol. Associations between expectancies and sexual aggression were not expected in the other three experimental groups.

## 2. METHOD

### 2.1 Participants and Recruitment

Participants were 261 heterosexual, healthy men who were social drinkers aged 21-30, recruited from the local metro-Atlanta community. Participants responded to an advertisement stating "Males aged 21-35 needed for study of alcohol and views about the media. Earn between $30 and $100." This advertisement was posted on internet resources (e.g., job classifieds) and was placed in local-area newspapers.

Participants first contacted the laboratory by telephone. At the outset of the telephone contact, participants were informed that they would be asked to complete a questionnaire battery (Session 1) and participate in a separate experimental session (Session 2) with a "good friend." All participants received $10 per hour for participation and were given the option to discontinue their participation at any time. This study was approved by the university's institutional review board and was conducted as a secondary data analysis for a study that was already completed.

Upon agreement to participate in the study, participants completed a telephone screening interview with laboratory staff to determine their eligibility for participation. In order to be eligible, respondents reported that they (1) were regular social drinkers (defined as consuming an average of three or more standard alcohol drinks per occasion, an average of twice per month or more, for the past year), (2) were not problem drinkers as defined by a score of 6 or higher on the Brief Michigan Alcoholism Screening Test (bMAST; Pokorny, Miller, & Kaplan, 1972), (3) did not have a current or a lifetime DSM-IV diagnosis of any substance use disorder (other than caffeine or nicotine), (4) never sustained a traumatic brain injury that required medical attention, (5) were never diagnosed with a psychiatric disorder (e.g., psychotic disorder, major depression), (6) did not currently have a significant medical health problem, (7) were not currently taking any medication that might contraindicate the use of alcohol, (8) were native English speakers, (9) did not know anyone who had participated in the study before, and (10) had a close friend with whom they could participate with in the study. The potential participant's friend was required to call the lab as well and meet the same eligibility requirements. In addition, respondents were not eligible if they self-reported that they were under 6 feet tall and over 230 lbs. or over 6 feet tall and over 250 lbs. Previous research has shown that a healthy person within these height/weight limits are able to easily tolerate the study's dose of alcohol (.99 g/kg 95% alcohol) without any danger of excessively high breath alcohol concentrations.

Upon completion of the telephone interview, participants' and their friend were contacted within 1-2 business days regarding their eligibility. Participants who did not meet criteria for eligibility were notified and thanked for their time. Eligible participants were (1) read a standardized description of the

protocol, (2) told that they may or may not receive alcohol during the experiment, and (3) were scheduled for a Session 1 appointment at the same time as their eligible friend. If only one respondent was eligible for the study, he was informed that his participation in Sessions 1 and 2 was contingent upon him finding another friend to complete a telephone screening interview and be deemed eligible. See Figure 1 at the end of this document for a detailed flow chart of participant engagement in the study.

Of the 261 participants who completed Session 1 of the study, 95 did not complete Session 2. Thus, from this initial sample of 261, 53 participants did not meet initial screening criteria and nine additional participants did not self-identify as heterosexual. As such, they were deemed ineligible for Session 2 and remunerated for participation in Session 1. If only one participant of the dyad was deemed eligible, he was reminded that his participation in Session 2 was contingent upon him finding another eligible friend. Twenty-nine otherwise eligible participants did not complete Session 2 because they were unable to find an eligible friend and four did not return for Session 2. The final usable sample consisted of approximately 166 men, aged 21-30 ($M$ = 24.8, $SD$ = 3.4), who self-identified as exclusively heterosexual. The racial composition of the final sample consisted of 54% African Americans, 33% Caucasians, 1% Asian Americans, and 10% who identified as more than one race. The sample had an average of 14.1 years of education, earned $22,410 per year, and 84% had never been married. Overall, participants endorsed as being a low income

### 2.2 Experimental Design

The current study was a mixed experimental-correlational study that included two categorical predictor variables (participant beverage condition: alcohol, no-alcohol control; perceived female beverage condition: alcohol, no alcohol) and one continuous predictor variable (dispositional alcohol expectancies). Thus, participant dyads were randomly assigned (via two coin flips) to one of four experimental groups prior to being scheduled for Session 2: (1) received alcohol, told female confederate received alcohol, (2) received alcohol, told female confederate did not receive alcohol, (3) received no alcohol, told female confederate received alcohol, and (4) received no alcohol, told female confederate did not receive

alcohol. A placebo beverage (i.e., told alcohol, received no alcohol) was not administered for two primary reasons. First, an overarching aim of the current study was to create an ecologically valid laboratory setting (e.g., presence of a male friend). Because placebo beverages are not consumed in "real world" settings, they are not ecologically valid and thus were not administered. Second, and related to this point, prior research evidences both pharmacological (Abbey et al., 2003; Gross et al., 2001) and proximal expectancy (Gross et al., 2001) effects of alcohol on sexual aggression, although pharmacological effects are consistently larger in size. Thus, this initial study of how pertinent variables interact with *actual* alcohol consumption to facilitate sexual aggression only utilized the most relevant, real-world beverage group comparison (i.e., alcohol versus no-alcohol control).

### 2.3 Materials

**Demographic form.** This form assessed participants' age, ethnic background, race, highest level of education, income level, and self-identified sexual orientation.

**Inclusion of Other in the Self Scale** (IOS; Aron, Aron, & Smollan, 1992). The IOS was a single item pictorial representation of closeness in a relationship. Participants chose one out of a series of seven pictures that depicted two circles with increasing overlap. One circle represents the self, while one circle represents the other member of a relationship. The IOS has been shown to have an alternate form reliability of .92 and a two week test-retest reliability .85 when it is used to assess closeness in friendships. This item was included as a manipulation check to ensure that dyads reflected being "close friends" as stated by each participant.

**Symptom Checklist 90 – Revised** (SCL-90-R; Deragotis, 1992). The SCL-90-R was developed for screening and assessment of psychopathology, symptom burden, and treatment effectiveness. It consists of nine subscales (depression, anxiety, somatization, phobic fear, obsessive-compulsive, psychoticism, social insecurity, paranoid thinking, hostility) and a global severity index. Internal consistency, test-retest reliability and convergent validity of the SCL-90-R have been demonstrated in numerous studies (Deragotis, 1992; Franke, 2002). This questionnaire was administered as a screening instrument to

assess for acute psychiatric symptomatology. Scores 65 or greater (at least one standard deviation above the mean) were deemed to be indicative of acute clinical symptomatology (Deragotis, 1992), which contraindicates alcohol administration.

**Brief Michigan Alcohol Screening Test** (BMAST; Pokorny et al., 1972). The BMAST was adapted from the original 25-item MAST (Selzer, 1971) for assessment of alcohol dependence. The BMAST consisted of 10 items with responses of "yes" and "no." The scoring method used weighted scores, such that items 3, 8, and 9 were scored either a 0 or 5, while the remaining items were scored either a 0 or 2. The score range is from 0-29 with a score of '6' or higher indicative of an alcohol use disorder (Pokorny et al., 1972). The BMAST has demonstrated both reliability and convergent validity (Conner, Grier, Feeney, & Young, 2007). This measure was used as a screening instrument to assess for an alcohol use disorder, which would contraindicate alcohol administration.

**Drinking Patterns Questionnaire.** Participants' alcohol use during the past year was measured using the National Institute on Alcohol Abuse and Alcoholism's (NIAAA, 2003) recommended set of six alcohol consumption questions. Of interest to the current study, frequency of alcohol consumption was assessed with the question, "During the last 12 months, how often did you usually have any kind of drink containing alcohol?" A categorical response ranging from "everyday" to "I never drank alcohol in my whole life" was provided. In addition, average quantity of alcohol consumption during the past year was assessed with the question, "During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol?" A categorical range of responses from "1 drink" to "25 or more drinks" was provided. In accordance with the guidelines put forth by NIAAA, total scores were obtained by computing the average number of drinks in each range. Collectively, this strategy reliably assessed an individual's average frequency and quantity of alcohol consumption per drinking day over a specific period of time (for a review, see Sobell & Sobell, 1995).

**Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability Questionnaire** (AESASVQ; Abbey, McAuslan, Ross, & Zawacki, 1999)**.** Pre-existing alcohol expectancies across a variety of behaviors were assessed using the AESASVQ. This 25-item measure included alcohol expectan-

cies across four domains (aggression, sexual affect, sexual drive, and vulnerability to sexual coercion) for three targets (self, women, and men). Each item assessed expectancies across these four domains utilizing a 5-point Likert-type scale with response options that ranged from "1" (not at all) to "5" (very much). Discriminant validity was established in that the AESASVQ was largely unrelated to measures of stereotypic gender role beliefs, aggression, and sexual self-esteem (Abbey et al., 1999). Additionally, the AESASVQ has shown good convergent validity with another well-established measure of general alcohol expectancies (Comprehensive Effects of Alcohol Questionnaire; Fromme, Stroot, & Kaplan, 1993). Abbey et al. (1999) reported a coefficient alpha for the AESASVQ subscales of sexual drive ($\alpha = .91$) and of vulnerability to sexual coercion ($\alpha = .92$), which was consistent with the present sample ($\alpha = .88$) and ($\alpha = .85$), respectively. Finally, the AESASVQ has shown adequate test-retest reliability at one-month follow-up ($r = .65$) (Abbey et al., 1999; Benson, Gohm, & Gross, 2007).

In the current study, the sexual drive subscale and the vulnerability to sexual coercion subscale were of particular interest. Indeed, previous studies have demonstrated that women who drink alcohol are perceived by men as being more sexually available and more appropriate targets for sexual aggression relative to women who do not drink alcohol (George, Gournic, & McAffee, 1988). By assessing these subscales, the current study was able to elucidate how these individual differences in these specific beliefs are associated with intoxicated and sober men's likelihood of sexual aggression toward a woman who is perceived to be drinking, or not drinking, alcohol.

**Sexual Experiences Survey** (SES; Koss et al., 2007). The SES was administered to assess participants' perpetration of sexual assault since the age of 14. The SES consisted of 12 items in a Yes/No format. The SES measured four categories of sexual assault experiences: rape, attempted rape, sexual coercion, and unwanted sexual contact. The SES has shown adequate test-retest reliability and internal consistency (Koss et al., 2007). In the current study, the SES was correlated with perpetration of laboratory sexual aggression (see below) to support the external validity of the laboratory procedure.

**Laboratory sexual aggression.** Sexual aggression was assessed with a modified version of a well-validated laboratory task (Hall & Hirschman, 1994). In the traditional paradigm, a male participant

ostensibly engages in a "media rating task" with a female confederate who, based on ratings of her media preferences, ostensibly does not like to watch sexual material. After viewing two brief video clips that depict primarily action content (e.g., a car chase scene) or sexual content (e.g., a non-pornographic sex scene), the male participant was ostensibly selected at random to choose one of the two clips to make the female confederate view. The male participant was informed that he was able to view the female confederate via closed circuit television as she watched the video clip he selected. Sexual aggression was operationalized by selection of the sexually explicit, as opposed to the non-sexually explicit, video clip. Indeed, this laboratory analogue mirrors sexual aggression, such that a man overrides a woman's explicit wishes to avoid exposure to sexual material (Hall & Hirschman, 1994). Previous work has correlated sexual aggression on this task with self-reports of past perpetration of sexual aggression on the SES (Hall, et al., 2006) and the Coercive Sexuality Scale (Hall & Hirschman, 1994).

This task was modified in the current study such that *two* male participants who are reportedly good friends engaged in the task together. The purpose of this modification was to better approximate real-life situations in which men's decision to pursue unwanted sex occur (see above). Indeed, research indicates that this modified version is a valid measure of sexual aggression (Parrott et al., 2012). Pertinently, this version of the original Hall and Hirschman (1994) paradigm has been significantly related to one-year history of sexual aggression (as measured by the SES) along with endorsement of misogynistic attitudes (e.g., ambivalent sexism) that predicted sexual aggression. Each participant was seated at a table in a small room. On the table facing each participant was a computer screen and keyboard. The entire task was administered on a computer and took approximately 15 minutes to complete. The computer software that controls the task was developed by Vibranz Creative Group (Lexington, KY).

The non-sexually explicit video clips were taken from *Bad Boys II* (which depicts African American actors) and *Quantum of Solace* (which depicts Caucasian actors), both of which feature high speed car chases and car crashes but no sexual content. The sexually explicit video clips were taken from *Jason's Lyric* (which depicts African American actors) and *9 ½ weeks* (which depicts Caucasian actors), both of which feature a male and female engaged in consensual sexual intercourse involving kissing, foreplay,

and implied intercourse in numerous sexual positions. Each video clip was approximately two minutes long and was matched to participants' race.

### 2.4 Beverage Administration

Participant Beverage Condition (consumption of an alcoholic or non-alcoholic beverage) was randomly assigned. Participants in the Alcohol group were administered two drinks consisting of an overall dose of 0.99 g/kg body weight of 95% ethanol USP mixed in a 1:5 ratio with Tropicana orange juice. This dose was equivalent to at least 3-4 mixed drinks that would be served in a bar. The beverage was poured into two glasses in equal quantities. This single alcohol dose has been used in past studies of alcohol-related aggression and has reliably produced breath alcohol levels between .08%-.12%, which is within NIAAA safety guidelines for the social drinkers under investigation. Participants in the No-Alcohol control group received an isovolemic beverage consisting of orange juice only.

All beverages were served chilled with no ice. Twenty minutes was allotted for beverage consumption. Participants were given their two glasses at equally-spaced time intervals (i.e., 10 minutes) during the twenty minute interval to control for rate of drinking. Immediately following beverage consumption, all participants rinsed their mouths with water. Breath alcohol concentrations (BrAC) for participants in the Alcohol group was assessed with the Alco-Sensor IV breath analyzer (Intoximeters, Inc., St. Louis, MO) every five minutes after finishing their beverages. The media rating task (described below) commenced after participants reached .08% on the ascending limb of the BrAC curve, where the stimulating effects of alcohol are most likely to be produced (Addicott, Marsh-Richard, Mathias, & Dougherty, 2007; Giancola & Zeichner, 1997; Martin et al., 1993).

### 2.5 Deception and Female Confederate Beverage Manipulation

In order to convince participants that they were engaged in a task with another person, participants completed a demographic interview in which they answered several basic questions about themselves (e.g., first name, relationship status). The experimenter then ostensibly videotaped this interview for the purpose of informing the female about the other participants in the study. Likewise, participants

were told that they were also able to view her demographic interview. In actuality, immediately prior to the media rating task, participants viewed a pre-recorded 20 second videotape of a female confederate of the same race. Presentation of the videotape served to ensure further that participants believed they were engaged in the study with a female.

Additionally, participants were informed that they could watch the female confederate via a closed circuit video system during her second viewing of the selected film clip. In actuality, a pre-recorded videotape was shown to participants to enhance this deception. In this video, the same racially matched female confederate was seen watching the "action" or "sex" video clip. She did not display any reactions (e.g., facial expressions, emotion, verbal responses, etc.) to the film shown. Presentation of this and the pre-recorded demographic interview served to maximize the likelihood that participants believed they were engaged in a task with another person. Indeed, much research has confirmed the success of this and similar laboratory manipulations (e.g., Hall & Hirschman, 1994; Parrott & Giancola, 2004; Parrott & Zeichner, 2005).

Finally, the manipulation of the female confederate's beverage condition was administered at three separate time points. First, when participants were notified of their beverage condition (Alcohol or No-Alcohol control), they were also informed of the female confederate's beverage condition (Alcohol or No-Alcohol control). Second, when participants' received their own beverages, they were explicitly told that the female was drinking (or not drinking) alcohol. Third, immediately before the onset of the media rating task, participants were again told that the female was drinking (or not drinking) alcohol. As a manipulation check, participants rated the female confederate's perceived level of intoxication prior to debriefing.

### 2.6 Procedure

From the initial contact, participants had several interactions with the laboratory both via the phone and in person (see flow chart below). The participant dyad presented to the laboratory for Sessions 1 and 2 on two separate days. Upon arrival to Session 1, each participant was greeted by an experimenter

and led to separate private rooms. At this time, participants were asked to present a picture ID and provide informed consent. Participants' BrAC, height, and weight were then assessed to confirm sobriety and height/weight eligibility requirements. Participants with a BrAC above .00% were prohibited from completing the study on that day and asked to reschedule.

During the consent process, participants were informed that the purpose of the study was to examine the effect of alcohol on beliefs and themes in the media. Participants then completed the demographic form, the BMAST (Pokorny et al., 1972), six alcohol consumption questions (NIAAA, 2003), the SCL-90-R (Deragotis, 1992), and an adaptation of the telephone screening interview to re-assess for pertinent health-related exclusionary criteria (e.g., history of a substance use disorder, current medications, etc.). Participants deemed ineligible on these screening measures were excluded from Session 2 (though they were compensated for their participation in Session 1).

After completion, the experimenter scored these measures to ensure no changes in eligibility items between Session 1 and Session 2 (e.g., having reported a serious head injury between sessions). During that time, all participants completed a questionnaire battery that included the AESASVQ (Abbey et al., 1999) and the SES (Koss & Giyzcz, 1985). Additional questionnaires were also completed but were unrelated to the current study and are thus not listed here. After participants completed the questionnaire battery, ineligible participants were notified, remunerated, and thanked for their time. Eligible dyads were scheduled for Session 2. They were instructed not to drink alcohol for 24 hours prior to testing and not to eat four hours prior to testing. If only one participant was deemed eligible at the conclusion of Session 1, he was informed that his participation in Session 2 was contingent upon him finding another friend to complete a telephone screening interview and be deemed eligible following completion of Session 1.

Upon arrival to Session 2, each participant of the dyad was taken to a separate room to provide consent. At this time, participants' BrAC, height, and weight was assessed and they completed the IOS and the SCL-90-R a second time. Participants with a BrAC above .00% were prohibited from completing the study on that day and then asked to reschedule. Participants who did not meet height/weight require-

ments or who reported significantly high levels of psychiatric symptoms on the SCL-90-R were deemed ineligible, compensated, and thanked. Participants were then randomly assigned to one of the four experimental conditions. Participants in the alcohol condition were required to give their keys (if they were carrying keys) and valid picture ID (e.g., a driver's license) to the experimenter with the understanding that these items would be returned at the end of the study upon reaching a BrAC of 0.03% and passing a field sobriety test. A field sobriety test was also administered at that time to establish a sober baseline.

Next, the participant dyad was escorted to an experimental room where the remainder of the study took place. While en route to the experimental room, the experimenter pointed down the hall and stated "the other participant will be completing the study in a room down the hall." Participants were then seated at adjacent desks equipped with a computer monitor and keyboard and provided instructions to the media rating task. Next, participants completed the demographic interview, received instructions about the media rating task, and consumed their beverages. Following beverage consumption, BrACs were assessed every five minutes until both participants reached .08%. At that time, the media rating task began.

The rating task consisted of 15 questions that assessed various media preferences (e.g., "I am a fan of 'reality' TV shows"). Participants answered each question on a 9-point Likert scale from "1" strongly disagree to "9" strongly agree. After completing these items, participants were explicitly informed on their computer monitors that the female confederate did not like to watch sexual material. Specifically, participants read, "based on her responses, it seems that she generally does not like sexual content in the media." Next, the participant dyad and female confederate viewed two 120-second video clips excerpted from major motion pictures (see above). One video clip involved primarily action content (e.g., a car chase scene), whereas the other video clip involved primarily sexual content (e.g., a non-pornographic sex scene). The order of video clip administration was counterbalanced.

The participant dyad was then ostensibly selected at random to choose one of the two videos to make the female confederate view. Participants recorded their video choices separately on their respective computers. Of note, participants were told that there was a fifty percent chance that their specific video selection would be shown to the female confederate. Thus, when they made their initial individual

video selection, they were led to believe their video clip selection could be shown to the female confederate. Additionally, it was important that each participant's video clip selection was not explicitly dictated by his friend (e.g., one participant pressuring the other participant to select a given film clip). To ensure this, participants were offered a monetary incentive of $5 to not discuss their choices with their friend. This procedure most closely approximated the context in which sexual aggression typically occurs: A male making a personal decision to aggress (or not) that is influenced by the presence of male peers but not the direct, "in the moment" pressuring of peers. To reiterate, selection of the sexually explicit, as opposed to the non-sexually explicit, video clip was defined as an analogue measure of sexual aggression or an unwanted sexual experience, in the current investigation. Participants were then informed that they would be able to view the female confederate via closed circuit television as she watched the video clip they selected. Following this, all participants were debriefed (see below).

### 2.7 Additional Methodology

Additional procedures and methodology were utilized in the overall project not originally pertinent to the aims of the current study. However, these methods were of importance to the current study in that they were vital in conducting additional exploratory analyses useful in elucidating the results of the current hypotheses and thus are listed below.

Immediately after viewing each video clip, participants were instructed to fill out a rating form for each clip consisting of six questions. Each question was on a 9-point Likert type scale ranging from "Not at All" to "Very Much." Each question was designed to assess participant level of arousal in response to each clip (e.g., How excited did the video make you feel?). This assessment was utilized, as a manipulation check to ensure that the videos each participant watched was equally arousing and thus did not interfere with intended design of the paradigm.

Additionally, following the individual video clip selection, participants were then instructed to make a group decision about which video clip to show to the female confederate. At this point, participants were explicitly informed that they could speak to each other during the group decision making pro-

process, that the group video clip selection would definitely be shown to the female confederate, and that the task would not proceed until both participants indicated agreement about which video to show the female. Similar to the individual choice, participants recorded their group video choice separately on their respective computer keyboards. The participant dyad then viewed the pre-recorded videotape that depicted the female confederate watching the video clip jointly selected by the dyad. In the pre-recorded video, the female confederate did not display any level of like or dislike of the clip and remained neutral in her facial and body expressions.

Immediately following the female confederate's viewing of the group video clip selection, participants were administered four questions in which they had to individually rate their perceptions of the female following her viewing of the selected video clip. Participants individually answered the questions on a 9-point Likert scale. The first three questions examined the participant's perceptions of the female confederate's *distress* level in response to the selected video clip. Specific questions asked assessed participants' perceptions of her level of *discomfort* ("How uncomfortable do you think she was viewing the selected video?"), her being *upset* ("How upset do you think she was viewing the selected video?"), and her *dislike* of the selected video ("How much did she dislike viewing the selected video?"). Lower scores indicated lowered participant perceptions of *distress* on female confederate discomfort, being upset, and dislike after viewing the selected video. A final question administered to the participants assessed their perception of attractiveness of the female confederate on a similar 9-point scale. Similarly, lower scores indicated lowered perceptions of attractiveness of the female confederate by participants.

### 2.8 Debriefing and Compensation

In order for laboratory sexual aggression data to be valid, participants needed to believe that they were engaged in a task with another individual on a "media rating task" and that this task was not a measure of sexual aggression. Deception status was confirmed by administration of a brief verbal interview prior to the debriefing of participants. Specifically, participants were asked whether or not they thought the task was a good measure of media preferences. Additionally, participants were asked to verbally pro-

vide an "impression" of the female participant and comment on her relationship status. The main criterion for exclusion was participants' belief that the female was fictitious and that the task was a measure of sexual aggression.

In the debriefing, participants were told that the purpose of the study was to measure the effects of acute alcohol intoxication and perceived drinking status of the female participant on sexual aggression. Participants were told that at no time during the procedure did they actually require another person in the study to watch one of the film clips, and that their responses were "normal" and consistent with those of others in the study. They were also informed that they were not told the "media rating task" was a measure of aggression because many people artificially alter their responses if they are aware of this information. To mitigate the likelihood that subjects felt intellectually inadequate because they were deceived by the manipulations, they were told that 95% of the participants in this project were similarly deceived and that being deceived is completely "normal" (this estimate is based on prior deception rates in the laboratory). Questions and concerns were addressed. Following completion, sober participants were thanked, paid for their time, and allowed to leave the laboratory.

However, alcohol participants were required to remain in the laboratory until their BrAC was below 0.03% on two consecutive readings (in accordance with NIAAA guidelines). All participants were given the field sobriety test after they reached a descending BrAC of 0.03%. Participants were only discharged from the laboratory if this test score was the same or better as when they entered the laboratory. At that time, participants were thanked and paid for their time. To minimize the possibility that participants drove a motor vehicle after leaving the laboratory, participants were transported home by a friend/family member or were escorted to the Georgia State University MARTA station by a member of the laboratory.

# 3. RESULTS

## 3.1 Deception Manipulation Check

To determine the integrity of the sexual aggression paradigm, participants were administered a brief interview before debriefing in which they were asked to describe their impression of the female confederate and whether they believed the task was a good measure of media preferences. Criteria for exclusion were the participants' belief that the "female" was fictitious and that the task was a measure of sexual aggression and not of media preferences. Overall, the deception manipulation appeared successful. Most participants indicated that the task was a good measure of media preferences. Of the 166 individuals to complete Session 2, six individuals (4%) from three distinct dyads reported that they did not believe that they were engaged in a task with another person. Another two individuals (1%) were removed due to a technical error, and one dyad (1%) did not reach the target BrAC of .08 and thus was removed from subsequent analyses. This resulted in a final sample of 156 participants.

## 3.2 Preliminary Analysis

**Test for assumption of independence.** All participants engaged in the task as part of a dyad. Thus, it was important to evaluate the assumption of independent observations. Using the methods put forth by Donner and Koval (1980), and again by McMahon, Pougeta, and Tortu (2006), a test of nonindependence was conducted prior to hypothesis testing. That is, a Pearson correlation coefficient (phi) was calculated to indicate the pairwise intraclass correlation between dyad members on the dependent variable (i.e., film clip selection); this method has been found reliable in samples containing at least 50 small groups (Zou & Donner, 2004). Kenny and Kashy (1991) recommended testing this statistic using a liberal alpha of .20. Results of the test of nonindependence suggest that the participant's individual choice on the paradigm was not influenced by his partner's individual choice (*Pairwise Intraclass Correlation Coefficient* = -.03, $p$ = .845). Thus, all analyses that examined participant individual video choice as the

dependent variable assumed independence within dyads and were conducted solely at the between-person level using logistic regression in SPSS Version 18.

**Tests of experimental design assumptions.** Random group assignment was expected to ensure that the experimental groups did not differ on relevant study variables. Nonetheless, prior to hypothesis testing, it was necessary to confirm this assumption. As such, a series of 2 (Participant Beverage) X 2 (Female Confederate Beverage) Analyses of Variance (ANOVAs) were conducted with demographic variables (e.g., age, educational level), drinking variables (e.g., drinks per drinking day in the past twelve months), and distal alcohol expectancies (i.e., sexual drive, vulnerability to sexual coercion) as the dependent variables. No significant main effects or interactions were detected for age, years of education, income, frequency of alcohol consumption in the past 12 months, drinks per drinking day in past 12 months, frequency of high consumption (5+ drinks) in two hours during the past 12 months, B-MAST, and distal alcohol expectancies (i.e., vulnerability to sexual coercion, sexual drive). A chi-square analysis did not detect a significant difference in the racial composition of the two beverage groups. Additionally, mean alcohol expectancies of women for sexual drive and vulnerability to sexual coercion scores were 21.99 ($SD$ = 4.44) and 22.28 ($SD$ = 4.82), respectively (see Table 1). This is consistent with past literature (Abbey et al., 1999). A significant positive correlation between these variables was detected ($r$ = .373, $p < .01$). Computation of the variance inflation factor (VIF) and tolerance confirmed that multicollinearity was not an issue in these data (i.e., VIF < 10; tolerance > .10). Analysis of the IOS, which examined the closeness of relationship among participants within their respective dyad, revealed self-reported "closeness" ($M$ = 5.57, $SD$ = 1.41) consistent with previous literature examining intimate relationships and friendships ($M$ = 4.74, $SD$ = 1.48; Aron et al., 1992).

Additionally, a Chi-square analysis indicated that the video order and video choice were not independent ($x^2$ [1] = 3.70, $p \leq .05$), such that men who were shown the sexually explicit video clip first were more likely to make that video choice, with the same being true for men who were shown the non-sexually explicit video clip first. Thus, video order was controlled for in all subsequent analyses.

Finally, all participants presented with an initial BrAC of 0%. A repeated measures ANOVA indicated that participants' in the alcohol group had significantly higher BrAC's at post-task ($M$ = .11, $SD$ = .02) than at pre-task ($M$ = .098, $SD$ = .02), $F(1, 78) = 2830.63$, $p < .001$. Means indicated that participants were on the ascending limb of the BrAC curve.

**Descriptive statistics.** Means and standard deviations for pertinent demographic variables, drinking variables, and distal alcohol expectancy variables were examined and listed in Table 1 below. Pertinently, the descriptive data suggests that the participants were from a low-income sample ($M$ = $22,163). Additionally, the sample endorsed drinking approximately 7.3 drinks per drinking day in the last twelve months, while consuming alcohol on 130.12 days in the past twelve months.

Table 1

*Descriptive Statistics for Pertinent Demographic, Drinking, and Alcohol Expectancy Variables*

| | Session 2 Participants ($n$ = 156) | |
|---|---|---|
| | *M* | *SD* |
| Demographic Variables | | |
| Age | 24.72 | 3.36 |
| Years of Education | 14.15 | 2.32 |
| B-MAST | .66 | 1.43 |
| Income | $22,163 | $17,239 |
| Drinking Variables | | |
| Days of Alcohol Consumption in past 12 months | 130.12 | 70.47 |
| Drinks per Drinking Day in past 12 months | 7.30 | 1.21 |
| Days of Heavy Consumption (5+ drinks) in two hour period in the past twelve months | 50.07 | 59.39 |
| Alcohol Expectancies of Women | | |

| | | |
|---|---|---|
| Vulnerability to Sexual Coercion | 22.28 | 4.82 |
| Sexual Drive | 21.99 | 4.44 |

Of the 156 participants to complete Session 2, 82 selected the non-sexually explicit video clip, while 74 selected the sexually explicit video clip. Selection of sexually explicit versus non-sexually explicit video clip was examined within each of the four experimental groups and is delineated in Table 2. While those who were in the Alcohol condition and told that the female confederate was consuming alcohol had the highest percentage of participants who selected the sexually explicit video clip (53%), there were no main effects or interactions for any of the four experimental groups suggesting that the group with the highest percentage were not significantly more likely to chose the sexually explicit video, compared to the other groups.

Table 2

*Percentage of Men Who Selected the Sexually Explicit Video Clip (n = 74) Based on Participant Beverage Condition and Female Confederate Beverage Condition*

| | Female Beverage Condition | | |
|---|---|---|---|
| | No Alcohol (*n* = 80) | Alcohol (*n* = 76) | Total |
| Participant Beverage Condition | | | |
| No Alcohol (*n* = 78) | 15/34 (44%) | 22/44 (50%) | 37/78(47%) |
| Alcohol (*n* = 78) | 20/46 (43%) | 17/32 (53%) | 37/78 (47%) |
| Total | 35/80 (44%) | 39/76 (51%) | 74/156 (47%) |

In the original Hall paradigm (Hall & Hirschman, 1994), 28% of participants endorsed engaging in sexually coercive behaviors as measured by self-report on the Coercive Sexuality Scale (CSS; Rapaport & Burkhart, 1984). Of those who endorsed a sexually coercive history on the CSS, 52% of men showed the female confederate either a sexually-violent video (24%) or a violent-sexual video (28%). Among those who did not endorse a sexually coercive history, 92.3% showed a neutral video (i.e., without sexual or violent content) to the female confederate with none showing the sexually-violent video (0%) and only one participant showing the violent-sexual video (7.7%). Hall and colleagues (1994) reported a significantly greater percentage of sexually coercive, compared to non-sexually coercive, men showing one of the sexual/violent video clips to the female confederate.

Analyses were conducted to obtain comparison data to those of Hall and Hirschman's (1994) results. Endorsement of engagement in sexually coercive behaviors was assessed with the Sexual Experiences Survey (SES; Koss et al., 2007). From the final sample of 156, six participants (4%) had substantial missing data on the SES. Thus, these participants were excluded from analyses involving the SES. The percentage of men who reported engaging in any form of sexual aggression toward women during the past year was 25.3% on the SES. These figures correspond with previously published rates of men's sexual aggression (Koss, Gidycz, & Wisniewski, 1987; Straus et al., 1996) and of those in the original Hall study (Hall & Hirschman, 1994). On the SES, 17.3% of men reported obtaining unwanted sexual contact, 12.8% reported attempted sexual coercion, 10.9% reported sexual coercion, 7.7% reported attempted rape, and 8.3% reported completed rape.

Individual choice was regressed on self-reports of previous perpetration of sexual aggression during the past year as measured by the SES while estimating the effects of individual and female confederate drinking and removing the effect associated with video order in the model. Men who endorsed any history of sexual aggression on the SES, as opposed to those who endorsed no history of sexual aggression (as measured by the SES), were significantly more likely to select the sexually explicit video clip compared to selection of the non-sexually explicit video clip, $x^2$ (1, $N$ = 150) = 10.21, $p < .001$). Further, of the 25.3% of participants who endorsed engaging in any prior form of sexual aggression, 71% chose

the sexually explicit video clip compared to 29% who chose the non-sexually explicit video clip (see table below). In comparison, of the 74.6% who did not endorse engaging in any prior form of sexual aggression, 59% chose the non-sexually explicit video clip, while 41% chose the sexually explicit video clip.

Table 3

*Frequency of Individual Video Choice Based on Participant Sexual Assault History*

| | Video Clip Selection | |
|---|---|---|
| | Non-Sexually Explicit (*n* = 77) | Sexually Explicit (*n* = 73) |
| Endorsement of a Sexual Assault History in Past Year | | |
| No (*n* = 112) | 66/112 (59%) | 46/112 (41%) |
| Yes (*n* = 38) | 11/38 (29%) | 27/38 (71%) |

### 3.3 Primary Analytic Strategy

All participants were randomly assigned to a beverage condition (alcohol, no-alcohol control) and a perceived female confederate beverage condition (told female confederate drinking alcohol, told female confederate drinking no-alcohol control beverage). Prior to analysis, these variables were dummy coded. Additionally, the continuous distal alcohol expectancies subscales (i.e., sexual drive, vulnerability to sexual coercion) for "women" (as opposed to "self" or "men") were *z*-transformed. Standardizing these first-order variables automatically centers the values (i.e., deviation scores with a mean of zero), which reduces the likelihood of multicollinearity between interaction terms and their constituent lower-order terms (Aiken & West, 1991). Interaction terms were then calculated by obtaining cross-products of pertinent first-order variables (e.g., distal alcohol expectancies and female confederate beverage condition).

Utilizing logistic regression, all variables were entered into the regression model in a step-wise manner. In Step 1, main effects (i.e., participant beverage, female confederate beverage) were entered. In Step 2, all higher order two-way interaction terms were entered. In Step 3, the three-way interaction term was entered. Each hierarchical model was computed separately for each distal alcohol expectancy vari-

able of interest (i.e., sexual drive and vulnerability to sexual coercion). As previously mentioned, all models were estimated while removing the variance associated with video order.

A posthoc power analysis (Erdfelder, Faul, & Buchner, 1996) was conducted to determine if the final usable sample ($n$ = 156) was sufficient to detect a moderately sized three-way interaction, which required the most power of the hypothesized effects. Previous research on the relation between alcohol and aggression has observed moderate effects (Bushman, 1993). The parameters for the power analysis were set at alpha = .05 and power (1- β) = .80. Observed power for the primary three-way interaction post-hoc analyses ranged from .404 (Sexual Drive) to .999 (Vulnerability to Sexual Coercion), which suggests that the non-significant three-way interaction involving Sexual Drive may have been underpowered.

### 3.4 Primary Regression Analysis

**Effects of sexual drive, participant beverage, and female confederate beverage on video clip selection.** In Step 1, the model was not significant (Cox and Snell $R^2$ = .046, $p$ = .116). This regression model was examined to determine whether the odds ratios for Participant Beverage (Hypothesis 1) and Female Confederate Beverage (Hypothesis 2) were independently significant. Results indicated that both the participant beverage (odds ratio [OR] = 1.040, 95% CI = [.540, 2.005], $p$ = .906) and the female confederate beverage (odds ratio [OR] = .688, 95% CI = [.356, 1.327], $p$ = .264) were not significantly related to sexual aggression.

In Step 2, the model was not significant (Cox and Snell $R^2$ = .052, $p$ = .305). This regression model was examined to determine if the odds ratio for the Sexual Drive X Female Confederate Beverage interaction (Hypothesis 3) was significant. In this step, the Sexual Drive X Female Confederate Beverage interaction was not significant (OR = .964, 95% CI = [.488, 1.903], $p$ = .916).

In Step 3, the model was not significant (Cox and Snell $R^2$ = .053, $p$ = .388). This regression model was examined to determine whether the odds ratio for the Participant Beverage X Female Confed-

erate Beverage X Sexual Drive (Hypothesis 4) was significant. Results indicated that this interaction was not significant (OR = 1.329, 95% CI = [.339, 5.209], $p$ = .683).

**Effects of vulnerability to sexual coercion, participant beverage and female confederate beverage on video clip selection.** In Step 1, the model was not significant (Cox and Snell $R^2$ = .029, $p$ = .325). This regression model was examined to determine whether the odds ratios for Participant Beverage (Hypothesis 1) and Female Confederate Beverage (Hypothesis 2) were independently significant. Results indicated that both the participant beverage (odds ratio [OR] = .997, 95% CI = [.521, 1.910], $p$ = .993) and the female confederate beverage (odds ratio [OR] = .734, 95% CI = [.384, 1.401], $p$ = .348) were not significantly related to sexual aggression.

In Step 2, the model was not significant (Cox and Snell $R^2$ = .033, $p$ = .626). This regression model was examined to determine if the odds ratio for the Vulnerability to Sexual Coercion X Female Confederate Beverage interaction (Hypothesis 3) was significant. In this step, the Vulnerability to Sexual Coercion X Female Confederate Beverage interaction was not significant (OR = 1.103, 95% CI = [.568, 2.141], $p$ = .772).

In Step 3, the model was not significant (Cox and Snell $R^2$ = .050, $p$ = .429). The regression model was examined to determine whether the odds ratio for the Participant Beverage X Female Confederate Beverage X Vulnerability to Sexual Coercion (Hypothesis 4) was significant. Results indicated that this interaction was not significant (OR = 3.149, 95% CI = [.795, 12.484], $p$ = .103).

### 3.5 Exploratory Post hoc Analysis

Although none of the *a priori* hypotheses were supported, it was deemed important to explore (1) the possibility that race might moderate the hypothesized effects, (2) relations between predictor variables and other outcomes related to sexual aggression, and (3) potential methodological explanations for the non-significant findings (e.g., differences in levels of arousal to the video clips). These post hoc analyses were explored to aid in elucidating the results obtained in the present study and to provide potential avenues for future research utilizing the current paradigm.

**Exploratory aim 1.** Given the racial diversity of the current sample, it was deemed appropriate to examine race differences with respect to the primary analyses. Related, in a study of ethnic differences on sexual aggression by Hall and colleagues (2005), it was suggested that when ethnic heterogeneity exists within a sample that investigators should at a minimum examine how well a model fits across ethnic groups. Thus, as an exploratory analysis, it was deemed appropriate to examine if the hypothesized effects might be confirmed for one racial group relative to another. Given the exploratory nature of this aim and the lack of power based on sample size differences between White and Black participants, no hypotheses were posited.

***Analytic strategy for exploratory aim 1.*** Utilizing similar logistic regression procedures for the primary analysis (see above), two separate analyses were conducted for both self-identified White ($n$ = 48) and Black ($n$ = 86) participants examining the primary predictor variables (i.e., participant beverage, female confederate beverage, and distal alcohol expectancies) on individual video clip selection. Each hierarchical model was computed separately for each distal alcohol expectancy variable of interest (i.e., sexual drive and vulnerability to sexual coercion) and for race (i.e., self-reported White and Black participants). Additionally, given the exploratory nature of these analyses, lower order interactions and main effects were examined as well. Similar to the primary analyses, all models were estimated while removing the variance associated with video order.

***Effects of vulnerability to sexual coercion, participant beverage and female confederate beverage on video clip selection among white participants.*** In Step 1, the model was not significant (Cox and Snell $R^2$ = .127, $p$ = .165). This regression model was examined to determine whether the odds ratios for Participant Beverage (Hypothesis 1) and Female Confederate Beverage (Hypothesis 2) were independently significant. Only the main effect for participant beverage was significant (odds ratio [OR] = .255, 95% CI = [.067, .971], $p$ = .045), indicating that intoxicated White participants were more likely to choose the sexually explicit, as opposed to the non-sexually explicit, video clip.

In Step 2, the model was not significant (Cox and Snell $R^2$ = .172, $p$ = .248). This regression model was examined to determine if the odds ratio for the Vulnerability to Sexual Coercion X Female

Confederate Beverage interaction (Hypothesis 3) was significant. In this step, the Vulnerability to Sexual Coercion X Female Confederate Beverage interaction was not significant (OR = 4.127, 95% CI = [.572, 29.763], $p$ = .160).

In Step 3, the model was not significant (Cox and Snell $R^2$ = .178, $p$ = .308). The regression model was examined to determine whether the odds ratio for the Participant Beverage X Female Confederate Beverage X Vulnerability to Sexual Coercion (Hypothesis 4) was significant. Results indicated that this interaction was not significant (OR = 3.494, 95% CI = [.049, 246.836], $p$ = .565).

***Effects of vulnerability to sexual coercion, participant beverage and female confederate beverage on video clip selection among black participants.*** In Step 1, the model was not significant (Cox and Snell $R^2$ = .045, $p$ = .412). This regression model was examined to determine whether the odds ratios for Participant Beverage (Hypothesis 1) and Female Confederate Beverage (Hypothesis 2) were independently significant. Results indicated that both the participant beverage (odds ratio [OR] = 2.028, 95% CI = [.804, 5.111], $p$ = .134) and the female confederate beverage (odds ratio [OR] = .884, 95% CI = [.359, 2.178], $p$ = .788) were not significantly related to sexual aggression.

In Step 2, the model was not significant (Cox and Snell $R^2$ = .073, $p$ = .476). This regression model was examined to determine if the odds ratio for the Vulnerability to Sexual Coercion X Female Confederate Beverage interaction (Hypothesis 3) was significant. In this step, the Vulnerability to Sexual Coercion X Female Confederate Beverage interaction was not significant (OR = .627, 95% CI = [.262, 1.501], $p$ = .294).

In Step 3, the model was not significant (Cox and Snell $R^2$ = .092, $p$ = .405). The regression model was examined to determine whether the odds ratio for the Participant Beverage X Female Confederate Beverage X Vulnerability to Sexual Coercion (Hypothesis 4) was significant. Results indicated that this interaction was not significant (OR = 3.257, 95% CI = [.543, 19.535], $p$ = .196).

***Effects of sexual drive, participant beverage, and female confederate beverage on video clip selection among white participants.*** In Step 1, the model was not significant (Cox and Snell $R^2$ = .128, $p$ = .160). This regression model was examined to determine whether the odds ratios for Participant Beverage

(Hypothesis 1) and Female Confederate Beverage (Hypothesis 2) were independently significant. Only the main effect for participant beverage was significant (odds ratio [OR] = .250, 95% CI = [.066, .955], $p$ = .043), indicating that intoxicated White participants were more likely to choose the sexually explicit video clip, as opposed to the non-sexually explicit video clip.

In Step 2, the model was not significant (Cox and Snell $R^2$ = .200, $p$ = .151). This regression model was examined to determine if the odds ratio for the Sexual Drive X Female Confederate Beverage interaction (Hypothesis 3) was significant. In this step, the Sexual Drive X Female Confederate Beverage interaction was not significant (OR = 5.331, 95% CI = [.460, 61.751], $p$ = .181).

In Step 3, the model was not significant (Cox and Snell $R^2$ = .202, $p$ = .210). The regression model was examined to determine whether the odds ratio for the Participant Beverage X Female Confederate Beverage X Sexual Drive (Hypothesis 4) was significant. Results indicated that this interaction was not significant (OR = 2.546, 95% CI = [.014, 474.868], $p$ = .726).

***Effects of sexual drive, participant beverage, and female confederate beverage on video clip selection among black participants.*** In Step 1, the model was not significant (Cox and Snell $R^2$ = .051, $p$ = .343). This regression model was examined to determine whether the odds ratios for Participant Beverage (Hypothesis 1) and Female Confederate Beverage (Hypothesis 2) were independently significant. Results indicated that both the participant beverage (odds ratio [OR] = 1.986, 95% CI = [.787, 5.014], $p$ = .146) and the female confederate beverage (odds ratio [OR] = .814, 95% CI = [.325, 2.039], $p$ = .660) were not significantly related to sexual aggression.

In Step 2, the model was not significant (Cox and Snell $R^2$ = .080, $p$ = .416). This regression model was examined to determine if the odds ratio for the Sexual Drive X Female Confederate Beverage interaction (Hypothesis 3) was significant. In this step, the Sexual Drive X Female Confederate Beverage interaction was not significant (OR = .726, 95% CI = [.284, 1.851], $p$ = .502).

In Step 3, the model was not significant (Cox and Snell $R^2$ = .080, $p$ = .513). The regression model was examined to determine whether the odds ratio for the Participant Beverage X Female Confed-

erate Beverage X Sexual Drive (Hypothesis 4) was significant. Results indicated that this interaction was not significant (OR = .754, 95% CI = [.116, 4.879], $p$ = .767).

**Exploratory aim 2.** The primary hypotheses aimed to predict the likelihood of individual video clip selection by participants (i.e., overt behavior) based on the predictor variables. Although these hypotheses were not supported, other outcome measures may indicate the influence of the primary variables on other aspects related to sexual aggression. In this exploratory aim, participants' perceptions of the female confederate following her viewing of the selected video clip were explored. Indeed, previous research has demonstrated that men who are more likely to behave in a sexually aggressive manner (e.g., overt behaviors) are also more likely to have certain cognitions regarding the female victim (e.g., perception that she enjoyed the sexual act; Abbey et al., 1996).

Following the video clip selection (sexually explicit versus non-sexually explicit), participants viewed the female confederate as she watched the selected video. After this viewing, participants answered three questions related to their perceptions of the female confederate's distress level in which they specifically rated her level of discomfort, of being upset with, and dislike of, the selected video (see additional methodology above). Thus, in the current aim, the independent and interactive effects of primary predictor variables (i.e., participant beverage condition, perceived female beverage condition, distal alcohol expectancies) on participants' perceptions of the female confederate after watching her view the selected video were examined.

***Exploratory aim 2, hypothesis 1a.*** The relation between expectancies that alcohol increases females' vulnerability to sexual coercion and men's perception that the female confederate was distressed in response to the selected video clip was expected to be significant and negative among men who consumed alcohol, were told that the female was drinking alcohol, and watched the female confederate view the sexually explicit video. Associations between vulnerability to sexual coercion and perceived distress were not expected in the other experimental groups.

***Exploratory aim 2, hypothesis 1b.*** The relation between expectancies that alcohol increases females' sexual drive and men's perception that the female confederate was distressed in response to the

selected video clip was expected to be significant and negative among men who consumed alcohol, were told that the female was drinking alcohol, and watched the female confederate view the sexually explicit video. Associations between sexual drive and perceived distress were not expected in the other experimental groups.

**Analytic strategy for exploratory aim 2.** In order to assess the interaction between participant beverage condition, female confederate beverage condition, and distal alcohol expectancies on the perception that the female confederate was distressed by the sexually explicit video clip, a fourth predictor variable – *group choice* of video clip (i.e., dyadic decision to display the sexually explicit or non-explicit video to the female confederate) – was included in the regression model. This variable was necessary to elucidate how participants rated the female confederate's level of distress on the three post-study questions based on the video they *watched* her view (of note and described in detail above, when participants watched the female confederate for the second viewing, she remained expressionless regardless of the actual video clip content). Thus, prior to analysis, *Group Choice* was dummy coded (sexually explicit video = 1, non-sexually explicit video = 0). Similar to the primary analyses, interaction terms were then calculated by obtaining cross-products of pertinent first-order variables (i.e., participant beverage, female confederate beverage condition, distal alcohol expectancies, group choice). Because the three post-video questions related to the female confederate's distress level were continuous on a 9-point Likert-type scale, linear regression was utilized. All variables were entered into the regression model in a step-wise manner. In Step 1, main effects were entered. In Steps 2, 3, and 4, all two-way, three-way, and four-way interaction terms were entered, respectively. Each hierarchical model was computed separately for each alcohol expectancy variable of interest (i.e., sexual drive and vulnerability to sexual coercion). Additionally, each model was examined for the three post-viewing distress questions (i.e., level of discomfort, level of being upset, and dislike of the video clip selection).

***Effects of vulnerability to sexual coercion, participant beverage, female confederate beverage, and group choice on perception of female confederate level of discomfort post-viewing***. In Step 4, the regression model was significant, $F(16, 139) = 2.901$, $p < .001$. In this step, the Participant Beverage X

Female Confederate Beverage X Vulnerability to Sexual Coercion X Group Choice interaction term was not significant. However, as depicted in Table 4 (below), the Vulnerability to Sexual Coercion conditional main effect, Group Choice conditional main effect, Vulnerability to Sexual Coercion X Group Choice interaction, Female Confederate Beverage X Vulnerability to Sexual Coercion X Group Choice interaction, and Participant Beverage X Vulnerability to Sexual Coercion X Group Choice interaction, were all significant.

Table 4

*Unstandardized and Standardized Regression Coefficients for Levels of Discomfort Regressed on Participant Beverage, Female Confederate Beverage, Vulnerability to Sexual Coercion, and Group Choice*

| Variable | *b* | *β* | *p* |
|---|---|---|---|
| Vulnerability to Sexual Coercion | 2.932* | 1.137* | .048 |
| Participant Beverage | -.566 | -.110 | .768 |
| Female Confederate Beverage | 3.537 | .686 | .071 |
| Group Choice | 1.964* | .379* | .026 |
| Female Confederate Beverage X Group Choice | -2.185 | -.715 | .060 |
| Participant Beverage X Female Confederate Beverage | -4.282 | -.688 | .110 |
| Participant Beverage X Vulnerability to Sexual Coercion | -3.513 | -1.014 | .072 |
| Female Confederate Beverage X Vulnerability to Sexual Coercion | -3.256 | -.909 | .118 |
| Vulnerability to Sexual Coercion X Group Choice | -2.268* | -1.442* | .018 |
| Participant Beverage X Group Choice | .365 | .122 | .748 |
| Female Confederate Beverage X Vulnerability to Sexual Coercion X Group Choice | 2.686* | 1.211* | .034 |
| Participant Beverage X Female Confederate Beverage X Group Choice | 2.857 | .748 | .075 |
| Participant Beverage X Female Confederate Beverage X Vulnerability to Sexual Coercion | 2.480 | .470 | .361 |
| Participant Beverage X Vulnerability to Sexual Coercion X Group Choice | 2.710* | 1.272* | .025 |

| | | | |
|---|---|---|---|
| Participant Beverage X Female Confederate Beverage X Vulnerability to Sexual Coercion X Group Choice | -1.792 | -.502 | .284 |

* $p < .05$.

To explicate each significant three-way interaction involving vulnerability to sexual coercion, four new regression models were computed for each combination of dummy coded categorical variables. In each model, the regression coefficient for vulnerability to sexual coercion was examined. A plot of the Participant Beverage X Vulnerability to Sexual Coercion X Group Choice interaction revealed that the relation between vulnerability to sexual coercion and perceived level of discomfort was significant and negative among those who watched the female confederate view the sexually explicit video and were intoxicated ($\beta = -.622$, $p < .05$), but not sober ($\beta = .118$, $p = .467$). No such effect was observed among men who watched the female confederate view the non-sexually explicit video clip (see Figure 1 below).

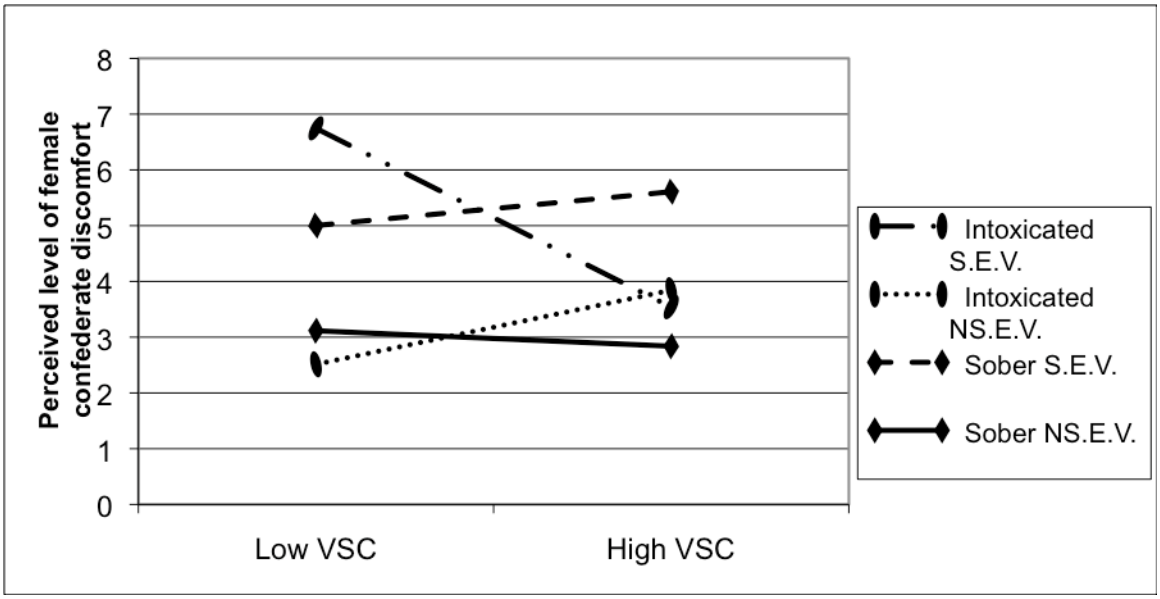



*Figure 1.* Plot of regression lines depicting the relation between vulnerability to sexual coercion and perceived level of female confederate discomfort for intoxicated and sober participants who showed the sexually explicit and non-sexually explicit video clips. *Note.* Discomfort = Participants' response to the question "How uncomfortable do you think she was viewing the selected video?"; S.E.V. = sexually explicit video; NS.E.V. = non-sexually explicit video; VSC = Vulnerability to Sexual Coercion.

Additionally, a plot of the Female Confederate Beverage X Vulnerability to Sexual Coercion X Group Choice interaction revealed that the relation between vulnerability to sexual coercion and perceived level of discomfort was significant and positive among those who watched the female confederate view the sexually explicit video and were told the female confederate was sober ($\beta$ = .315, $p$ < .05), but not intoxicated ($\beta$ = -.069, $p$ = .627). No such effect was observed among men who watched the female confederate view the non-sexually explicit video clip (see Figure 2 below).

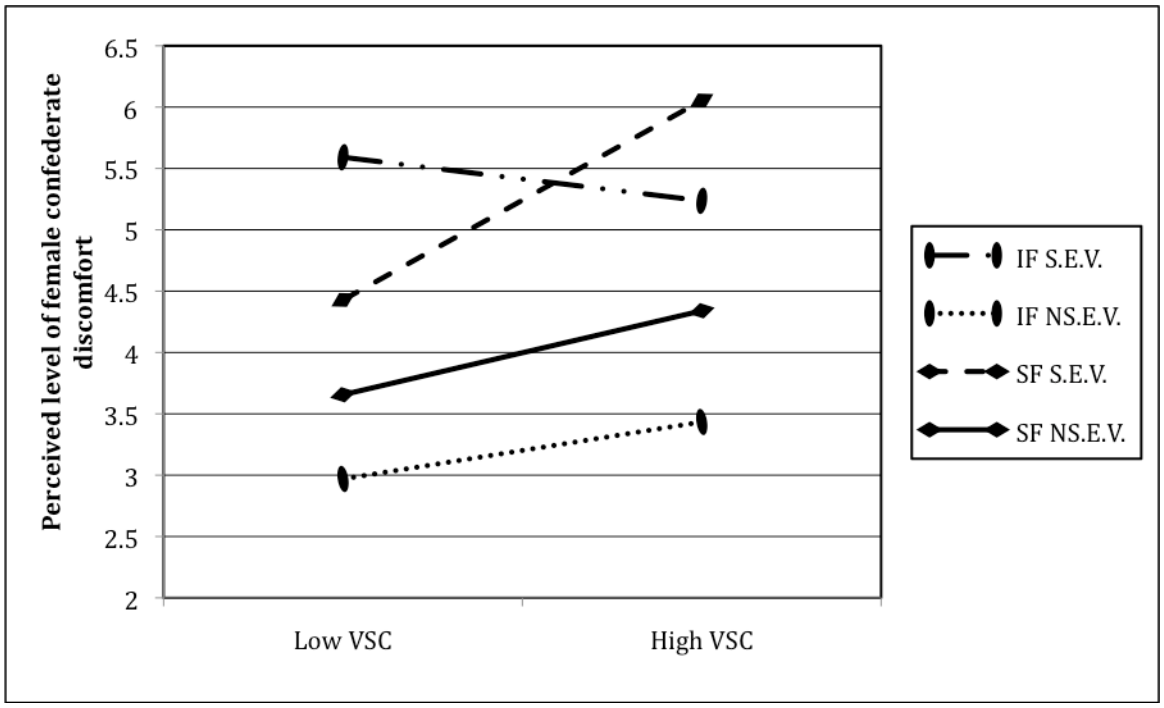



*Figure 2.* Plot of regression lines depicting the relation between vulnerability to sexual coercion and perceived level of female confederate discomfort for participants who were told the female confederate was intoxicated and those who thought she was sober who showed the sexually explicit and non-sexually explicit video. *Note.* Discomfort = Participants' response to the question "How uncomfortable do you think she was viewing the selected video?"; IF = intoxicated female; SF = sober female; S.E.V. = sexually explicit video; NS.E.V. = non-sexually explicit video; VSC = Vulnerability to Sexual Coercion

***Effects of vulnerability to sexual coercion, participant beverage, female confederate beverage, and group choice on perception of female confederate level of being upset post-viewing.*** In Step 4, the regression model was significant, $F(16, 139) = 2.836$, $p < .001$. In this step, none of the higher-order interactions were significant.

***Effects of vulnerability to sexual coercion, participant beverage, female confederate beverage, and group choice on perception of female confederate dislike of the selected video post-viewing.*** In Step 4, the regression model was significant, $F(16, 139) = 2.037$, $p < .05$. In this step, none of the higher-order interactions were significant.

***Effects of sexual drive, participant beverage, female confederate beverage, and group choice on perception of female confederate level of discomfort post-viewing.*** In Step 4, the regression model was significant, $F(16, 139) = 2.403$, $p < .05$. The Female Beverage Condition X Group Choice ($b = -2.263$, $p < .05$) interaction was significant. None of the higher order three and four-way interactions were significant. Given that the effects involving the sexual drive expectancy were not significant and because these analyses were exploratory in nature, the significant lower order effect (i.e., Female Beverage Condition X Group Choice) was not explicated.

***Effects of sexual drive, participant beverage, female confederate beverage, and group choice on perception of female confederate level of being upset post-viewing.*** In Step 4, the regression model was significant, $F(16, 139) = 2.091$, $p = .01$. In this step, none of the higher order interactions were significant.

***Effects sexual drive, participant beverage, perceived female beverage condition, and group choice on perception of female confederate dislike of the selected video post-viewing.*** In Step 4, the regression model was significant, $F(16, 139) = 1.918$, $p < .05$. In this step, none of the higher order interactions were significant.

**Exploratory aim 3.** Finally, it was important to explore possible methodological reasons that may have led to non-significant findings. As previously discussed, the order in which participants watched the video clips was significantly related to the actual individual video clip selection, which indi-

cated a potential methodological influence on participants' video clip selection. Thus, it was deemed appropriate to examine if other potential methodological procedures may have influenced the non-significant primary analyses.

For instance, different video clips were shown to participants based on their self-identified race. Specifically, participants who indicated they were White viewed sexually explicit and non-sexually explicit video clips with White actors (i.e., *Nine and Half Weeks, Quantum of Solace*), whereas participants who indicated they were Non-white viewed sexually explicit and non-explicit video clips with Black actors (*Jason's Lyric, Bad Boys II*). Additionally, there were 21 mixed race dyads (e.g., one participant was Black, the other was White) that all viewed video clips with White actors. In addition, observation by the experimenter noted anecdotal information to suggest that different responses to the various videos watched may have existed. Indeed, several participants who watched the Black actor videos (i.e., *Bad Boys II* and *Jason's Lyric*) were observed making specific reference to the movie title and actor's names, whereas participants who watched the White actor videos (*9 and Half Weeks* and *Quantum of Solace*) were not observed referencing the movie title or actor's names. Finally, explicit video content differences existed between the White and Black actor sexually explicit and non-sexually explicit videos. For instance, *Jason's Lyric* contained slow-paced caressing and kissing in a field, whereas *9 and a Half Weeks* contained fast-paced aggressive kissing in a stairwell. Similarly, *Bad Boys II* contained aggressive yelling between actors during the car chase, whereas *Quantum of Solace* contained no verbalizations or talking. Collectively, these differences in video clips may have resulted in relevant within- or between-subjects differences in self-reported arousal.

Therefore, it was deemed important to examine if within-subject differences existed in self-reported arousal ratings in response to the sexually explicit versus the non-sexually explicit video clips regardless of which videos (i.e., White or Black actors) they viewed (i.e., a main effect) as well as potential between-subject differences (i.e., watching the White or Black actor videos) in participants' self-reported arousal in response to the video clips watched. If significant within- or between- subject differences existed in self-reported arousal, than the different video clips watched may have subsequently in-

fluenced the individual video choice. For instance, perhaps higher levels of arousal in response to the Black actor non-sexually explicit video as opposed to the Black actor sexually explicit video, increased (or decreased) the probability that those participants would select a particular video to show the female confederate. If this influence was significant, it may aid in understanding why non-significant findings on the primary analyses occurred.

***Exploratory Aim 3, Hypothesis 1.*** After controlling for video order, a significant interaction was expected such that participants would report significantly higher levels of arousal in response to the non-sexually explicit video clip relative to the sexually explicit video clip. This difference was expected to be greater for those who watched the videos with Black, relative to White, actors.

***Exploratory Aim 3, Hypothesis 2.*** After controlling for video order, the predicted differences in arousal ratings between the sexually explicit video clips and non-sexually explicit video clips involving Black actors would be significantly related to participants' individual video choice. The arousal rating difference was not expected to be significantly related to the individual video choice for those who watched the White actor videos.

**Analytic strategy for exploratory aim 3.** Analysis of Exploratory Aim 3 involved the creation of two new predictor variables. The first was *video watched* (i.e., videos with Black actors only or videos with White actors only). In order to examine the differences in participants' self-reported arousal levels in response to both the sexually explicit and non-sexually explicit videos based on the video clips they watched (i.e., Black actors or White actors), a 2 (Video Type) X 2 (Video Watched) X 2 (Video Order) mixed model ANOVA with Video Type as the repeated measure was conducted.

Second, in order to examine the effects of video watched and within-subject differences in arousal ratings on individual video choice, a new variable – *arousal difference* – was created in which participant arousal ratings in response to the non-sexually explicit video clip were subtracted from the arousal ratings in response to the sexually explicit video clip. Thus, higher scores reflected greater arousal to the sexually explicit, relative to the non-sexually explicit, video clip. Because individual video choice was the criterion variable, logistic regression was utilized. All variables were entered into the regression

gression model in a step-wise manner. In Step 1, video order, arousal difference, and video watched were entered. In Step 2, all higher-order interactions were entered.

***Effects of video watched, video type, and video order on self-reported arousal***. A 2 (Video Watched) x 2 (Video Order) x 2 (Video Type) repeated-measures ANOVA revealed a significant main effect for Video Type, $F(1,154) = 54.69$, $p < .01$, in which participants reported higher arousal ratings in response to the non-sexually explicit video clip ($M = 34.56$) as opposed to the sexually explicit video clip ($M = 24.52$). A significant Video Watched X Video Type interaction, $F(1, 153) = 5.78$, $p = .017$, was also detected. Further examination of this interaction revealed that participants who watched the Black actor videos reported greater levels of arousal in response to the non-sexually explicit video clip ($M = 37.33$) relative to the sexually explicit clip ($M = 24.03$), $F(1, 89) = 54.35$, $p < .01$. Additionally, participants who watched the White actor videos reported greater levels of arousal in response to the non-sexually explicit video clip ($M = 31.79$), relative to the sexually explicit clip ($M = 25.02$), $F(1, 63) = 11.69$, $p = .001$.

***Effects of video order, video watched, and arousal differences on video clip selection.*** In Step 2, the model was significant (Cox and Snell $R^2 = .084$, $p = .05$). Results indicated that the Video Order X Video Watched X Arousal Difference interaction was non-significant (OR = .962, 95% CI = [.88, 1.05], $p = .394$). Of note, the Video Watched X Arousal Difference interaction was non-significant (OR = 1.011, 95% CI = [.95, 1.07], $p = .70$. None of the other two-way interactions or conditional main effects were significant.

## 4. DISCUSSION

The primary aim of the current study was to integrate and test Expectancy Theory (Abbey et al., 2003) and Alcohol Myopia Theory (Steele & Josephs, 1990) within the framework put forth by Abbey and colleagues (2001) to predict alcohol-related sexual aggression. Given the serious health concerns related to sexual aggression, there have been numerous studies utilizing a variety of methods to understand what factors play a role in predicting alcohol-related sexual aggression. However, extant research

has yet to examine the interactive effects of acute alcohol intoxication and alcohol expectancies (both distal and proximal) in predicting a behavioral analogue of sexual aggression. Accordingly, utilizing a modified version of the original Hall & Hirschman (1994) paradigm, the goals of the current investigation were to: (1) test the direct behavioral effects of acute alcohol consumption on sexual aggression, (2) to examine the direct behavioral effects of perceived drinking status (i.e., intoxicated or sober) of a female confederate on sexual aggression, (3) examine the interactive effects of men's distal alcohol expectancies (i.e., women's vulnerability to sexual coercion and sexual drive while intoxicated) and perceived drinking status of a female confederate on sexual aggression, and (4) to examine the interactive effects of acute alcohol intoxication, perceived female confederate drinking status, and distal alcohol expectancies on sexual aggression.

The primary hypotheses were developed to test empirically the causal mechanisms (both expectancy and acute intoxication) of alcohol-related sexual aggression utilizing a validated analogue of sexual aggression. Related to these goals, it was hypothesized that (1) men who were intoxicated, as opposed to sober, would be more likely to engage in sexual aggression, (2) men who perceived a female confederate as intoxicated, as opposed to sober, would be more likely to engage in sexual aggression, (3) men who perceived a female confederate as being intoxicated, as opposed to sober, and held higher levels of distal alcohol expectancies related to women's vulnerability to sexual coercion and sexual drive while intoxicated would be more likely to engage in sexual aggression, and (4) that men who were intoxicated, who perceived the female confederate was intoxicated, and held higher levels of distal alcohol expectancies would be more likely to engage in sexual aggression.

### 4.1 Effect of Acute Alcohol Intoxication, Perceived Female Confederate Intoxication, and Distal Alcohol Expectancies on Sexual Aggression

Results demonstrated that a one-year history of sexual violence significantly predicted an unwanted video clip selection (i.e., choosing a sexually-explicit video clip for the female confederate to watch). However, contrary to the primary hypotheses, the independent and interactive effects of the pri-

mary predictor variables were not significant. Given substantial support in previous literature for the role of acute alcohol consumption (Testa, 2002), the belief that a female has consumed alcohol (Abbey et al., 2001), and the role of distal alcohol expectancies (Abbey et al., 2003) in predicting outcomes related to sexual aggression, it was surprising that none of the primary hypotheses were supported in the current study.

While perplexing, some plausible explanations for these null findings merit discussion. One explanation is based on Alcohol Myopia Theory, which posits that alcohol intoxication narrows attentional focus onto salient cues in the environment and thus restricts one's ability to perceive less salient cues. In most sexual situations, salient cues (e.g., sexual arousal) instigate sexual behavior, whereas less salient cues (e.g., expressed non-consent) inhibit sexual behavior. The net result is that intoxicated men tend to attend to salient, instigatory cues, which increase the likelihood of sexual behavior. Sexual arousal is, indeed, a strong instigatory cue for sexual activity and specifically in predicting sexual aggressive behavior (George & Stoner, 2000). However, in the current study, participants never interacted physically or verbally with the female confederate. Thus, the likelihood that sexual arousal was elicited, and attracted alcohol-induced myopia, was relatively low.

Indeed, some support of this potential explanation is found in research on sexual risk-taking behaviors (e.g., unprotected sex). Specifically, MacDonald et al. (2000) found that when sober participants were presented with both salient instigatory (e.g., sexual arousal) and inhibitory cues (e.g., HIV risk cues) related to risky sex behaviors, their sexual intentions did not differ. As expected, among intoxicated participants, when presented with more salient instigatory cues they were more likely to endorse sexually risky intentions. However, and of importance, when intoxicated participants were presented with more salient inhibitory cues, they were significantly less likely to endorse sexually risky intentions than relative to sober participants. Thus, if given a relative "lack" of salient instigatory cues (e.g., sexual arousal), attention may be focused on inhibitory cues (e.g., verbalized non-consent) and as a result the likelihood of alcohol increasing sexual aggression would be low.

Relatedly, a second explanation for these null results involves examination of salient social norms that may have been activated among participants in the current paradigm. Specifically, it is possible that being in the presence of one's friend influenced participants' individual video choice in this particular paradigm. Indeed, this was the first known study that involved two participants (as part of a dyad) in the room together during the task to make the decision (or not) to subject a female confederate to an unwanted sexual experience. Extant literature clearly shows that the presence of others in any situation can have profound effects on behavior through social norms, conformity, and compliance (Cialdini & Trost, 1998). For instance, a person's likelihood of sexual aggression may be related to the extent that they perceive others in their immediate environment to be supportive of sexual aggression (Fabiano, Perkins, Berkowitz, Linkenbach, & Stark, 2003; Berkowitz, 2010). Specific to this study, alcohol (as predicted by AMT) may have focused attention to salient group norms (which could have either promoted or discouraged sexual aggression). However, these same norms may have been highly salient to sober men as well; thus, group norms could have affected the likelihood of choosing the sexually explicit versus non-sexually explicit video clip regardless of one's intoxication status. Notably, results indicated that dyad members' individual video choices were statistically independent. However, the mere presence of one's friend may have elicited awareness of peer norms or other cognitions that exerted a strong influence of video choice, thereby not leaving "room" for the pharmacological effect of alcohol and/or alcohol expectancies to exert an effect on video choice. Unfortunately, dyadic norms, peer norms, or broader societal norms were not assessed in the current study. Thus, future research would need to account for these variables in order to test this *post hoc* hypothesis.

Other potential explanations for the null findings, however, were tested *post hoc*. Thus, numerous exploratory analyses were examined along with questions related to potential methodological problems that merit discussion.

### 4.2 Effect of Race on Primary Predictors of Sexual Aggression

Given the racial heterogeneity of the current sample and as suggested by Hall and colleagues (2005), racial differences were explored on the primary variables of interest. Separate analysis of the primary hypotheses for White, but not Black participants, did yield support for Hypothesis 1. Specifically, alcohol intoxication increased the likelihood that White participants chose the sexually explicit video. However, none of the other hypotheses were significant for either White or Black participants. Importantly, although this finding indicates that there may be a greater influence of alcohol intoxication on video clip selection for White, as opposed to Black, participants, the small sample ($n$ = 49), relative lack of power makes it difficult and inappropriate to speculate what may have occurred. Nonetheless, this finding does indicate the importance of continued inquiry into effects that both generalize across and vary within, different racial groups.

### 4.3 Effect of Acute Alcohol Intoxication, Perceived Female Confederate Intoxication, and Distal Alcohol Expectancies on Perceived Distress Level of the Female Confederate

Although the primary predictor variables did not predict an unwanted sexual experience, it was important to examine related factors, such as participants' perceptions of the female confederate. Indeed, previous research has indicated that individuals who perpetrate sexual aggression also report cognitions related to the female victim's enjoyment of the act (Abbey et al., 1996). Participants in the current study had the opportunity to rate the female confederate's distress level (i.e., her discomfort, being upset, and her dislike) in response to the video clip they watched her view. Two particular findings are notable here and may elucidate the interaction between participants' distal alcohol expectancies and acute alcohol intoxication on perceptions of the female confederate.

First, acutely intoxicated men who held pre-existing beliefs that intoxicated women were more vulnerable to sexual coercion were significantly more likely to perceive the female confederate as being "comfortable" while she viewed the sexually explicit video. No such effect was detected among men who watched the female confederate view the non-sexually explicit video or among men who were sober

(regardless of the video the female confederate viewed). This finding supports both AMT and Expectancy theory. As previously stated, according to AMT, the pharmacological properties of alcohol facilitate attention toward the more salient cues (and away from the less salient cues) in one's environment. Notably, the female confederate was expressionless while watching the video; thus, she did not display explicit cues of discomfort (or comfort). Therefore, inasmuch as the female's expressed dislike of the sexual content in the media was not particularly salient to participants as they watched her viewing the video, intoxicated participants may have been less likely to attend to and/or perceive the female confederate as distressed and thus rated her as being more comfortable with the selected clip. In fact, intoxicated men who watched the female view the sexually explicit video clip and who held high levels of belief that intoxicated women are vulnerable to sexual coercion essentially perceived the female confederate being just as comfortable as the men who watched her view the non-sexually explicit video clip. Indeed, several studies have demonstrated this synergistic relationship between both expectancies and pharmacological effects such that the myopic effect of alcohol may impair an individual's ability to attend to inhibitory cues in light of the instigatory cues, especially while holding preconceived expectancies about the potential victim (George et al., 2000; Seto & Barbaree, 1995).

Second, a significant interaction between participants' pre-existing expectancy of intoxicated women's vulnerability to sexual coercion, the female confederate's perceived intoxication status, and actual video clip selection was found on perceptions of the female confederate's comfort post-video clip viewing. As expected, men who watched the female view the non-sexually explicit video clip (consistent with her preferences) rated her as more comfortable than those who watched the female view the sexually explicit video clip. Additionally, men who endorsed lower levels of the vulnerability to sexual coercion expectancy of women perceived the intoxicated, relative to the sober, female confederate as being more "uncomfortable" after watching the sexually explicit video clip. These men may have recognized that after subjecting the intoxicated female to an unwanted sexual experience that she was more likely to be uncomfortable or in a state of peril.

However, men who endorsed higher levels of the vulnerability to sexual coercion expectancy perceived the sober, relative to the intoxicated, female confederate as being "uncomfortable" when viewing the sexually explicit video. This finding may aid in understanding the role that men's alcohol expectancies have in their resulting perceptions of women based on a woman's perceived acute intoxication state. That is, men hold distal beliefs (e.g., alcohol expectancies) of women, but the more proximal factors (e.g., women's actual intoxication status) may override these distal beliefs (especially when a woman is sober) to inform their perception of her level of discomfort when exposed to an unwanted sexual experience. Thus, it is possible that men who hold strong beliefs about women's vulnerability to sexual coercion while intoxicated may attend to the more salient cue that the female is acutely sober, and thus are more likely to rate her accordingly when forcing such an unwanted sexual experience on her. However, this explanation may just be conjecture, and would merit further investigation in understanding these relationships between alcohol expectancies and perceptions of sober females.

Of note, analyses did not yield support for predictions regarding the other two distress questions (i.e., dislike of, upset by). Given the exploratory nature of this finding, it's unclear what may have accounted for this discrepancy. Indeed, wording effects or question order could have influenced these results, and further research may be necessary to delineate this distinction in perceptions of victims of sexually aggressive behavior. Additionally, the sexual drive alcohol expectancy was not significantly related to men's perception of the female confederate's discomfort, upsetedness, or dislike of the video she watched. Coupled with the observed effects for vulnerability to sexual coercion, these findings support the distinctions between men's expectancies about alcohol's effect on women. The Vulnerability to Sexual Coercion expectancy more specifically assesses aspects related to views of women as being more sexual available and promiscuous while intoxicated (e.g., "Women are easy targets for sexual advances"), whereas the Sexual Drive expectancy focuses more specifically on sexual behavior and performance (e.g., "Women have a strong sex drive"). Further research confirming these distinctions related to overt behaviors may strengthen this particular difference related to perceptions of a female victim.

### 4.4 Effect of Arousal Differences in Individual Video Choice

Despite a potential lack of salient instigatory cues, along with the possible influence of group norms, it was still important to assess methodological explanations that may help elucidate the non-significant findings in the current study. Indeed, at least one salient methodological difference existed amongst participants in which self-identified Black and White participants viewed different video clip sets that were pertinent to making the female confederate viewing selection. As such, it was important to assess if differences in responses to a particular set of videos watched existed, and if these differences may have subsequently influenced the individual video choice.

Post hoc analyses found that participants rated the non-sexually explicit video clip as significantly more arousing than the sexually explicit video clip. Examination of this difference was found to be significant for both those who watched either the Black or White actor videos. However, this difference in arousal was not significantly related to the individual video choice. So, while a differential impact of video clips on self- reported arousal was observed, there was no evidence to suggest it had a methodological influence on the outcome of interest. That said, when utilizing this paradigm in the future, it may be of interest to utilize video clips that elicit similar levels of arousal across all clips.

### 4.5 Limitations

There are several limitations in the present study that merit discussion. First, the current sample for this study reported an average income of $22,163 and an average alcohol consumption of 7.3 drinks per drinking occasion. This sample's self-reported income was well below the average United States income ($41,560). Related and of importance, it has been well-established that poverty and low socioeconomic status contributes to the development and manifestation of both internalizing and externalizing disorders (including aggression) for individuals (Wadsworth & Achenbach, 2005). Additionally, NIAAA suggests that men who consume more than four drinks per drinking day (or a total of 14 per week) may be more prone to develop an alcohol use disorder, which could lead to a greater likelihood to engage in a variety of deviant behaviors, including aggression. Given this sample's self-reported income and pattern

of alcohol consumption, it may be important to further elucidate to what extent how these demographic factors may have influenced sexual aggression in the current paradigm.

Additionally, and highlighted above, it was difficult to quantitatively assess whether participants experienced heightened sexual arousal during the experimental task. Indeed, sexual arousal has been shown to be an important factor in sexually aggressive behaviors (Abbey et al., 2003). With this lack of a salient instigatory cue pertinent to sexual aggression, attention may have been focused to more salient cues in general and thus, resulted in the non-significant findings. In future studies utilizing similar paradigms, it may be important to both provide and assess salient sexual arousal cues to better allow potential alcohol myopic effects to occur among intoxicated participants.

As mentioned above, the influence of social norms may have had a significant impact on the presence (or absence) of sexually aggressive behaviors. Assessment of these norms may have provided evidence as to what role group norms had in this study, and sexual aggressive behaviors, in general. Additionally, motivations underlying the individual video clip selection by participants were not assessed. This too may have provided important insight into the role that other factors not related to acute intoxication or expectancies may have had on participant video clip selection. Finally, utilizing alternative techniques (e.g., facial coding, dyadic dialogue coding) may have captured underlying motives or cognitions that were relevant to the relation between alcohol expectancies and the video clip selection. Given that this is the first study of its nature to include two participants as part of a dyad in making a potentially sexually aggressive decision, it will be important in moving forward to understand what other factors may be influencing these behaviors among small groups (e.g., a dyad).

### 4.6 Clinical Implications

While it may be difficult to draw clinical utility for understanding and/or intervening on sexually aggressive behaviors based on acute alcohol consumption or distal alcohol expectancies (from the present study), there are several findings that may provide insight to treatment in clinical settings with potential perpetrators of sexual aggression. Indeed, participant perceptions and cognitions related to a potential

female victim's perceived levels of comfort were related to both participant intoxication status and perception of intoxicated women's vulnerability to sexual coercion. Psychoeducation related to various beliefs concerning alcohol-related sexual situations (e.g., rape myth acceptance, women's intoxicated vulnerability to sexual coercion) may be important for raising awareness among potential perpetrators. Moreover, this type of "education" has been shown to be an important factor for increasing bystander behaviors in sexual violence prevention (Banyard, Maynihan, & Plante, 2007).

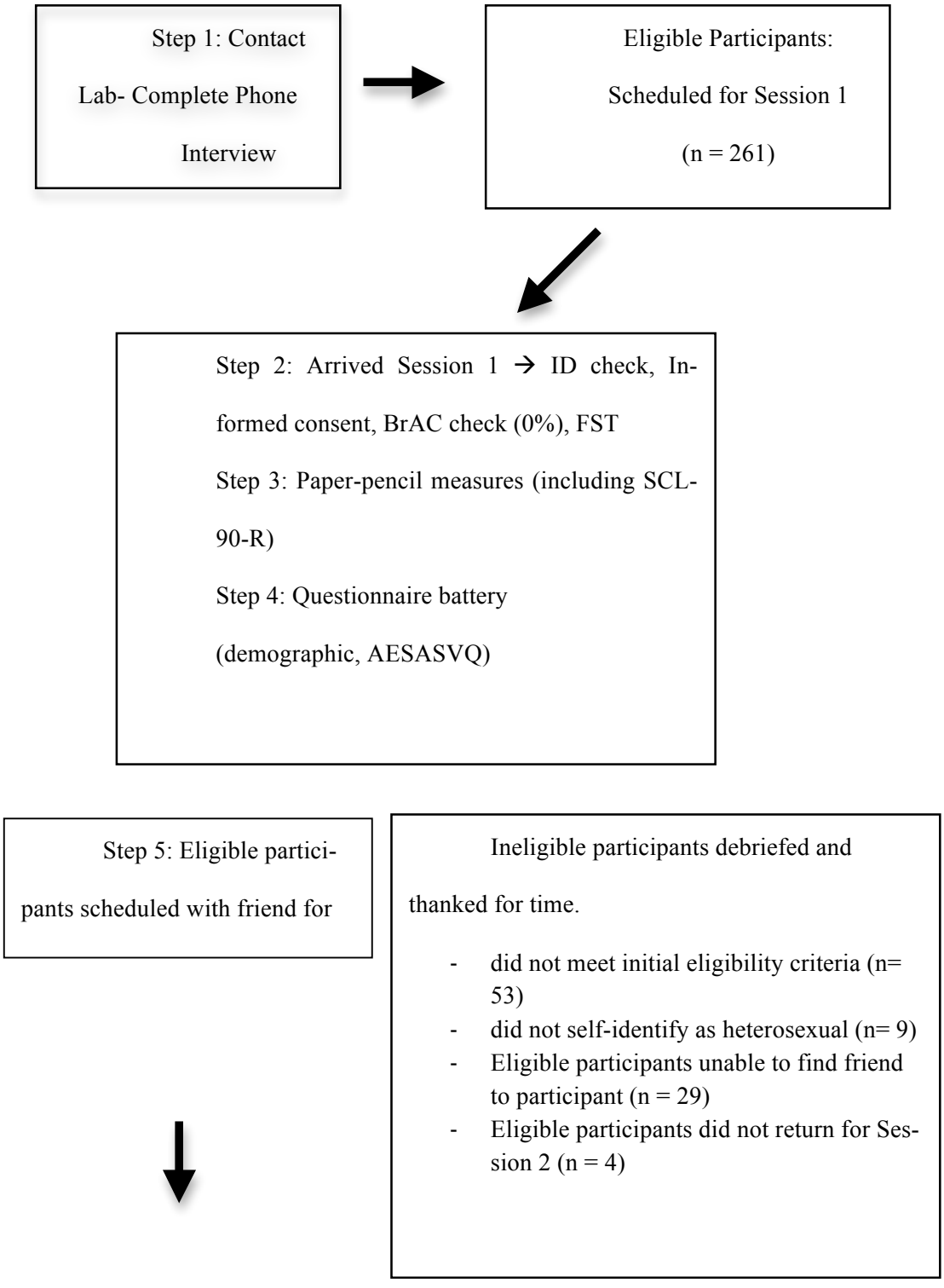
Additionally, among intoxicated individuals, intervention programs have been developed for increasing salience of risk-related inhibitory cues in risky sexual behaviors (Dal Cin et al., 2006). These programs have been shown to be effective across college students both intoxicated and sober. Indeed, raising awareness through reminder cues (e.g., bracelets intended to remind potential intoxicated perpetrators of their behaviors) may be an effective intervention strategy for potentially preventing sexually aggressive behaviors.

### 4.7 Concluding Summary

Do the effects of acute alcohol consumption and distal alcohol expectancies facilitate men's perception that 'no' means 'yes'? Given the non-significant relations from theoretically-driven, robust variables (e.g., acute alcohol consumption) to laboratory sexual aggression, it is unclear. And, it is difficult to speculate whether there are other factors that influence men's decisions within a peer context to subject a female to an unwanted sexual experience. Given that this is the first study to examine sexual aggression in a dyadic laboratory setting, it will be important to examine potential methodological issues that may have precluded the primary predictor variables from having an influence on participants' video clip selection. Additionally, it is unclear to what extent group norms may influence the present results, and thus further inquiry with this paradigm is necessary. However, that said, it appears that one's intoxication state and preconceived expectancies that intoxicated women are more vulnerable to sexual coercion do appear to influence the perception of a woman's comfort level following an unwanted sexual experience.

It will be important for future studies to examine what other factors play a role in men's perceptions that when a woman says 'no' she really means 'yes.'

Laboratory Stepwise Procedures for Participants:



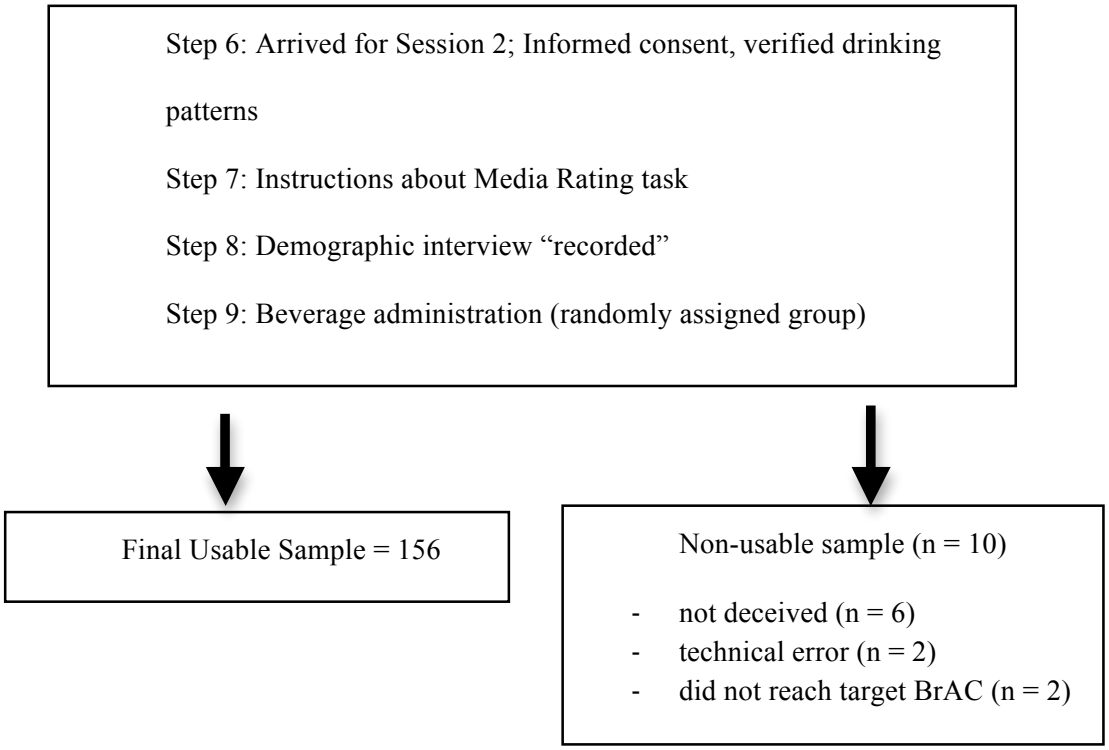



*Figure 3.* Participant flow chart through entire study.

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# APPENDICES

## Appendix A

Demographics Form

Age: _____

Years of Education including kindergarten: _____

Marital Status (please check one)

__ Single (never married)

__ Married

__ Not married but living with intimate partner

__ Divorced

__ Widowed

__ Separated

How do you describe your ethnicity?

___ Hispanic or Latino

___ Non-Hispanic or Non-Latino

How do you describe your race?

___ American Indian or Alaska Native

___ Asian

___ Native Hawaiian or Other Pacific Islander

___ Black or African American

___ White

___ More Than One Race

Please indicate your sexual orientation: Heterosexual Homosexual Bisexual

YOUR average yearly income if you support yourself or your parents' average yearly income if they support you (please check one).

___ $0-$5,000

___ $5,000-$10,000

___ $10,000-$20,000

___ $20,000-$30,000

___ $30,000-$40,000

____ $40,000-$50,000

____ $50,000-$60,000

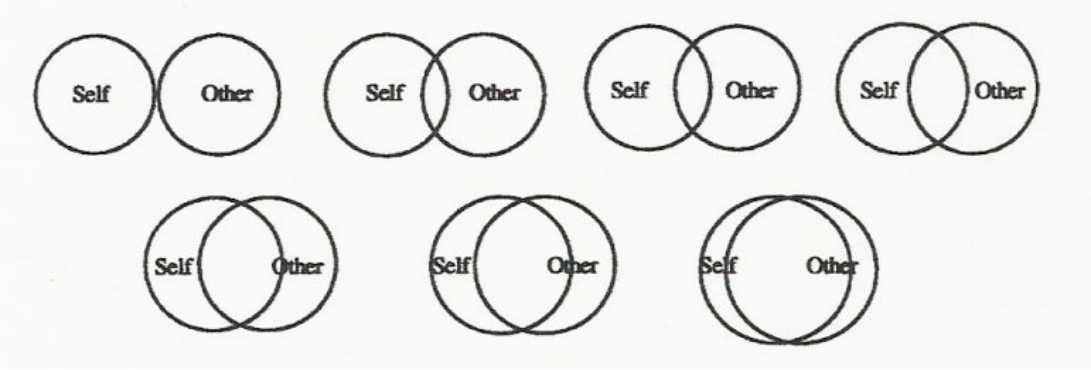
____ $60,000-$70,000

____ $70,000+

**Appendix B**

Inclusion of Other in the Self (IOS) Scale

INSTRUCTIONS: Please circle the picture below that best describes your relationship with your teammate.



**Appendix C**

Symptoms Checklist 90- Revised

**Instructions:** This questionnaire consists of a list of problems people sometimes have. Read each one carefully and circle the number of the response that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS INCLUDING TODAY. Circle only one number for each problem. Do not skip any items. If you change your mind, draw an "X" through your original answer and then circle your new answer. Read the example before you begin. If you have any questions, please ask the experimenter.

| **0 = Not at all 1 = A little bit 2 = Moderately 3 = Quite a bit 4 = Extremely** | | |
|---|---|---|
| Example Item | Bodyaches | 0 1 2 3 4 |

**In the past 7 days (including today), how much were you distressed by:**

| | | |
|---|---|---|
| 1. | Headaches | 0 1 2 3 4 |
| 2. | Nervousness or shakiness inside | 0 1 2 3 4 |
| 3. | Repeated unpleasant thoughts that won't leave your mind | 0 1 2 3 4 |
| 4. | Faintness or dizziness | 0 1 2 3 4 |
| 5. | Loss of sexual interest or pleasure | 0 1 2 3 4 |
| 6. | Feeling critical of others | 0 1 2 3 4 |
| 7. | The idea that someone else can control your thoughts | 0 1 2 3 4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8. | Feeling others are to blame for most of your troubles | 0 | 1 | 2 | 3 | 4 |
| 9. | Trouble remembering things | 0 | 1 | 2 | 3 | 4 |
| 10. | Worried about sloppiness or carelessness | 0 | 1 | 2 | 3 | 4 |
| 11. | Feeling easily annoyed or irritated | 0 | 1 | 2 | 3 | 4 |
| 12. | Pains in heart or chest | 0 | 1 | 2 | 3 | 4 |
| 13. | Feeling afraid in open spaces or on the streets | 0 | 1 | 2 | 3 | 4 |
| 14. | Feeling low in energy or slowed down | 0 | 1 | 2 | 3 | 4 |
| 15. | Hearing voices that other people do not hear | 0 | 1 | 2 | 3 | 4 |
| 16. | Trembling | 0 | 1 | 2 | 3 | 4 |
| 17. | Feeling that most people cannot be trusted | 0 | 1 | 2 | 3 | 4 |
| 18. | Poor appetite | 0 | 1 | 2 | 3 | 4 |
| 19. | Crying easily | 0 | 1 | 2 | 3 | 4 |
| 20. | Feeling shy or uneasy with the opposite sex | 0 | 1 | 2 | 3 | 4 |
| 21. | Feelings of being trapped or caught | 0 | 1 | 2 | 3 | 4 |
| 22. | Suddenly scared for no reason | 0 | 1 | 2 | 3 | 4 |
| 23. | Temper outbursts that you could not control | 0 | 1 | 2 | 3 | 4 |
| 24. | Feeling afraid to go out of your house alone | 0 | 1 | 2 | 3 | 4 |
| 25. | Blaming yourself for things | 0 | 1 | 2 | 3 | 4 |
| 26. | Pains in lower back | 0 | 1 | 2 | 3 | 4 |
| 27. | Feeling blocked in getting things done | 0 | 1 | 2 | 3 | 4 |
| 28. | Feeling lonely | 0 | 1 | 2 | 3 | 4 |
| 29. | Feeling blue | 0 | 1 | 2 | 3 | 4 |
| 30. | Worrying too much about things | 0 | 1 | 2 | 3 | 4 |
| 31. | Feeling no interest in things | 0 | 1 | 2 | 3 | 4 |
| 32. | Feeling fearful | 0 | 1 | 2 | 3 | 4 |
| 33. | Your feelings being easily hurt | 0 | 1 | 2 | 3 | 4 |
| 34. | Other people being aware of your private thoughts | 0 | 1 | 2 | 3 | 4 |
| 35. | Feeling others do not understand you or are unsympathetic | 0 | 1 | 2 | 3 | 4 |
| 36. | Feeling that people are unfriendly or dislike you | 0 | 1 | 2 | 3 | 4 |
| 37. | Having to do things very slowly to insure correctness | 0 | 1 | 2 | 3 | 4 |
| 38. | Heart pounding or racing | 0 | 1 | 2 | 3 | 4 |
| 39. | Nausea or upset stomach | 0 | 1 | 2 | 3 | 4 |
| 40. | Feeling inferior to others | 0 | 1 | 2 | 3 | 4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 41. | Soreness of your muscles | 0 | 1 | 2 | 3 | 4 |
| 42. | Feeling that you are watched or talked about by others | 0 | 1 | 2 | 3 | 4 |
| 43. | Trouble falling asleep | 0 | 1 | 2 | 3 | 4 |
| 44. | Having to check and double-check what you do | 0 | 1 | 2 | 3 | 4 |
| 45. | Difficulty making decisions | 0 | 1 | 2 | 3 | 4 |
| 46. | Feeling afraid to travel on buses, subways, or trains | 0 | 1 | 2 | 3 | 4 |
| 47. | Trouble getting your breath | 0 | 1 | 2 | 3 | 4 |
| 48. | Hot or cold spells | 0 | 1 | 2 | 3 | 4 |
| 49. | Having to avoid certain things, places, or activities because they frighten you | 0 | 1 | 2 | 3 | 4 |
| 50. | Your mind going blank | 0 | 1 | 2 | 3 | 4 |
| 51. | Numbness or tingling in parts of your body | 0 | 1 | 2 | 3 | 4 |
| 52. | A lump in your throat | 0 | 1 | 2 | 3 | 4 |
| 53. | Feeling hopeless about the future | 0 | 1 | 2 | 3 | 4 |
| 54. | Trouble concentrating | 0 | 1 | 2 | 3 | 4 |
| 55. | Feeling weak in parts of your body | 0 | 1 | 2 | 3 | 4 |
| 56. | Feeling tense or keyed up | 0 | 1 | 2 | 3 | 4 |
| 57. | Heavy feelings in your arms or legs | 0 | 1 | 2 | 3 | 4 |
| 58. | Overeating | 0 | 1 | 2 | 3 | 4 |
| 59. | Feeling uneasy when people are watching or talking about you | 0 | 1 | 2 | 3 | 4 |
| 60. | Having thoughts that are not your own | 0 | 1 | 2 | 3 | 4 |
| 61. | Having urges to beat, injure, or harm someone | 0 | 1 | 2 | 3 | 4 |
| 62. | Awakening early in the morning | 0 | 1 | 2 | 3 | 4 |
| 63. | Having to repeat the same actions such as touching, counting, or washing | 0 | 1 | 2 | 3 | 4 |
| 64. | Sleep that is restless or disturbed | 0 | 1 | 2 | 3 | 4 |
| 65. | Having urges to break or smash things | 0 | 1 | 2 | 3 | 4 |
| 66. | Having ideas or beliefs that others do not share | 0 | 1 | 2 | 3 | 4 |
| 67. | Feeling very self-conscious with others | 0 | 1 | 2 | 3 | 4 |
| 68. | Feeling uneasy in crowds, such as shopping or at a movie | 0 | 1 | 2 | 3 | 4 |
| 69. | Feeling everything is an effort | 0 | 1 | 2 | 3 | 4 |
| 70. | Spells of terror or panic | 0 | 1 | 2 | 3 | 4 |
| 71. | Feeling uncomfortable about eating or drinking in public | 0 | 1 | 2 | 3 | 4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 72. | Getting into frequent arguments | 0 | 1 | 2 | 3 | 4 |
| 73. | Feeling nervous when you are left alone | 0 | 1 | 2 | 3 | 4 |
| 74. | Others not giving you proper credit for your achievements | 0 | 1 | 2 | 3 | 4 |
| 75. | Feeling lonely even when you are with people | 0 | 1 | 2 | 3 | 4 |
| 76. | Feeling so restless you couldn't sit still | 0 | 1 | 2 | 3 | 4 |
| 77. | Feelings or worthlessness | 0 | 1 | 2 | 3 | 4 |
| 78. | The feeling that something bad is going to happen to you | 0 | 1 | 2 | 3 | 4 |
| 79. | Shouting or throwing things | 0 | 1 | 2 | 3 | 4 |
| 80. | Feeling afraid that you will faint in public | 0 | 1 | 2 | 3 | 4 |
| 81. | Feeling that people will take advantage of you if you let them | 0 | 1 | 2 | 3 | 4 |
| 82. | Having thoughts about sex that bother you a lot | 0 | 1 | 2 | 3 | 4 |
| 83. | The idea that you should be punished for your sins | 0 | 1 | 2 | 3 | 4 |
| 84. | Thoughts and images of a frightening nature | 0 | 1 | 2 | 3 | 4 |
| 85. | The idea that something serious is wrong with your body | 0 | 1 | 2 | 3 | 4 |
| 86. | Never feeling close to another person | 0 | 1 | 2 | 3 | 4 |
| 87. | Feelings of guilt | 0 | 1 | 2 | 3 | 4 |
| 88. | The idea that something is wrong with your mind | 0 | 1 | 2 | 3 | 4 |

**Appendix D**

Brief Michigan Alcohol Screening Test

Do you feel you are a normal drinker?

(Answer No only if you think you drink more than normal **NOT LESS**)

Y N

Do friends or relatives think you are a normal drinker?

(Answer No only if they feel you drink more than normal **NOT LESS**)

Y N

Have you ever attended a meeting of Alcoholics Anonymous (AA)? (Answer Yes only for an alcohol problem **YOU** have or have had)

Y N

Have you ever lost friends or girlfriends/boyfriends because of drinking?

Y N

Have you ever gotten into trouble at work because of drinking?

Y N

Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?

Y N

Have you ever had delirium tremens (DT's), severe shaking, heard voices, or seen things that weren't there after heavy drinking?

Y N

Have you ever gone to anyone other than (AA) for help because of your drinking?

Y N

Have you ever been hospitalized because of drinking?

Y N

Have you ever been arrested for drunk driving or driving after drinking?

Y N

**Appendix E**

Drinking Patterns Questionnaire

**Question 1**

During the last 12 months, how often did you usually have any kind of drink containing alcohol? **By a drink, we mean half an ounce of absolute alcohol (e.g. a 12 ounce can or glass of beer or wine cooler, a 5 ounce glass of wine, or a drink containing 1 shot of liquor).** Choose only one.

___ Every day

___ 5 to 6 times a week

___ 3 to 4 times a week

___ Twice a week

___ Once a week

___ 2 to 3 times a month

___ Once a month

___ 3 to 11 times in the past year

___ 1 or 2 times in the past year

**(IF YOU CHOSE AN ANSWER ABOVE, PLEASE SKIP AHEAD TO QUESTION #2)**

___ I did not drink any alcohol in the past year, but I did drink in the past **(GO TO QUESTION #1A)**

___ I never drank any alcohol in my life **(GO TO QUESTION #1B)**

**Question 1A**

During your lifetime, what is the maximum number of drinks containing alcohol that you drank within a 24-hour period? **(Remember, answer this question ONLY if you did not drink any alcohol during the past 12 months)**

___ 36 drinks or more

___ 24-35 drinks

___ 18-23 drinks

___ 12-17 drinks

___ 8-11 drinks

___ 5-7 drinks

___ 4 drinks

___ 3 drinks

___ 2 drinks

___1 drink

**(OK. PLEASE SKIP AHEAD TO THE MEDICAL HISTORY QUESTIONNAIRE)**

**Question 1B**

So you have never had a drink containing alcohol in your entire life. (asked only of those who say they never drank alcohol in their lives.)

___ Yes, I never drank **(OK. PLEASE SKIP AHEAD TO THE MEDICAL HISTORY QUESTIONNAIRE)**

___ No, I did drink **(OK. GO BACK TO QUESTION 1 AND REPEAT)**

**Question 2**

During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol?

___ 25 or more drinks

___ 19-24 drinks

___ 16-18 drinks

___ 12-15 drinks

___ 9-11 drinks

___ 7-8 drinks

___ 5-6 drinks

___ 3-4 drinks

___ 2 drinks

___ 1 drink

**Question 3**

During the last 12 months, what is the largest number of drinks containing alcohol that you drank within a 24 hour period?

___ 36 drinks or more

___ 24-35 drinks

___ 18-23 drinks

___ 12-17 drinks

___ 8-11 drinks

___ 5-7 drinks

___ 4 drinks

___ 3 drinks

___ 2 drinks

___ 1 drink

**Question 4**

During the last 12 months, how often did you drink this largest number of drinks? Choose only one.

___ Every day

___ 5-6 times a week

___ 3-4 times a week

___ Twice a week

___ Once a week

___ 2-3 times a month

___ Once a month

___ 3-11 times in the past year

**Question 5**

During the last 12 months, how often did you have 5 or more (males) or 4 or more (females) drinks containing any kind of alcohol within a two hour period? (That would be the equivalent of at least 5 (4) 12-ounce cans or bottles of beer, 5 (4) five ounce glasses of wine, 5 (4) drinks each containing one shot of liquor or spirits- to be provided my interviewer if asked.) Choose only one.

___ Every day

___ 5-6 days a week

___ 3-4 days a week

___ Two days a week

___ One day a week

___ 2-3 days a month

___ One day a month

___ 3-11 days in the past year

___ 1 or 2 days in the past year

**Question 6**

During your lifetime, what is the largest number of drinks containing alcohol that you drank with-in a 24-hour period?

___ 36 drinks or more

___ 24-35 drinks

___ 18-23 drinks

___ 12-17 drinks

___ 8-11 drinks

___ 5-7 drinks

___ 4 drinks

___ 3 drinks

___ 2 drinks

___ 1 drink

**Appendix E**

Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability Questionnaire

**Instructions:** Below are some statements about the effects alcohol has on people. Please answer the questions in terms of your thoughts, feelings, and beliefs about a moderate amount of alcohol (that is, enough to produce feelings of being noticeably "buzzed" or somewhat intoxicated). "Drinking" refers to any alcoholic beverage, such as beer, wine, wine coolers, liquor, whiskey, rum, vodka, and mixed drinks. We are interested in how you think alcohol might affect men in general. There are no right or wrong answers. You do not have to drink alcohol to have an opinion.

***When drinking alcohol…***

| | | **Not at all** **Very Much** |
|---|---|---|
| 1. | It is easy for men to have a fight or argument. | 1 2 3 4 5 |
| 2. | Men want to have sex. | 1 2 3 4 5 |
| 3. | Men feel intimate. | 1 2 3 4 5 |
| 4. | Men say and do rude things. | 1 2 3 4 5 |
| 5. | Men become easy targets for sexual advances. | 1 2 3 4 5 |
| 6. | Men are mean. | 1 2 3 4 5 |
| 7. | Men are more sexually vulnerable. | 1 2 3 4 5 |
| 8. | Men are likely to be pressured to have sex. | 1 2 3 4 5 |
| 9. | Men are interested in having sex. | 1 2 3 4 5 |
| 10. | Men feel angry. | 1 2 3 4 5 |

| | | |
|---|---|---|
| 11. | Men are likely to be loving. | 1 2 3 4 5 |
| 12. | Men feel sexually aroused. | 1 2 3 4 5 |
| 13. | Men are affectionate. | 1 2 3 4 5 |
| 14. | Men are likely to be forced by their date to have sex. | 1 2 3 4 5 |
| 15. | Men become passionate. | 1 2 3 4 5 |
| 16. | Men are short-tempered. | 1 2 3 4 5 |
| 17. | Men say and do romantic things. | 1 2 3 4 5 |
| 18. | Men are taken advantage of sexually. | 1 2 3 4 5 |
| 19. | Men have a strong sex drive. | 1 2 3 4 5 |
| 20. | Men are likely to initiate sex. | 1 2 3 4 5 |
| 21. | Men become hostile. | 1 2 3 4 5 |
| 22. | Men are likely to hit or slap. | 1 2 3 4 5 |
| 23. | Men become sexually excited. | 1 2 3 4 5 |
| 24. | Men are sensual. | 1 2 3 4 5 |
| 25. | Men are at greater risk of being coerced into having sex. | 1 2 3 4 5 |

**Instructions:** Below are some statements about the effects alcohol has on people. Please answer the questions in terms of your thoughts, feelings, and beliefs about a moderate amount of alcohol (that is, enough to produce feelings of being noticeably "buzzed" or somewhat intoxicated). "Drinking" refers to any alcoholic beverage, such as beer, wine, wine coolers, liquor, whiskey, rum, vodka, and mixed drinks. We are interested in how you think alcohol might affect <u>women</u> in general. There are no right or wrong answers. You do not have to drink alcohol to have an opinion.

***When drinking alcohol…***

| | | **Not at all** | | | | **Very Much** |
|---|---|---|---|---|---|---|
| 1. | It is easy for women to have a fight or argument. | 1 | 2 | 3 | 4 | 5 |
| 2. | Women want to have sex. | 1 | 2 | 3 | 4 | 5 |
| 3. | Women feel intimate. | 1 | 2 | 3 | 4 | 5 |
| 4. | Women say and do rude things. | 1 | 2 | 3 | 4 | 5 |
| 5. | Women become easy targets for sexual advances. | 1 | 2 | 3 | 4 | 5 |
| 6. | Women are mean. | 1 | 2 | 3 | 4 | 5 |
| 7. | Women are more sexually vulnerable. | 1 | 2 | 3 | 4 | 5 |
| 8. | Women are likely to be pressured to have sex. | 1 | 2 | 3 | 4 | 5 |
| 9. | Women are interested in having sex. | 1 | 2 | 3 | 4 | 5 |
| 10. | Women feel angry. | 1 | 2 | 3 | 4 | 5 |
| 11. | Women are likely to be loving. | 1 | 2 | 3 | 4 | 5 |
| 12. | Women feel sexually aroused. | 1 | 2 | 3 | 4 | 5 |
| 13. | Women are affectionate. | 1 | 2 | 3 | 4 | 5 |
| 14. | Women are likely to be forced by their date to have sex. | 1 | 2 | 3 | 4 | 5 |
| 15. | Women become passionate. | 1 | 2 | 3 | 4 | 5 |
| 16. | Women are short-tempered. | 1 | 2 | 3 | 4 | 5 |
| 17. | Women say and do romantic things. | 1 | 2 | 3 | 4 | 5 |
| 18. | Women are taken advantage of sexually. | 1 | 2 | 3 | 4 | 5 |
| 19. | Women have a strong sex drive. | 1 | 2 | 3 | 4 | 5 |
| 20. | Women are likely to initiate sex. | 1 | 2 | 3 | 4 | 5 |
| 21. | Women become hostile. | 1 | 2 | 3 | 4 | 5 |
| 22. | Women are likely to hit or slap. | 1 | 2 | 3 | 4 | 5 |

| | | |
|---|---|---|
| 23. | Women become sexually excited. | 1 2 3 4 5 |
| 24. | Women are sensual. | 1 2 3 4 5 |
| 25. | Women are at greater risk of being coerced into having sex. | 1 2 3 4 5 |

**Instructions:** Below are some statements about the effects alcohol has on people. Please answer the questions in terms of your thoughts, feelings, and beliefs about a moderate amount of alcohol (that is, enough to produce feelings of being noticeably "buzzed" or somewhat intoxicated). "Drinking" refers to any alcoholic beverage, such as beer, wine, wine coolers, liquor, whiskey, rum, vodka, and mixed drinks. We are interested in how you think alcohol might affect you, regardless of what other people think or how alcohol affects others. There are no right or wrong answers. You do not have to drink alcohol to have an opinion.

***When drinking alcohol…***

| | | **Not at all** **Very Much** |
|---|---|---|
| 1. | It is easy for me to have a fight or argument. | 1 2 3 4 5 |
| 2. | I want to have sex. | 1 2 3 4 5 |
| 3. | I feel intimate. | 1 2 3 4 5 |
| 4. | I say and do rude things. | 1 2 3 4 5 |
| 5. | I become an easy target for sexual advances. | 1 2 3 4 5 |
| 6. | I am mean. | 1 2 3 4 5 |
| 7. | I am more sexually vulnerable. | 1 2 3 4 5 |
| 8. | I am likely to be pressured to have sex. | 1 2 3 4 5 |
| 9. | I am interested in having sex. | 1 2 3 4 5 |
| 10. | I feel angry. | 1 2 3 4 5 |
| 11. | I am likely to be loving. | 1 2 3 4 5 |
| 12. | I feel sexually aroused. | 1 2 3 4 5 |
| 13. | I am affectionate. | 1 2 3 4 5 |
| 14. | I am likely to be forced by my date to have sex. | 1 2 3 4 5 |
| 15. | I become passionate. | 1 2 3 4 5 |

| | | |
|---|---|---|
| 16. | I am short-tempered. | 1 2 3 4 5 |
| 17. | I say and do romantic things. | 1 2 3 4 5 |
| 18. | I am taken advantage of sexually. | 1 2 3 4 5 |
| 19. | I have a strong sex drive. | 1 2 3 4 5 |
| 20. | I am likely to initiate sex. | 1 2 3 4 5 |
| 21. | I become hostile. | 1 2 3 4 5 |
| 22. | I am likely to hit or slap. | 1 2 3 4 5 |
| 23. | I become sexually excited. | 1 2 3 4 5 |
| 24. | I am sensual. | 1 2 3 4 5 |
| 25. | I am at greater risk of being coerced into having sex. | 1 2 3 4 5 |

**Appendix F**

Sexual Experiences Survey

The following questions concern sexual experiences. We know these are personal questions, so we do not ask your name or other identifying information. Your information is completely confidential. We hope this helps you to feel comfortable answering each question honestly. Place a check mark in the box ☐ showing the number of times each experience has happened. If several experiences occurred on the same occasion--for example, if one night you told some lies and had sex with someone who was drunk, you would check both boxes a and c. The past 12 months refers to the past year going back from today. Since age 14 refers to your life starting on your 14th birthday and stopping one year ago from today.

| **Sexual Experiences** | | **How many times in the past 12 months?** | **How many times since age 14?** |
|---|---|---|---|
| **I fondled, kissed, or rubbed up against the private areas of someone's body (lips, breast/chest, crotch or butt) or removed some of their clothes without their consent *(but did not attempt sexual penetration)* by:** | | 0 1 2 3+ | 0 1 2 3+ |
| a. | Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| **b.** | Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after | ☐☐☐☐ | ☐☐☐☐ |

| | | | |
|---|---|---|---|
| | they said they didn't want to. | | |
| **c.** | Taking advantage when they were too drunk or out of it to stop what was happening. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| **d.** | Threatening to physically harm them or someone close to them. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| **e.** | **Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |

| I had oral sex with someone or had someone perform oral sex on me without their consent by: | | 0 1 2 3+ | 0 1 2 3+ |
|---|---|---|---|
| a. | Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| **b.** | Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| **c.** | Taking advantage when they were too drunk or out of it to stop what was happening. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| **d.** | Threatening to physically harm them or someone close to them. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| **e.** | **Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |

| | | How many times in the past 12 months? | How many times since age 14? |
|---|---|---|---|
| I put my penis (men only) or I put my fingers or objects (all respondents) into a woman's vagina without her consent by: | | 0 1 2 3+ | 0 1 2 3+ |
| a. | Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| **b.** | Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| **c.** | Taking advantage when they were too drunk or out of it to stop what was happening. | ☐☐☐☐ | ☐☐☐☐ |
| **d.** | Threatening to physically harm them or someone close to them. | ☐☐☐☐ | ☐☐☐☐ |
| **e.** | **Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐☐☐☐ | ☐☐☐☐ |

| 4. | **I put in my penis (men only) or I put my fingers or objects (all respondents) into someone's butt without their consent by:** | 0 1 2 3+ | 0 1 2 3+ |
|---|---|---|---|
| a. | Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |

| | | | | |
|---|---|---|---|---|
| | **b.** | Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **c.** | Taking advantage when they were too drunk or out of it to stop what was happening. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **d.** | Threatening to physically harm them or someone close to them. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **e.** | **Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |

| | | | | |
|---|---|---|---|---|
| 5. | Even though it did not happen, I TRIED to have oral sex with someone or make them have oral sex with me without their consent by: | | 0 1 2 3+ | 0 1 2 3+ |
| | a. | Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **b.** | Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **c.** | Taking advantage when they were too drunk or out of it to stop what was happening. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **d.** | Threatening to physically harm them or someone close to them. | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |
| | **e.** | **Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ |

| | | **How many times in the past 12 months?** | **How many times since age 14?** |
|---|---|---|---|
| 6. | **Even though it did not happen, I TRIED to put in my penis (men only) or I tried to put my fingers or objects (all respondents) into a woman's vagina without their consent by:** | 0 1 2 3+ | 0 1 2 3+ |
| | a. Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| | **b.** Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| | **c.** Taking advantage when they were too drunk or out of it to stop what was happening. | ☐☐☐☐ | ☐☐☐☐ |
| | **d.** Threatening to physically harm them or someone close to them. | ☐☐☐☐ | ☐☐☐☐ |
| | **e. Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐☐☐☐ | ☐☐☐☐ |

| | | | |
|---|---|---|---|
| 7. | **Even though it did not happen, I TRIED to put in my penis (men only) or I tried to put my fingers or objects (all respondents) into someone's butt without their consent by:** | 0 1 2 3+ | 0 1 2 3+ |
| | a. Telling lies, threatening to end the relationship, threatening | | |

| | | | | |
|---|---|---|---|---|
| | | to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| | **b.** | Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to. | ☐☐☐☐ | ☐☐☐☐ |
| | **c.** | Taking advantage when they were too drunk or out of it to stop what was happening. | ☐☐☐☐ | ☐☐☐☐ |
| | **d.** | Threatening to physically harm them or someone close to them. | ☐☐☐☐ | ☐☐☐☐ |
| | **e.** | **Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.** | ☐☐☐☐ | ☐☐☐☐ |

8. **OMITTED – PLEASE CONTINUE TO QUESTION #9**

9. Did you do any of the acts described in this survey 1 or more times? Yes ☐ No ☐

   If yes, what was the sex of the person or persons to whom you did them?

   Female only ☐

   Male only ☐

   Both females and males ☐

   I reported no experiences ☐

10. Do you think you may have you ever raped someone? Yes ☐ No ☐