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EXPLORING THE ROLE OF ALCOHOL EXPECTANCIES AND PERSPECTIVE ON SEXUAL AGGRESSION THREAT DETECTION IN INCARCERATED WOMEN

by

Bena Kuruvilla

A dissertation

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Committee Approval

To the Graduate Faculty:

The members of the committee appointed to examine the dissertation of BENA S. KURUVILLA find it satisfactory and recommend that it be accepted.

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RE: Your application dated regarding study number 3723: Sexual Victimization in Incarcerated Women

Dear Ms. Kuruvilla:

Thank you for your response to requests from a prior review of your application for the new study listed above.

This is to confirm that your application is now fully approved. The protocol is approved through . In reviewing your consent procedure for this study, your inclusion of the following special classes of subjects was taken into account: prisoners.

You are granted permission to conduct your study as most recently described effective immediately. The study is subject to continuing review on or before 4/3/2013, unless closed before that date.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

Submit progress reports on your project in six months. You should report how many subjects have participated in the project and verify that you are following the methods and procedures outlined in your approved protocol. Then, report to the Human Subjects Committee when your project has been completed. Reporting forms are available on-line.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Patricia Hunter (208-282-2179; fax 208-282-4529; email: humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
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"You can recognize survivors by their courage. When silence is so very inviting,

they step forward and share their truth."

— Jeanne McElvaney

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Abstract

Sexual victimization research has found a strong relationship between alcohol consumption and sexual assault. Alcohol may contribute to sexual victimization risk in a number of ways, including hindering identification of interpersonal threat and modifying expectations of behavior due to gender-based alcohol expectancies. Research also supports the existence of a self-other bias in relation to beliefs about sexual assault and alcohol consumption. Certain groups of women appear to be at an elevated risk of substance-related sexual victimization, with one of these groups being incarcerated females. The current study attempted to examine the relationship between alcohol expectancies, perspective, and threat recognition using a behavioral risk detection task. A sample of 93 females participated in the study and contrary to our hypotheses, no differences in latency to identify threat were observed in the presence of alcohol or across perspective conditions. An examination of endorsed alcohol expectancies indicates that participants believed that they were less likely than other women to be vulnerable to sexual coercion while intoxicated. In contrast, our sample endorsed substantially higher rates of substance-related sexual assault than females in the general public. Participants also provided descriptions of their last sexual assault experience and qualitative themes were extracted from these narratives. Results suggest that participants often viewed their own substance consumption as a primary factor contributing to their assault and used it to assume blame for their victimization. Conversely, substance consumption by the perpetrator was used to alleviate responsibility. The discrepancy in the recognition of sexual assault risk factors and adaption of behavior in the presence of these factors is discussed and the role of alcohol as a self-medication tool is explored.

Introduction

Sexual victimization is a prevalent phenomenon impacting significant portions of society. Estimates of sexual victimization in the general public suggest that one in five women will be raped in their lifetime, with the vast majority of these assaults being perpetrated by an intimate partner or acquaintance (NISVS, 2010). A large body of literature indicates there are various physical and mental health consequences of sexual victimization (Campbell, Dworkin, & Cabral, 2009; Jaycox, Zolner, & Foe, 2002; Kaukinen, & DeMaris, 2009; NISVS, 2010; Resnick, Holmes, Kilpatrick, Clum, Acierno, & Saunders, 2000). For example, women with a sexual assault history are significantly more likely to experience a number of psychological disorders, including depressive episodes and anxiety disorders (Beitchman, Zucker, daCosta, Akman, & Cassiva, 1992; Najdowski & Ullman, 2009; Levitan, Rector, Sheldon, & Goering, 2003; Neuman, Houskamp, Pollock, & Briere, 1996). Sexual trauma also negatively affects society as a whole. The United States spends approximately $240,776 to cover the medical, psychological, and legal costs associated with a single sexual offense (McCollister, French, & Fang, 2010). The prevalence of sexual victimization is believed to be higher in certain female populations, than in the general public. One of these at-risk groups is incarcerated females.

Incarcerated Females

Females comprise approximately 7% of the incarcerated population in the United States and a number of characteristics make incarcerated female populations unique from the general public (Bureau of Justice Statistics, 2009). To begin with, incarcerated females are more likely to be visible minorities from low socioeconomic backgrounds (Bloom, Owen, & Covington, 2003; Snell & Morton, 1994). They are also more often undereducated, unskilled, and report unstable patterns of employment during adulthood (Bloom et al., 2003). In contrast to incarcerated males,

female inmates are more often imprisoned due to drug or property crimes, with many of these offenses motivated by economic or substance abuse problems (Bloom et al.,2003). Incarcerated females also disclose a disproportionally high number of traumatic experiences in their lifetime, including sexual assault and domestic violence. These rates are significantly higher than those reported by male inmates (Bloom et al., 2003).

Sexual victimization and incarcerated females.

Incarcerated women experience markedly elevated rates of sexual victimization in comparison to females in the general population (Greene, Miranda, Daroowalla, & Siddique, 2005; Lynch, Fritch, & Heath, 2012; Sharp & Marcus-Mendoza, 2001; Snell & Morton, 1994). For example, McDaniels and Belknap (2008) interviewed a sample of incarcerated females (n = 391) and found that incarcerated women reported especially high rates of victimization (e.g. 70% met criteria for a completed rape), frequently disclosed experiencing severe forms of sexual assault (i.e., penetration), and experienced sexual victimization from multiple perpetrators during their lifetime. This sample also endorsed high levels of gang rape (12%), child sexual abuse (50%), and drug/alcohol facilitated rape (37%). Browne, Miller, and Maguin (1999) interviewed female inmates (n = 150) about their history of sexual and physical abuse and found, similarly, that 60% reported some type of sexual abuse in childhood or adolescence and 35% disclosed sexual victimization from an intimate partner. In comparison, approximately 20% of women in the general population disclose experiencing childhood sexual abuse and approximately 5% endorse intimate partner sexual violence (Briere & Elliot, 2003; Coker et al., 2002; Elliot, Mok, & Briere, 2004).

Furthermore, some research indicates that female offenders directly link their history of sexual victimization to future criminal behavior. For instance, Belknap and Holsinger (2006)

interviewed incarcerated female youths (n = 163) regarding their abuse histories and delinquent behavior. When questioned about specific events that led to their delinquent offenses, over half of the participants in this study identified their previous abuse experiences as contributing factors to subsequent offending behaviors. Other research suggests that the frequency of victimization experiences predicts both the onset of substance use and criminal behavior in female inmates (DeHart, 2009). In further support of a relationship between victimization and offending behaviors, Grella and colleagues (2005) used structural equation modeling to investigate the association between abuse, adolescent conduct problems, substance abuse, and adult offending. Latent variable structural equation models indicated that childhood abuse, behavioral problems in adolescence, and substance use were directly linked. In addition, adolescent conduct problems predicted criminal offending in adulthood. Other research examining pathways to incarceration and criminal offending have reported similar findings (Gilfus, 1992; Maeve, 2000; Van Dorn et al., 2005).

As with other highly victimized populations, incarcerated females report high rates of mental health problems commonly associated with trauma exposure and abuse. Steadman and colleagues (2009) found that 31% of females in the jail sample they surveyed met criteria for a current serious mental illness. Moreover, Lynch and colleagues (2012) examined the mental health status of a sample of incarcerated females (n = 103) and found that many women endorsed experiencing significant symptoms of depression (51%) and PTSD (22%). Unfortunately, the relationship between mental health and sexual victimization appears to be bidirectional in that victimized individuals not only display higher levels of mental illness, but mental health issues also appear to predict risk of future sexual assault (Burnam et al., 1988).

Alcohol use in incarcerated females.

One factor that may contribute to the high rates of sexual victimization reported by incarcerated populations is alcohol consumption. The consumption of alcohol may make a woman more vulnerable to sexual victimization in a number of ways, including decreasing her ability to identify a situation as threatening and lowering her capacity to fend off her aggressor. Current research suggests that markedly elevated rates of alcohol use problems are found in incarcerated female populations. For example, approximately 80% of incarcerated women in the United States struggle with substance abuse problems (Bloom et al., 2003; Proctor, 2012). Furthermore, many of these women endorse consuming drugs or alcohol prior to committing their crime or identify the desire to obtain these substances as the motivation for their offences (Bloom et al., 2003; Stein et al., 2009). In comparison to females in the general public, incarcerated women are five to eight times more likely to abuse alcohol and ten times more likely to have illicit drug use problems (Covington, 1998; Jordan, Schlenger, Fairbank, & Caddell, 1996). While alcohol use has been linked to a number of negative outcomes (e.g., criminal offending), of particular importance to the current study is the relationship between substance use and sexual victimization.

Alcohol and Sexual Victimization

Previous research indicates that alcohol consumption plays a role in many sexual victimization experiences (Abbey, Zawacki, & Buck, 2001; Young, Grey, Abbey, Boyd, McCabe, 2008). Ullman and colleagues (1999) surveyed a national sample of college students (n = 3187) about their average alcohol consumption, sexual victimization history, and the role of alcohol in any sexual trauma they had experienced. They reported that alcohol plays both direct and indirect roles in sexual victimization, in that intoxication in either or both the victim and aggressor predicted a greater likelihood of victimization. Researchers estimate that

approximately 50% of sexual assaults involve the consumption of alcohol by the victim, perpetrator, or both (Abbey, Zawacki, & Buck, 2001) and rates of substance-related sexual assaults far exceed those of forcible sexual assaults within college samples (Lawyer, Resnick, Bakanic, Burkett, & Kilpatrick, 2010). Importantly, alcohol consumption is also linked with sexual *re*victimization. Testa and colleagues (2001) found that the relationship between adolescent sexual victimization and college sexual assault was mediated by alcohol consumption.

Substances, such as alcohol, can impact sexual victimization experiences in different ways (Lawyer et al., 2010). A victim may be given a substance without their knowledge and subsequently become too intoxicated/high to provide consent for sexual contact (*substance-facilitated sexual assault)*. Conversely, an individual may voluntarily consume alcohol/drugs and become too intoxicated/high to provide consent for sexual activity or defend themselves from an assault (*incapacitated sexual assault)*. In most sexual victimizations involving alcohol, it appears that the consumption of alcohol by the victim is voluntary in nature (Lawyer et al., 2010), although individuals commonly report feeling less safe in sexual situations due to alcohol (Kerbs, Lindquist, Warner, Fisher, & Martin, 2009; Wells, Kelly, Golub, Grov, Parsons, 2010). Rates of incapacitated sexual assault are believed to be significantly higher than substance-facilitated sexual assaults, suggesting that voluntary drug/alcohol consumption plays an important role in increasing sexual victimization risk (Lawyer et al., 2010). While some research asserts that substance use is linked with risky sexual behavior in incarcerated populations, little research has examined the link between alcohol consumption and sexual victimization in this population (Schilling, El-Bassel, Ivanoff, Gilbert, Su, & Safyer, 1992).

It remains unclear whether alcohol consumption serves primarily as a coping strategy following victimization, a risk factor for sexual assault, or both (Battle, Zlotnick, Najavits,

Gutierrez, & Windsor, 2003; Collins, 1998; Ullman & Najdowski, 2010). For example, Miranda, et al. (2002) examined the 'self-medication theory' commonly used to explain alcohol consumption in trauma survivors. This theory asserts that alcohol consumption is used as a coping mechanism to deal with feelings of distress following a trauma. These researchers used a path analysis to investigate the relationship between sexual assault history, severity of assault, psychological distress, negative reinforcement achieved with alcohol use, and levels of alcohol consumption in a sample of 320 female college students. In support of the self-medication hypothesis, findings indicated that negative reinforcement from alcohol use mediated the relationship between both sexual assault history and alcohol consumption and the relationship between distress and alcohol consumption. Kilpatrick and colleagues (1997) also found evidence of substance use as a coping mechanism following a sexual assault experience. These researchers assessed substance use and victimization experiences in a national sample of women (n = 3006) at three different time periods. Results indicated that the odds of drug use and alcohol abuse increased after a sexual assault, even for individuals reporting no previous sexual assault or substance use history.

Maladaptive coping may be especially problematic for incarcerated populations. Asberg and Renk (2012) compared female college students who reported childhood sexual abuse (n = 420) with incarcerated females disclosing childhood sexual victimization (n = 169) and found that incarcerated women disclosed using more maladaptive coping than college students and relied specifically on avoidant coping, such as substance use. In addition, a logistic regression indicated that severe childhood sexual abuse and substance use significantly predicted incarceration.

With such a substantial body of literature linking alcohol consumption with sexual victimization, understanding the manner in which alcohol impacts sexual decision making may offer important information regarding the phenomenon of sexual assault.

Threat Detection

Alcohol may impact sexual victimization in a number of ways. The current study focuses on the impact of alcohol on interpersonal threat detection abilities. Theories of situational risk detection assert that accurate and early detection of risk or aggressive behavior serves as a protective factor for women, as it allows them to react to such situations before they escalate to a completed assault (Gidycz, McNamara, & Edwards, 2006; Soler-Baillo, Marx, & Sloan, 2005; Wilson, Calhoun, & Bernat, 1999). Many laboratory-based measures of threat detection focus on the speed of recognition for negative facial expressions (LoBue, Matthews, Harvey, & Thrasher, 2014; Mather & Knight, 2005; Schmidt-Daffy, 2011) or other threat cues, such as weapons or snakes (Fox, Griggs, & Mouchlianitis, 2007). One weakness of these types of assessments is the inability of static images to capture the complexity of interpersonal threat that occurs within a social situation. A threat detection task that has overcome this limitation and been used by a number of researchers to examine threat recognition within a sexual interaction is the Date Rape Analogue Task (DRAT; Marx & Gross, 1995).

Date Rape Analogue Task (DRAT).

In the DRAT, participants listen to an audio recording of a dating interaction and press a button when they believe the man in the recording has "gone too far." The dating interaction begins with casual conversation and consensual kissing/touching, but escalates to more assertive advances by the man, with a mixture of acceptance and rejection of these advances by the woman. Eventually, the man moves from non-aggressive verbalizations to threats of physical

force. The woman's negative responses start with modest verbal ("token") resistance and escalates to forceful verbal demands and clear negative affective cues, such as crying and screaming. The interaction ends with a clearly completed rape. Perception of threat early in the DRAT is represented by a shorter response latency, with researchers asserting that these shorter latencies indicate detection of minimal aggressive/threatening cues in the interpersonal interaction (Soler-Baillo et al., 2004; Wilson et al., 1999).

Research using college-student participants suggests that the DRAT is a valid measure of sexual aggression by both males and females (Marx & Gross, 1995). The measure possesses adequate convergent validity, discriminant validity, test-retest reliability, and construct validity (Bernat, Stolp, Calhoun, & Adams, 1997). In addition, longer response latencies in male college-student participants are positively correlated with rates of sexual aggression, calloused sexual beliefs, acceptance of interpersonal violence, and sexual promiscuity (Bernat et al., 1997).

The DRAT is a unique sexual decision making measure because it offers researchers an opportunity to garner real-time decisions regarding sexual aggression (Bernat et al.,, 1997). Additionally, researchers using this paradigm can observe the differences in decision making that result from the manipulation of various factors, such as the nature of the relationship between the individuals in the vignette.

DRAT and situational threat detection in sexual assault victims.

Differences in DRAT latencies may be related to a history of multiple sexual victimizations in women. Wilson, Calhoun, and Bernat (1999) recruited 330 undergraduate women with varying victimization histories. Subjects were presented with a number of questionnaires assessing the presence of symptoms associated with Post Traumatic Stress Disorder (PTSD), history of sexual victimization, and dissociative symptoms. Based on their

victimization experiences subjects were divided into three groups: No Victimization (NV), Single Victimization (SV), and Revictimization (RV). These researchers found that sexually revictimized women displayed significantly longer DRAT response latencies than non-victimized women or those with a history of a single victimization. In fact, when examining the 'high risk' portion of the vignette (which includes verbal threats, use of physical force, and clear emotional distress from the female) women in the RV group were significantly more likely to wait until this part of the recording to identify the man's behavior as threatening than were women from the other groups. It is important to note that this pattern of results was only seen for revictimized women with low levels of PTSD symptoms, as elevated levels of hypervigilance may lead to threat oversensitivity in participants.

In addition, Marx and colleagues (2001) found that DRAT latencies predicted future revictimization in a 2-month prospective study of undergraduate females (N = 66) with a history of victimization. These findings suggest that an individual's sensitivity to interpersonal cues associated with sexual assault may serve as a meaningful predictor of an individual's risk of future sexual assault. Indeed, some research suggests that focusing on interpersonal cues for sexual assault risk may be an important part of sexual assault prevention programs (Marx, Calhoun, Wilson, & Meyerson, 2001).

Also, women with a history of victimization appear to display dampened physiological reactions while listening to the scenario. Soler-Baillo, Marx, and Sloan (2005) found that women with a history of sexual trauma exhibited a lower heart rate than did non-victimized controls during the early stages of the date-rape interaction. The authors assert that this decreased heart rate was indicative of lower arousal levels during the early threat detection phase. These findings lend support to the hypothesis (Wilson et al., 1999) that a sexually victimized woman may not

show signs of threat recognition in the context of subtle signs of sexually aggressive behavior. In a real-world setting, these early threat detection skills would be vital for the activation of a fight or flight response in a female at risk of victimization (Soler-Baillo et al., 2005). One noteworthy shortcoming of this study is the absence of PTSD symptom assessment. However, since only a small proportion of sexually victimized women develop PTSD (<15%) across their lifetime, it is likely that the majority of women in this sample did not have clinically significant levels of PTSD symptomology (Breslau, 2009).

There are some inconsistencies in research examining the relationship between situational threat detection and sexual victimization, perhaps due to different methodological strategies. For instance, Yeater and O'Donohue (2001) trained women with varying histories of victimization (no victimization, single victimization, and multiple victimizations) to detect threat using written vignettes. These researchers found that women with a history of single victimization took significantly longer to acquire these threat detection skills than did women with a history of multiple victimizations or no history of victimization. Conversely, Meadows and colleagues (as cited in Messman-Moore & Brown, 2006) found that women reporting a history of a single victimization recognized more threat cues in written vignettes than did women with a history of multiple victimizations. Breitenbecher (1999) found no difference in identification of threat cues across victimization groups among women viewing video segments containing acquaintance rape scenarios. In addition, threat cue detection was not related to revictimization during a follow-up period.

Alcohol and threat detection.

A variety of contextual factors can influence the identification of threat during a sexually aggressive interaction. Previous research using the DRAT examined the impact of some of these

contextual factors, including the nature of the relationship between the perpetrator and the victim (Faulkner, Kolts, & Hicks, 2008) and the type of consensual sexual contact they have previously engaged in (Marx & Gross, 1995; Van Wie, Gross, & Marx, 1995). One contextual factor that is associated with a large proportion of sexual assaults and is particularly relevant to the current study is alcohol expectancies.

Alcohol Expectancies

Expectations of alcohol consumption.

Alcohol expectancies are changes in behavior or beliefs about changes in behavior that are associated with the expectation of alcohol consumption. One type of alcohol expectancy is related to how an individual's belief that s/he has consumed alcohol affects his/her behavior (Leigh, 1990). These types of alcohol expectancies are often examined using a balanced placebo design. This design employs a 2 x 2 factorial structure in which half of the participants are told they will consume alcohol and the other half are advised that they will receive a non-alcoholic drink (Knight, Barbaree, & Boland, 1986). Within each of these groups, half of the participants are administered alcohol while the other half are not. Studies using these procedures indicate that individuals who believe they have consumed alcohol, although they have actually been given a non-alcoholic drink, display alterations in behavior that are often similar to those who have actually consumed alcohol (Gross, Bennett, Sloan, Marx, & Juergens, 2001; Knight et al., 1986; Leigh, 1990).

To date, a number of studies have used the DRAT to study this type of alcohol expectancy. Gross and colleagues (2001) examined the impact of alcohol consumption on male college students' (n = 160) sexual decision making behaviors using a balanced placebo design. Following the alcohol administration procedures, participants completed the DRAT. The results

of this study indicated that individuals who consumed alcohol estimated the sexual arousal level of the female in the recording as significantly higher than males who did not consume alcohol. In addition, males who consumed alcohol or expected to consume alcohol displayed longer DRAT latencies than their peers. Marx and colleagues (1999) also experimentally manipulated alcohol consumption in college males (n = 190) using a 2 (previous sexually coercive behavior vs. no previous sexually coercive behavior) x 2 (expect alcohol vs. expect no alcohol) x 2 (receive alcohol vs. receive no alcohol) design. The results of this study suggested that individuals who consumed alcohol or believed that they had done so displayed significantly longer DRAT latencies. In addition, non-sexually coercive males who believed they had consumed alcohol behaved in a manner similar to sexually coercive males. Similar results were reported by Marx, Gross, and Juergens (1997).

Thus far, only two studies examined this type of alcohol expectancy in female participants using the DRAT. Pumphrey-Gordon and Gross (2007) administered alcohol using a balanced placebo design and then had female participants complete the DRAT and provide an oral statement describing what their response would be if they were in the same situation as the female in the vignette. The results of this study suggest that alcohol expectancies or consumption were not associated with longer response latencies in females, but females who expected to consume alcohol and described alcohol consumption as a significant factor in their sexual behavior listed fewer resistant behaviors in their descriptions of reactions to the threatening situation. Females who consumed alcohol and held strong beliefs about the impact of alcohol on their sexual behavior also displayed similar reductions in refusal behaviors, with these reductions being over and above what would be expected from just blood level intoxication.

Loiselle and Fuqua (2007) examined alcohol consumption in female college students (n = 42) by presenting half of their subjects with alcohol and assessing a variety of factors including DRAT performance, rape myth acceptance, sexual victimization history, and sexual assertiveness. These researchers found that the mean latency for females in the alcohol consumption group was significantly longer than those for the control group. Furthermore, a significant positive correlation was seen between rape myth acceptance and DRAT latencies. The authors argue that high rape myth scores are indicative of the acceptance of sexual violence. Consequently, women who endorse rape myths may be more likely to label threatening sexual stimuli in the early portion of the recording as innocuous and require more salient indicators of risk before identifying the situation as dangerous.

Beliefs about the impact of alcohol on behavior.

The second type of alcohol expectancy, and the focus of the current study, relates to beliefs or opinions about the effects of alcohol on one's mood, behavior, and emotions (Leigh, 1990). It should be noted that the use of the term "alcohol expectancies" in the remainder of this document will relate to beliefs or opinions about alcohol consumption and resulting changes in behavior, rather than the impact of actual or perceived alcohol consumption.

Information about alcohol expectancies and the consequences of alcohol consumption are transmitted in a variety of ways, including culture, media, and social interactions (Rohsenow, 1983). Societal norms endorse clear differences in the perceived impact of alcohol consumption across genders. Drinking is commonly viewed as more socially acceptable for males and encouraged in a variety of male-dominated activities, such as sporting events (Engs & Hansen, 1990; Johnson & Glassman, 1999). Conversely, females are often stigmatized for consuming alcohol (Abbey & Harnish, 1995; Centre for Addiction and Mental Health, 1999; Gomberg &

Nirenberg, 1991; Ricciardelli, Connor, Williams, & Young, 2001). Research also indicates that individuals hold strong beliefs about alcohol expectancies for a typical male and typical female drinker (Rohsenow, 1983). That is, individuals commonly believe that males and females are impacted by alcohol consumption in different ways and consequently exhibit varying behaviors after drinking. Two prominent gender differences in the alcohol expectancies literature that may contribute to the prevalence of sexual violence relate to beliefs about aggressiveness and sexual interest/drive following alcohol consumption.

Male sexual aggression.

Males and females tend to believe that a typical male becomes more aggressive when he is intoxicated (Abbey, McAulsan, Ross, & Zawacki, 1999; Crawford, 1984; Edgar & Knight, 1994; McMurran, 2009). While research has not found consistent gender differences in aggressive behavior following alcohol consumption, some researchers assert that alcohol expectancies regarding sexual aggressiveness may result in a self-fulfilling prophecy (Abbey, 2002; Brown et al., 1980; Bailly et al. 1991; Edgar & Knight, 1994; Lundahl, Davis, Adesso, & Lukas, 1997). In the context of a sexual assault, a male who holds an alcohol expectancy about increased sexual aggression may use these beliefs to guide his behavior during a social interaction. For instance, he may misinterpret ambiguous female behavior as a sign of sexual interest and subsequently use force to obtain sexual contact (Abbey, 2002). In addition, research suggests that aggressive behavior following alcohol consumption is predicted by high levels of trait aggression (Tremblay, Graham, & Wells, 2008; McMurran, 2009). That is, males who report displaying aggressive behavior while intoxicated often display higher levels of overall aggression. For example, Giancola and colleagues (2002) administered alcohol to male and female undergraduate students and had them complete a behavioral measure of aggression in

which they played a competitive game with a fictitious opponent and had the opportunity to electrically shock that individual. The results of this study indicated that for both males and females, increases in dispositional aggression were linked with more aggression during the game. Importantly, alcohol consumption did not increase levels of aggression for all participants. Instead, the impact of alcohol consumption on aggressive behavior was directly proportional to levels of dispositional aggression. That is, those high on measures of dispositional aggression displayed greater levels of aggression after they consumed alcohol. Conversely, those with low dispositional aggression were relatively unaffected by alcohol. In summary, while it is commonly believed that a typical male drinker becomes more aggressive after alcohol consumption, research indicates a number of factors (e.g., alcohol expectancies and trait aggression) influence the expression of aggression during intoxication.

Female sexual interest.

In relation to sexual desire and interest, research suggests that women who consume alcohol are often perceived as more sexually permissive or indiscriminate that non-alcohol consuming females (Abbey & Harnish, 1995; Bernat, Calhoun, & Stolp, 1998; Corcoran & Thomas, 1991; Edgar & Knight, 1994). For example, George and colleagues (1988) presented college students with a vignette involving a man and woman on a date. While the male in the story consumed alcohol across all conditions of this study, the consumption of alcohol in the woman was manipulated (i.e., she either had a "few" drinks or ordered a soft drink). The results of this study indicated that both male and female undergraduates rated the alcohol consuming female as more interested in sexual intercourse and more willing to be "seduced." Norris and Cubins (1992) found that the presence of alcohol decreased the likelihood that both male and female participants would label a sexually aggressive situation as a sexual assault or recognize

refusal behaviors displayed by the victim. Importantly, in the context of a dyadic interaction, alcohol consumption by a female was viewed as more inappropriate if her date did not consume alcohol (Abbey & Harnish, 1995).

While stereotypes of female drinkers portray them as promiscuous and sexually disinhibited (Abbey & Harnish, 1995; Corcoran & Thomas, 1991; Edgar & Knight, 1994; George, Gournic, & McAfee, 1988; Rohsenow, 1983), research exploring increases in female sexual drive or interest following alcohol consumption has been mixed (Beckman & Ackerman, 2002; Blume, 1986; Gilmore et al., 2013). For example, Gilmore and colleagues (2013) found that alcohol intoxication in a community sample of women (n = 144) was associated with decreases in sexual desire. It is possible that incongruence between subjective perceptions of increased sexual interest in intoxicated females and an absence of actual behavioral changes may contribute to rates of sexual victimization in the context of alcohol consumption.

The role of alcohol expectancies in sexual assault.

Although research indicates that individuals hold strong alcohol expectancies, the manner in which these beliefs directly impact behavior in a sexually aggressive situation is less understood. Abbey (2002) proposed a model that integrates the roles of pre-existing beliefs about alcohol and the impact of alcohol consumption itself during a sexual victimization. In this model, Abbey highlights previous research indicating that the mere presence of alcohol is a contextual cue for sexual interest and interaction (Bernat et al., 1998; Corcoran & Thomas, 1991; George et al., 1988; Marx, Gross, & Juergens, 1997; Norris & Cubbins, 1992). In the context of males consuming alcohol, it is hypothesized that beliefs about alcohol consumption (e.g., increases in sexual interest in drinking females) leads males to engage in biased appraisals of a female's sexual intent and motives, hinders their ability to communicate about sexual desire, and

exacerbates behavior that is in accordance with alcohol expectancies (e.g., sexual aggression). Alcohol consumption also impairs a male's ability to correct misperceptions of sexual intent and decreases the likelihood that they will resist urges to obtain sexual contact. Beliefs about alcohol consumption may also serve as a retrospective justification for sexually aggressive behavior (e.g., "She was drunk, so she really wanted it"; "I was drunk when I did it").

In the context of female drinking, Abbey's model focuses on the impact of alcohol consumption itself, rather than alcohol expectancies. Her model predicts that intoxication hinders a woman's ability to detect risk in her environment, communicate effectively about her sexual intent, and display effective refusal behaviors or resist aggressive sexual advances (Abbey, 2002). Unfortunately, in this model little attention is given to the impact of beliefs about alcohol consumption on threat detection abilities in the context of a sexual assault. It is possible that the mere presence of alcohol may be viewed as a contextual cue for "normal" behavior that hinders the detection of threat due to an increased tolerance of aggressive behavior (e.g., "All men get aggressive when they are drunk").

Alcohol expectancies in sexual assault victims.

Very little is known about alcohol expectancy differences in victimized versus non-victimized women. To date, only two studies examined the specific type of alcohol expectancies endorsed by women with a history of sexual victimization in comparison to their non-victimized peers. Marx and colleagues (2000) examined differences in alcohol consumption and alcohol expectancies in undergraduate women with no history of sexual victimization, a history of non-alcohol or drug related sexual assault, and women with a history of alcohol and/or drug facilitated sexual trauma. Women with a history of drug and/or alcohol facilitated rape reported consuming alcohol more frequently than women in the other groups and endorsed stronger

alcohol expectancies than their peers in this study. Furthermore, the specific alcohol expectancies endorsed by these women focused on the perceived positive effects of alcohol, such as increases in social expressiveness.

These findings are in accordance with other research indicating that heavy drinkers hold stronger alcohol expectancies that emphasize the positive effects of alcohol (Abbey et al., 1999; Rohsenow, 1983; Southwick, Steele, Marlatt, & Lindell, 1981). Corbin and colleagues (2001) examined alcohol expectancies in a sample of female undergraduate students (n = 238) divided into three victimization groups: non-victims (individuals who did not report any sexual victimization), moderate victimization (those who reported experiencing unwanted sexual behavior that did not involve penetration), and severe victimization (females endorsing an attempted or completed rape). Similar to the findings reported by Marx, et al. (2001), women with a history of attempted or completed rape endorsed higher levels of alcohol consumption and held stronger alcohol expectancies about the positive effects of alcohol consumption. These studies suggest that women with a history of sexual victimization may focus on the positive, rather than negative, attributes of alcohol. It is unclear whether these beliefs lead to greater alcohol consumption or serve as a form of justification for drinking-related behaviors.

Beliefs about alcohol and the DRAT.

Research using behavioral tasks to examine the impact of alcohol expectancies on behavior during a sexually aggressive situation has been sparse in psychological literature. Only one study to date has investigated the impact of beliefs about alcohol consumption on behavior using the DRAT task. Bernat, et al. (1998) examined differences in DRAT latency when sexually aggressive and sexually non-aggressive males (n = 102) were told that the couple had consumed alcohol and felt “pretty buzzed” during the date. Changes in DRAT latency were dependent upon

the sexually aggressive nature of the participants; while sexually aggressive males displayed overall longer DRAT latencies when compared to their non-aggressive counterparts, they were most likely to do so when they believed alcohol consumption had occurred. Specifically, the results indicated that sexually aggressive males in the alcohol consumption condition were eight times more likely to allow the sexual interaction to escalate until verbal threats than any other group. These findings suggest that, for sexually aggressive college males, alcohol consumption may be a permissive cue during sexual interactions (the presence of alcohol did not impact the behavior of sexually non-aggressive males).

No research to date has examined the role of beliefs about alcohol on DRAT performance among female participants. The absence of research examining alcohol expectancies in women is problematic for a number of reasons. First, much of the existing literature examining beliefs about alcohol consumption in females has utilized a myriad of self-report questionnaires to form their knowledge base. In light of the many pitfalls of self-report instruments (e.g., demand characteristics, inaccuracy of reporting, and questionable stability over time) it is unclear whether this type of methodology would accurately predict an individual's behavior in the context of a sexual assault (Haeffel & Howard, 2010; Nisbett & Wilson, 1977). Second, our current knowledge regarding alcohol expectancies is fundamentally based on the study of sexual aggression in males and may not generalize to females. If females do display variations in behavior across sexually aggressive situations as a function of the presence of alcohol, targeting erroneous alcohol expectancies that underlie these behaviors may be one useful strategy to reduce the prevalence of this type of victimization. Finally, while a vast body of research has examined alcohol consumption and alcohol expectancies in sexual trauma survivors, few studies examine the interplay between these factors in the context of a sexually aggressive situation.

While research indicates that victimized women report higher levels of substance use and stronger positive alcohol expectancies, we know little about the direct impact of these factors on behavior during a sexual assault. Extant research in this area focuses on retrospective accounts of an event, which is vulnerable to biased reporting due to alcohol expectancies themselves and the effects of intoxication during the incident.

The Importance of Perspective

One important factor in understanding the impact of alcohol expectancies on sexual victimization is the role of perspective. Individuals appear to hold varying beliefs about alcohol expectancies as they apply to a typical male or female in comparison to themselves. This self-other bias has been seen in a wide variety of sexual trauma literature. For example, research related to estimations of sexual assault risk indicates that beliefs about sexual victimization may vary as a function of the target of the assault (i.e., self vs. other).

Perspective and estimations of sexual assault risk.

When estimating the probability of risk, individuals can assess rates of global risk and personal risk (Gidycz et al., 2006). For females assessing risk of sexual victimization, a prediction of global risk would involve estimates of the general probability of sexual assault for women or a subset of women (e.g., "How common is sexual assault for undergraduate women at my university?"). Personal risk estimates refer to the estimation of personal risk for sexual victimization (e.g., "How likely is it that *I* will be sexually assaulted?").

Research suggests that these two estimates are often discordant. Females commonly exercise an optimistic bias in which they do not apply general estimates of risk to their own personal estimations of risk, consequently underestimating their own probability of victimization (Norris, Nurius, & Graham, 1999; Hickman & Muehlenhard, 1997; Parks, Miller, Collins, &

Zetes-Zanatta, 1998). Cue, George, and Norris (1996) assessed perceptions of risk in a dating situation in a sample of college women by asking them to estimate global and personal risk in a scenario that varied the presence of rape congruent attitudes in the male, amount of alcohol consumption in the male, and the participant's perspective of the story (the subjects themselves were on the date versus another comparable female). While women were receptive to global risk increases in the scenarios (such as when the male possessed rape-congruent attitudes or consumed alcohol), they consistently underestimated their *personal* level of risk. These findings are consistent with other observations of optimistic bias that have been observed when assessing both the probability of stranger rape and acquaintance rape (Hickman & Meulenhard, 1997) or when discounting the level of personal risk across a variety of health-related behaviors (Taylor & Brown, 1988).

Perspective and alcohol expectancies.

Research indicates that people also generally believe that alcohol will have a larger impact on others in comparison to themselves. Rohsenow (1983) administered a questionnaire about alcohol expectancies to a sample of undergraduate students (n = 150) and varied the perspective of the instrument to refer to beliefs about one's own behavior after alcohol consumption versus the behavior of others in general. Participants consistently believed that others were more vulnerable to the effects of alcohol (both positive and negative), than they were themselves. Similarly, Abbey and colleagues (1999) found that undergraduates believed that others were more strongly impacted by alcohol consumption than they themselves would be. In this study, the specific alcohol expectancies applied to others were consistent with gender stereotypes - males were viewed as more aggressive following alcohol consumption, while females were believed to display higher levels of sexual behavior.

This research suggests that individuals employ varying alcohol expectancies about themselves versus others and that these expectancies appear to be influenced by gender stereotypes. No research to date has explored the impact of perspective on the relationship between alcohol expectancies and sexual victimization. One instrument that could be utilized to study the relationship between these factors is the DRAT.

Perspective and the DRAT.

Standard instructions for the DRAT direct an individual to listen to the audio recording as an independent observer and make a decision about the sexual interaction as a third party witness. An adaptation to DRAT instructions asking participants to imagine they are the female in the recording may provide useful information about sexual decision making as it relates to personal and global perceptions of sexual victimization. In relation to alcohol expectancies, manipulating perspective may provide especially important information about the relationship between these variables and their impact on behavior in a sexually aggressive situation.

The only study to date that has altered the DRAT instructions to a first-person perspective (Faulkner, Colts, & Hicks, 2008) did not include a comparison to third-person instructions, so no comparison regarding the impact of these instructional changes is possible.

Summary and Relevance to Current Project

The existing sexual assault literature has identified a relatively strong and consistent relationship between alcohol consumption and sexual victimization risk (Greene & Navaro, 1998; Lawyer et al., 2010; Ullman, Karabatsos, & Koss, 1999). Alcohol may contribute to prevalence of sexual victimization in a number of different ways, such as hindering identification of interpersonal threat. One way that researchers have studied threat detection abilities is through the use of the DRAT (Marx & Gross, 1995). Sexual trauma research using the DRAT indicates

that a variety of contextual factors (e.g., relationship to the perpetrator, prior victimization history, and previous sexual contact) impact DRAT performance. Less is known about how beliefs about the impact of alcohol on behavior (i.e., alcohol expectancies) during a sexually aggressive situation affect DRAT performance.

Two prominent alcohol expectancies that are linked with gender and may contribute to rates of sexual violence are beliefs about increases in male sexual aggression and female sexual interest. While these specific gender-based beliefs about alcohol are commonly endorsed, little research indicates that these behavioral differences exist (Abbey & Harnish, 1995; Abbey et al., 1999; Bernat et al., 1998; Corcoran & Thomas, 1991; Crawford, 1984; Edgar & Knight, 1994; George et al., 1988; Tremblay et al., 2008; McMurran, 2009). Given that a wide variety of research supports the existence of a self-other bias in relation to beliefs about sexual assault and alcohol consumption, the role of perspective (i.e., the target of the alcohol expectancy) may also be an important factor to consider when examining alcohol expectancies related to sexual behavior (Abbey et al., 1999; Rohesnow, 1983; Norris et al., 1999; Hickman & Muehlenhard, 1997; Parks et al., 1998).

While we have an understanding of the types of beliefs that individuals hold in relation to alcohol consumption, little research to date has examined how these beliefs may impact female threat detection in a sexually aggressive situation. Another limitation to the existing research is the use of methodologies that employ an observer perspective when responding to questionnaires and tasks. This may result in biased responses by participants and have less generalizability to personal behavior during a sexual victimization. Finally, previous literature examining alcohol expectancies has predominately utilized undergraduate college samples. Examining the impact of

alcohol expectancies on threat detection in diverse samples promotes generalization. One population that may be especially appropriate for this endeavor is incarcerated females.

Current Study

The current study examined the relationship between alcohol expectancies, perspective, and threat detection in the context of a sexually aggressive situation using a sample of incarcerated women. First, we examined differences in DRAT performance when the presence of alcohol consumption was manipulated as a contextual variable. Next, we investigated the impact of perspective on alcohol expectancy endorsement and threat detection. Both expectancies about male and female drinkers in relation to sexual violence were explored. Finally, we qualitatively investigated the perceived role of alcohol/drug use in sexual victimization experiences and examined rates of substance-facilitated and incapacitated sexual assault in an incarcerated sample.

Hypotheses:

1) Women will display significantly longer DRAT latencies when alcohol is present as a contextual variable in the DRAT than when it is not. This prediction was based on previous literature indicating that alcohol consumption is often viewed as a permissive sexual cue in the context of sexual aggression.
2) DRAT performance will vary as a function of perspective. That is, participants will wait longer when instructed to listen to the DRAT scenario imagining themselves as the woman compared to those given standard (third person) instructions. This prediction was based on previous research indicating that individuals view themselves to be less vulnerable to sexual assault risk factors, such as alcohol consumption.

3) The strength of alcohol expectancies endorsed on the Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability questionnaire (AESASVQ) will vary as a function of perspective. It was believed that participants would endorse greater levels of alcohol expectancies when referring to the behavior of others in comparison to themselves. This hypothesis was based on previous research suggesting that individuals believe they are less vulnerable than others to emotional/behavioral changes following alcohol consumption.

Exploratory Research Questions

A number of exploratory research questions were also investigated in this study. We examined participant perceptions of the relationship between substance use and sexual victimization by inquiring about previous substance-related assault experiences. We also garnered estimates of lifetime prevalence rates for sexual assaults involving the consumption of alcohol and/or drugs by the victim, perpetrator, or both parties. In addition, participants were asked about the circumstances surrounding (e.g., perpetrator, causes, etc.) their last sexual victimization experience prior to incarceration and the role of alcohol/drugs in that situation.

Methods

Participants

Women from the Pocatello Women's Correctional Center (PWCC) were recruited. A total of 93 participants met inclusion criteria for this study (i.e., a minimum of 18 years of age, past alcohol consumption, previous sexual contact with a male, and no prior criminal charges for sexual perpetration offenses).

Participants ranged in age from 19 – 62 years of age (M = 35.5 years; SD = 11.4), were primarily heterosexual (71.0%) and comprised a mix of European-American (59.1%), Hispanic-American (23.7%), and Native-American (7.5%) ethnicity (see Table 1). With regard to relationship status prior to incarceration, most of the sample did not endorse being involved in a romantic relationship (63.5%), while the remainder indicated that they were married (20.3%) or dating (16.2%). Many of the women participating in this study reported having children (81.3%) and on average women had two children under the age of 18 at the time of their participation (range of number of children under 18 = 1-7; M = 1.8; SD = 1.6).

Although 20% of this sample did not complete high school, in comparison to national averages for incarcerated females (Bloom et al., 2003), this sample reported higher levels of educational training (see Table 1). In addition, approximately half of the sample (49.5%) disclosed some form of employment prior to their incarceration, with the vast majority of the sample (84.9%) reporting incomes less than $25,000 during the last year that they worked.

In relation to their history of incarceration, 79.6% of the sample reported one or more previous incarcerations (range of previous incarcerations in prison/jail = 1-50; *M* = 8 previous incarcerations, Mode = 1 previous incarceration). Participants most frequently identified drug offenses (i.e., possession of an illicit substance and distribution of an illicit substance) as the

charge for which they were currently incarcerated (31.2%; see Table 2). The average length of their current incarceration was 30 months (range = 1 – 376 months; SD = 52.4 months; Median = 11).

Measures

Demographics Questionnaire.

A basic demographics questionnaire was administered inquiring about age, educational/occupational history, marital status, sexual orientation, and ethnicity. In order to screen for previous sexual contact with a male, participants who did not identify themselves as heterosexual or bisexual were asked if they have had sexual contact with a male at any point in their life. Information regarding the length of their incarceration, criminal charges, length of sentence, and eligibility for release were also garnered.

Date Rape Analogue Task.

The Date Rape Analogue Task (DRAT; Marx & Gross, 1995) consists of an audio recording of a vignette (portrayed by actors) that depicts a sexual encounter between a man and a woman on a date. Their interaction escalates from casual conversation and consensual kissing to strong sexual advances by the man to a completed sexual assault. The recording lasts 390 seconds; the woman's first negative response occurs after roughly 80 seconds have elapsed. Participants are instructed to listen to the audio recording and press a button if and when they believe the man has "gone too far." The dependent measure of interest is the number of seconds participants wait to press the button, but DRAT response latencies can also be categorized based on the level of risk at the point in which the button was pressed. Threat categories include mutual interaction (0 - 77 seconds), polite refusals (78 - 97 seconds), verbal refusals with apologies from

the man (98 - 136 seconds), verbal pressures and refusals (137 - 206 seconds), verbal threats and adamant refusals (207 – 293 seconds), and forced sex (294 – 370 seconds).

In the current study, two instructional manipulations varying alcohol consumption and the perspective of the participant (self vs. other) were used. These manipulations garnered four different DRAT conditions: other with no alcohol consumption, other with alcohol consumption, self with no alcohol consumption, and self with alcohol consumption. Instructions for the each condition were as follows:

1) *Other with no alcohol consumption* (Traditional DRAT instructions):

   "You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. The individuals have just returned from a third date. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

2) *Other with alcohol consumption*:

   "You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. The individuals in the recording have returned from their third date in which they had several drinks and reported feeling pretty 'buzzed'. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

3) *Self with no alcohol consumption*:

"You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. When the tape begins I would like you to imagine that you are actually in this situation and the male in the recoding is a man you are on a date with. You have just returned from a third date. As you listen to the tape, use the same judgment you would typically use, or anticipate that you would use, in a similar situation. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

4) *Self with alcohol consumption*:

"You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. When the tape begins I would like you to imagine that you are actually in this situation and the male in the recoding is a man you are on a date with. You have just returned from your third date in which you both had several drinks and now feel pretty 'buzzed'. As you listen to the tape, use the same judgment you would typically use, or anticipate that you would use, in a similar situation. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

In order to prevent participant curiosity about the scenario's outcome from delaying the button press, participants were notified that they would be allowed to continue to listen to as much of the vignette as they wished after they pressed the button and that, conversely, they could

also discontinue listening to the audio recording at any time. Pressing the button a second time terminated the audio. Subjects were not told that the interaction leads to a sexual assault and no words such as "danger" or "risk" were included in the instructions to avoid priming participants about the task and to minimize effects of social desirability. The DRAT has been used in several studies with essentially the same instructional set and has good psychometric properties (Bernat et al., 1997; Soler-Baillo et al., 2005; Wilson, Calhoun, Bernat, 1999).

Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability.

The Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability questionnaire (AESASVQ) is a 25-item instrument that assesses beliefs regarding alcohol consumption (Abbey et al., 1999). There are three versions of the AESASVQ which use the same items but vary the person to whom the alcohol expectancy is attributed (i.e., self, men in general, and women in general). All three versions of the instrument were used in the current study. Individuals used a 5-point scale ranging from not at all (1) to very much (5) to indicate how strongly they ascribe the expectancy to a given target. The AESASVQ is a valued measure since it is one of the only measures that assesses alcohol expectancies related specifically to sexual victimization. In addition to providing an overall alcohol expectancies score, the AESASVQ contains four subscales assessing aggression, sexual affect, sexual drive, and vulnerability to sexual coercion following the consumption of alcohol. The AESASVQ has high discriminant validity, strong internal consistency, and good test-retest reliability (Abbey et al., 1999). Internal consistency within our sample ranged from 0.82 – 0.98 for this measure (Cronbach's α Males version = 0.82; Cronbach's α Females version = 0.89; Cronbach's α Self version = 0.98).

Posttraumatic Stress Disorder Checklist – Civilian Version.

The Posttraumatic Stress Disorder Checklist - Civilian version (PCL-C; Weathers, Litz, Huska, & Keane, 1994) is a 17-item measure of PTSD symptomology in accordance with the Diagnostic and Statistical Manual of Mental Disorders (DSM – IV) diagnosis criteria for PTSD (persistent reexperiencing of the traumatic event, avoidance of stimuli associated with the traumatic event and a consistent increase in arousal). Participants used a 5-point scale to indicate their level of distress in relation to PTSD symptomology over the past 30 days, with possible scores ranging from 17-85. Traditionally cut-off scores ranging from 44 to 50 have been used to identify those with high levels of PTSD symptomology in a variety of clinical and non-clinical settings (Bliese et al., 2008; Ruggierio, Del Ben, Scotti, & Rabalais, 2003). Some previous research suggests that PTSD symptomology may impact DRAT performance (Wilson et al., 1999), consequently PCL-C scores were controlled for during statistical analyses. Research examining the reliability and validity of the PCL-C suggests that this instrument has strong psychometric properties (McDonald & Calhoun, 2010; Ruggerio, Del Ben, Scotti, & Rabalais, 2003). Internal consistency for this measure was $\alpha = 0.93$ for our sample.

Life Stressor Checklist.

The Life Stressor Checklist (LSC-R) is a self-report inventory of 30 stressful life events. It includes events that would meet DSM-IV criterion A for Post-Traumatic Stress Disorder (e.g., exposure to actual or threatened serious injury or death, to which an individual reacted with intense fear, helplessness, or horror), as well as other events that would be regarded as stressful, but not traumatic. The LSC-R was modified slightly from its original form for the purposes of this study by removing the item related to previous incarceration, since all participants were incarcerated. The questions asked at administration were also modified slightly in order to obtain information about the number of stressful life events experienced within the year prior to

offending. Participants were asked to indicate (yes/no) whether they had experienced the given event. They were then asked to indicate how many times the event occurred (i.e., frequency categories: once, twice, three times, four times, or more than four times) and how many times it happened in the year prior to the target offense. The LSC-R has been used previously among female victims of violence and has good test-retest reliability (McHugo et al., 2005).

While the LSC-R includes a comprehensive list of traumatic experiences, it was used primarily to assess rates of general IPV exposure and previous sexual victimization in the current study. IPV was defined as physical or sexual violence from someone known to the victim or witnessing family violence. Sexual victimization was classified as forced touching and/or completed oral, anal, and/or vaginal rape.

Following the endorsement of any sexual assault experience, participants were asked a series of questions regarding their victimization history. First, questions regarding lifetime prevalence of sexual assault involving alcohol and/or drug consumption were presented (adapted from Lawyer et al., 2010). Specifically participants were asked:

- Has anyone ever had sex play (fondling, kissing, or petting but not intercourse) with you when you didn't want to when you were passed out from alcohol or were too drunk to know what was going on?
- Has anyone ever had sex play (fondling, kissing, or petting but not intercourse) with you when you didn't want to when you were passed out from drugs or were too high to know what was going on?
- Has anyone ever attempted sexual intercourse (get on top of you, attempt to insert his penis) with you when you didn't want to when you were passed out from alcohol or were too drunk to know what was going on but intercourse did not happen?

- Has anyone ever attempted sexual intercourse (get on top of you, attempt to insert his penis) with you when you didn't want to when you were passed out from drugs or were too high to know what was going on but intercourse did not happen?
- Has anyone ever had sexual intercourse (vaginal, anal, or oral intercourse or penetration by objects other than the penis) with you when you didn't want to when you were passed out from alcohol or were too drunk to know what was going on?
- Has anyone ever had sexual intercourse (vaginal, anal, or oral intercourse or penetration by objects other than the penis) with you when you didn't want to when you were passed out from drugs or were too high to know what was going on?
- Have any of your previous sexual assaults involved drug and/or alcohol use by the other person(s) involved?
- How much of the time have your sexual assault experiences involved alcohol use or drug use by you or the person who assaulted you?

Next, questions about the role of alcohol and drugs in relation to a specific sexual victimization experience were presented. Since many of the participants endorsed multiple sexual assaults in their lifetime, they were asked to reference their most recent sexual victimization prior to their incarceration. Initially, questioning was open-ended in nature:

- Tell me a bit about the assault.
- Who was involved in the assault?
- How did the assault come about?
- What do you think lead up to this?

All responses to these open-ended questions were audio-recorded and transcribed. Participants were then asked a number of close-ended questions (adapted from Lawyer et al.,

2010) about their age at the time of the assault, whether they had consumed alcohol and/or drugs prior to the assault (including the type of drug), if their consumption of these substances was voluntary (i.e., took them because I wanted to, took them without knowing, took some because I wanted to and took some without knowing or consenting, not sure), where they had consumed these substances, whether the perpetrator had consumed alcohol and/or drugs prior to the assault, and the relationship of the perpetrator to the victim. These questions were used to discriminate between incapacitated sexual assault (unwanted sexual contact that occurs after a victim is too intoxicated or high to provide consent after voluntarily consuming alcohol/drugs) and substance-facilitated sexual assault (unwanted sexual contact that occurs when a woman is too intoxicated or high due to a substance she was given without her consent, against her will, or pressured to consume).

Alcohol Use Disorders Identification Test (AUDIT).

The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) is a 10-item instrument that is recommended by the World Health Organization as a brief screening instrument for the detection of harmful alcohol consumption. It assesses drinking frequency, intensity, symptoms of tolerance and dependence, and alcohol-related negative consequences over the past 12 months, and has high internal validity and test-retest reliability. Research using the AUDIT with incarcerated female samples indicates that it is a valid and reliable measure of drinking behaviors in this population (El-Bassel, Schilling, Ivanoff, Chen, & Hanson, 1998). Internal consistency for this measure within our sample was $\alpha = 0.86$. Since participants in this study may have been incarcerated for over one year (preventing the assessment of alcohol abuse in a non-restricted environment), participants were asked to think of the time in their life in which they most heavily used alcohol and respond to the AUDIT

with this time-period in mind. In order to ensure that responses to the AUDIT were based on a standardized definition of a single drink, participants were presented with the "Drink Equivalency" sheet which provided information regarding the number of drinks in a variety of commonly purchased alcoholic items (e.g., one pitcher of beer is equivalent to five drinks). The AUDIT was used to ensure that participants have had some contact with alcohol in their lifetime and assess the severity of their alcohol use.

Drug Use Disorders Identification Test (DUDIT).

The Drug Use Disorders Identification Test (DUDIT; Berman, Bergman, Palmstiema, & Schytler, 2002) is an 11-item questionnaire that is a brief assessment of drug use. It assesses the type, frequency, and consequences of drug use over the past 12 months. As with the AUDIT, instructions for the DUDIT were modified to inquire about drug use during the time in the participant's life in which they most frequently abused illicit substances and/or prescription medications. A list of narcotics and prescription medications were provided to the participant to assist with the identification of specific substances they may have abused in the past. This page also outlined the necessary conditions for prescription medication abuse (i.e., overuse of medication, use of medication for recreational purposes, use of medications that are prescribed to another individual, and use of pills that have been purchased on the "black market" or stolen). The DUDIT was administered to participants in this study due to the elevated levels of drug use found in incarcerated populations and DUDIT scores were controlled for during statistical analyses. Research indicates that the DUDIT has good reliability and is an effective screening measure for drug dependence in clinical and forensic populations (Bernman et al., 2002). Internal consistency for this measure was estimated to be $\alpha = 0.89$ within our sample.

Procedure

Participants completed all study procedures in a private room (e.g., available counselor's office or multipurpose room) and were compensated for their participation with small candy bars. Participants were provided with an overview of the study procedures including a description of the approximate duration, types of questions that will be asked, and the voluntary nature of participation. Each participant was provided with an informed consent document written at a sixth grade reading level, as the reading comprehension of this population has been found to be limited.

All data for this study were collected electronically using MediaLab software. Following completion of the informed consent procedures and the demographics questionnaire, participants were assigned to one of four experimental conditions which varied the version of the DRAT instructions and alcohol expectancies questionnaire they received. Assignment to study condition was based on recruitment order. A 2 x 2 design was used to vary the presence of alcohol (alcohol consumption vs. no alcohol consumption) and perspective (self vs. other). In relation to the alcohol expectancies questionnaire, all participants completed two versions of the questionnaire. All subjects completed the AESASVQ relating to male alcohol expectancies. However, the perspective condition that subjects were assigned to for the DRAT dictated whether they received the self or "woman in general" version of the AESASVQ. Hence, those in the self-condition of the DRAT received the self-version of the AESASVQ, while those in the other/observer DRAT condition received the version of the AESASVQ that refers to women in general.

All measures were read to participants and their responses entered into the MediaLab software by the interviewer. The only exception to this was the presentation of the DRAT. While the instructions for this measure were read to participants, they listened to the recording using

headphones and pressed a button to indicate when they found the behavior of the man in the recording to be inappropriate. The order of self-report and behavioral measures was counterbalanced across participants to prevent order effects.

Following the study procedures, participants were debriefed and given an opportunity to talk about any distress they experienced and shared concerns or questions they had about the study. They also were provided with information regarding procedures to access mental health services and the contact information for the primary investigators in the event that they experienced lasting distress associated with participation.

Results

Descriptive Statistics

Descriptive statistics related to sexual victimization history, substance use, and history of incapacitated and substance-facilitated sexual assault are provided in Tables 3 – 6. The vast majority of the sample (82.8%; n = 77) endorsed one or more sexual victimization experiences in their lifetime. Many of these women (71.0%, n = 66) reported that their first sexual victimization experience occurred during their childhood or adolescence and approximately half of these individuals (52.7%; n = 49) reported that these early victimization experiences involved a completed rape. Participants also reported high rates of lifetime exposure to interpersonal violence (IPV; 96.8%, n = 90) and the majority (88.2%, n = 82) of women in this sample endorsed their first exposure to IPV occurring prior to the age of 16. Participants disclosed witnessing family violence as the most common form of IPV during childhood and adolescence (73.1%, n = 68), followed by forced sexual touching (67.7%, n = 63) and physical violence from someone known to the participant (65.6%, n = 61).

Given the high rates of exposure to traumatic events, it is not surprising that participants reported elevated levels of posttraumatic symptomatology (PCL-C Total M = 50.6, SD = 16.4). The majority of participants (n = 60) had PCL total scores above the typical clinical cut-off of 45 (Andrykowski, Cordova, Studts, & Miller, 1998; Ruggierio et al., 2003). Alcohol and drug use also was prominent in the sample. The mean AUDIT score of 13.1 (SD = 8.0; n = 56 above the clinical cut-off of 10) was within the range of scores indicating hazardous or harmful alcohol consumption (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). Similarly, the mean DUDIT score of 20.6 (SD = 9.0; n = 85 above the clinical cut-off of 2 for females) was indicative of clinically significant drug related problems (Berman et al., 2005).

Of the 77 participants who reported a previous sexual assault experience, 67 (87.0%) stated that the consumption of substances by themselves (77.9%; n= 60) or the perpetrator (80.5%; n = 62) was associated with one or more of their previous victimization experiences. Participants were also asked to provide information regarding substance use in relation to their last sexual victimization experience prior to incarceration. Of the 75 participants (2 declined to complete this portion of the interview) who provided information about their last sexual victimization experience, 29.3% (n = 22) endorsed alcohol consumption prior to this assault, with 13 of these individuals (59.0%) endorsing a belief that they were "too drunk to know what was going on." The vast majority of participants who consumed alcohol reported doing so voluntarily (95.5%, n = 21).

With regard to drug use, 49.3% (n = 37) of participants reported using drugs prior to their last assault before incarceration, with 56.8% (n = 21) reporting that they were "too high to know what was going on" and the vast majority (n = 32, 86.5%) reporting that they consumed the drugs voluntarily.

Of the 75 participants that provided information about their most recent sexual assault prior to their incarceration, 44 (58.7%) women reported that they used alcohol and/or drugs prior to this victimization experience. Within this subsample of participants who consumed substances, (63.6%; n = 28) reported an experience that is best described as an incapacitated assault, while (6.8%; n = 3) described experiences that met criteria for a substance-facilitated assault.

DRAT Performance and Alcohol Expectancies

It was hypothesized that women would display significantly longer DRAT latencies in presence of alcohol (Hypothesis 1) and that longer DRAT latencies would be seen when

participants complete the DRAT from the self perspective (Hypothesis 2). Since DRAT latencies were not significantly correlated with PCL total scores (r = 0.03), PCL arousal scores (r = 0.06) or DUDIT (r = - 0.09) scores, these variables were not included as covariates. A 2 (alcohol vs. no alcohol) x 2 (self vs. other perspective) factorial ANOVA was used to examine main and interaction effects. Contrary to our hypotheses, the factorial ANOVA indicated no main effects for the presence of alcohol (F (1, 89) = 1.08, p = 0.30, d = 0.21) or the perspective of the DRAT (F (1, 89) = 0.12, p = 0.91, d = 0.03). In addition, no interaction effect between alcohol and perspective was observed (F (1, 89) = 2.69, p = 0.11, η^2 = 0.0011). See Figure 1 for DRAT mean latencies in each condition.

Alcohol Expectancies

The third hypothesis was that participants would endorse higher levels of alcohol expectancies in relation to the behaviors of others in comparison to themselves. A combination of paired and independent sample t-tests examined the AESASVQ subscale scores across target conditions (i.e., self, males, and women in general). Given the high number of t-tests, a Bonferroni adjustment was used, reducing the alpha level to 0.004.

Since all participants completed the AESASVQ related to males but were assigned to complete either the self (n = 47) vs. other females (n = 46) conditions, a series of paired sample t-tests were used to compare AESASVQ subscale scores for males across the other two conditions (i.e., males in comparison to females in general and males in comparison to self). When looking at males in relation to women in general, there were significant differences across all of the AESASVQ subscales (Figure 2). Participants believed that men are more aggressive (t (45) = 3.60, p = 0.001, d = 0.57) and display higher levels of sexual drive (t (45) = 3.69, p = 0.001, d = 0.56) than women. Conversely, participants believed that women display higher levels

of sexual affect when intoxicated (t (45) = -5.21, $p < 0.001$, d = 0.71) and are more vulnerable to sexual coercion while drinking (t (45) = -10.92, $p < 0.001$, d = 2.15).

Subscale differences also emerged when comparing the male and self versions of the AESASVQ (see Figure 3). Again, participants believed that men are more aggressive (t (46) = 4.01, $p < 0.001$, d = 0.80) and exhibit higher levels of sexual drive while intoxicated (t (46) = 3.28, p = 0.002, d = 0.71). No significant differences were seen in relation to levels of sexual affect (t (46) = -2.33, p = 0.02, d = 0.42) or being more vulnerable to sexual assault (t (46) = -2.74, p = 0.01, d = 0.60).

Independent samples t-tests were used to compare differences in AESASVQ subscale scores across the self and women in general conditions (see Figure 4). The results indicate that participants believed that other women were more vulnerable to sexual coercion than themselves while intoxicated (t (91) = -3.66, p = 0.001, d = 0.76). There were no significant differences for the sexual affect (t (91) = 0.15, p = 0.88, d = 0.03), aggression (t (91) = -2.47, p = 0.02, d = 0.51), or sexual drive (t (91) = -1.03, p = 0.31, d = 0.21).

Qualitative Analysis of Sexual Assault Experiences

In addition, responses to the opened-ended questions about their last sexual assault were qualitatively analyzed to capture basic themes present in women's narratives. All responses were transcribed verbatim and reviewed by the primary investigator. Themes related to the participants' attributions regarding the cause of the sexual assault were examined. A total of 75 narratives were gathered but only 64 were used in the current qualitative analyses since 11 of the original narratives were discarded due to insufficient information or discontinuation of the recording midway through the interview. Across these 64 narratives, a total of 134 attribution statements were identified. Of these attributions, the majority related to the behavior of the

victim (92 statements, 68.6%), rather than the actions of the perpetrator (42 statements, 31.3%). Looking primarily at the victim attributions that did not relate directly to substance use (42 statements), three general themes emerged: 1) self-blame related to a specific behavior or action (17 statements, 40.4% of non-substance use self-attributions) 2) failure to protect one's self (13 statements, 30.9% of non-substance use self-attributions) 3) one's perceived promiscuity (8 statements, 19.0% of non-substance use self-attributions). The following de-identified direct quotes represent these common attribution themes:

Self-blame related to a specific behavior or action

(Participant #1-11) "I went into his apartment by my will. Um, I mean it was my own free choice."

(Participant #7-8) "…because I just said 'hi' and I was a nice person."

(Participant #5-8) "…basically me just letting him in when nobody else was there."

Failure to protect one's self

(Participant #2-5) "I let my guard down just a little bit too much."

(Participant #4-1) "…because I didn't say 'stop'. I didn't, I didn't try and push him away.

(Participant #6-3) "…it was my fault, um, my fault for not being, um, more, um, forceful at saying no."

(Participant #3-3) "I left myself vulnerable."

One's perceived promiscuity

(Participant #4-1) "…maybe I was too flirtatious or..or..ugh, I don't know. Maybe I said or did something that made him think it was okay."

(Participant #3-4) "I'm very promiscuous and I'm really flirty and so I think that my flirty personality kind of led up to it."

(Participant #4-8) "I felt like I was putting off some type of vibe or something."

(Participant #6-8) "…just being me being a flirt and stuff."

Looking only at the substance use related attributions (72 statements), there was a clear distinction in how participants viewed their own substance use in relation to perpetrator substance use. First, they were more likely to identify their own substance use as a contributing factor to their assault experience (self substance use attributions: 52 statements, 72.2% of total substance use related attributions; perpetrator substance use attributions: 20 statements, 27.7% of total substance use related attributions). Further, substance use on the part of the perpetrator often alleviated responsibility for perpetration. The de-identified direct quotes below illustrate this theme:

(Participant #1-5) "…he was too drunk and he thought- he told me he thought it was someone else. So, I, you know, I believe my brother."

(Participant #2-8) "Yeah, he was high and he saw things that weren't going on."

(Participant #5-2) "…he's the type of guy where he gets- he's really the nicest guy. He's an ex-marine and, umm, he's real nice and civil and talks really good but when he gets drunk it's just like day and night."

(Participant #6-6) "I guess he was too drugged up to you know so he didn't even know what he was doing."

Conversely, victim consumption of drugs and/or alcohol frequently assumed responsibility for their sexual victimization experience. Participants most often identified substance use as hindering them from being aware of their surroundings and/or protecting themselves. This theme is presented in the de-identified direct quotes below:

(Participant #2-11) “I got really high and I kinda lost my memory for a minute and by then when I woke up it was like he was on top of me.”

(Participant #5-11) “I was really drunk so I wasn’t paying attention to much of anything else, like almost to the point of being blacked out, so I wasn’t sure what was going on.”

(Participant #6-13) “I was too drunk to even fight back.”

(Participant #3-10) “I pushed him away from me but needless to say I didn’t have that much strength because I was high.”

Discussion

The current study examined substance use and sexual victimization in a sample of incarcerated women. Rates of sexual victimization involving substance use, contextual factors impacting interpersonal threat detection abilities (i.e., perspective and the presence of alcohol), and qualitative attributions regarding the cause of previous sexual victimizations were explored.

Biased Estimations of Sexual Assault Risk

This sample reported high rates of sexual victimization, IPV, and substance use. Many individuals indicated that their first victimization experience occurred in childhood or adolescence. Looking at beliefs about substance use (i.e., alcohol consumption) and sexual behavior, participants displayed an optimistic bias when estimating sexual assault risk during alcohol consumption. That is, they believed that other women were more vulnerable than they were to sexual coercion while intoxicated. This is paradoxical given the high rates of sexual victimization and substance consumption reported by our sample. For example, 83% of our sample reported a previous sexual victimization experience and the vast majority of these women (87%) indicated that drug or alcohol consumption by themself or their perpetrator was associated with one or more of their previous sexual assaults. Over half the individuals endorsing a history of sexual victimization disclosed using alcohol and/or drugs prior to their last sexual assault experience. By comparison, approximately 20% of women in the general public report a previous sexual assault experience and 35-55% report substance consumption prior to a past sexual victimization (Brecklin & Ullman, 2010; NISVS, 2010; Testa, 2002; Testa, 2004; Ullman, 2003) Additionally, 36% of the women in our sample who endorsed a sexual assault history indicated that their last victimization experience met criteria for an incapacitated sexual assault. Rates of lifetime incapacitated sexual victimization are believed to be substantially lower for

women in general population (10%; Testa, Livingston, Vanzile-Tamsen, Frone, 2003) and college samples (21%; Lawyer et al., 2010).

The level of optimistic bias reported by this sample is at odds with research indicating that women who have been sexually victimized often reduce their optimistic bias when estimating their own sexual assault risk (Brown, Messman-Moore, Miller, & Stasser, 2005; Bryant, 2001; Helweg-Larsen & Shepperd, 2001; Norris et al., 1999; Orchowski, Creech, Reddy, & Capezza, 2012; Weinstein, Lyon, Rothman, & Cuite, 2000). Gidycz and colleagues (2006) described this phenomenon stating that an optimistic bias may originate from a difficulty in identifying oneself with the image of a "typical victim." However, after experiencing a sexual victimization, women often reduce the discrepancy between themselves and the "typical victim" and rates of global risk and personal risk become more congruent. Research also indicates that heavy drinkers, compared to light drinkers, perceive themselves to be at an increased risk for sexual victimization (Gidycz, Loh, Lobo, Rich, Lynn, & Pashdag, 2007). The continued underestimation of substance related sexual assault risk displayed by our participants, even after exposure to sexual violence involving substance use, may be one mechanism by which these women remain vulnerable to sexual revictimization (Gidycz et al., 2006).

While our sample underestimated their sexual assault risk during alcohol consumption on a self-report measure, they appeared to recognize that substance use was a contributing factor in their own previous sexual victimization experiences. Examination of sexual assault narratives provided by participants suggests that, in comparison to other variables, these women most often identified their own consumption of alcohol and/or drugs as a contributing factor to their most recent sexual assault. Looking at all attribution statements made by our sample, approximately 40% related to their own use of alcohol and/or drugs. Only 14% of total attribution statements

related to substance use by the perpetrator. One possible reason for the discrepancy in self-report responses and sexual assault narratives may be differences in the type of substance consumption being assessed. The self-report measure explored expectancies related only to alcohol use, while the narratives examined the use of alcohol and/or drugs.

These overall results suggest that while many of our participants report long histories of sexual victimization and recognize that substance consumption both directly (i.e., use by the victim) and indirectly (i.e., use by the perpetrator) played a role in their sexual assault history, they appear to have difficulty integrating this information into their estimations of personal sexual victimization risk in the presence of substance consumption. As such, the optimistic bias is maintained and women may fail to take necessary precautionary measures (e.g., restricting alcohol consumption in social situations) to reduce their risk of revictimization.

It was hypothesized that longer DRAT latencies would be seen when participants completed the DRAT from the self-perspective, due to the optimistic bias. However, no change in DRAT latency was seen across self and other perspectives. It is unclear why the optimistic bias was not demonstrated using a real-time decision making task. One possibility is that during the DRAT, participants are focused on the detection of threat, rather than estimations of sexual assault risk. As such, the DRAT may measure a unique variable or ability that is not as vulnerable to the optimistic bias. Given that no literature to date has thoroughly examined the role of an optimistic bias in relation to the recognition of interpersonal threat, future efforts to study the relationship between these variables are important.

Recognition of Risk Factors Versus Reacting to Risk Factors

It was also hypothesized that women would display significantly longer DRAT latencies in presence of alcohol, as alcohol can be viewed as a cue of sexual permissiveness. Contrary to our

predictions and previous findings (Bernat et al., 1998) there were no changes in latency based on the presence of alcohol. Reexamination of the literature suggests that the expectation of an extended latency may only be pertinent to DRAT performance from the perspective of the perpetrator, rather than the victim. For instance, Bernat, Calhoun, and Stolp (1998) conducted the only study to date to examine the manipulation of alcohol in the DRAT and correctly predicted that longer latencies would be associated with the presence of alcohol in the dating scenario. However, this study utilized an all-male sample and found that longer latencies were only seen in sexually aggressive men. Other studies focused on the viewpoint of the perpetrator have also considered alcohol to be a permissive sexual cue (Abbey et al., 2009; Goetz, Easton, Lewis, & Buss, 2012; Norris, George, Davis, Martell, & Leonesio, 1999; Norris & Kerr, 1993; Wilson, Calhoun, McNair, 2002). Literature examining alcohol consumption from the perspective of female victims tends to conceptualize alcohol consumption as a risk factor (Abby, Ross, McDuffie, & McAuslan, 1996; Gidycz et al., 2006; Norris, Nurius, & Dimeff, 1996). This victim-focused literature asserts that women need to be more alert or weary of victimization threat when consuming alcohol or while in the presence of others who are drinking. As such, it may be more appropriate to predict that women presented with the DRAT alcohol manipulation would have a shorter latency, due to an increased sensitivity to threat in the presence of a risk factor which increases their likelihood of being victimized. Additional research examining these gender-based differences in behavior in the presence of alcohol would likely provide important information about substance-related sexual assault.

Participants in the current study recognized that alcohol was a general risk factor based on their belief that men become more sexually aggressive while drinking and women in general were at increased risk of sexual coercion when consuming alcohol. Participants also recognized

that their own substance consumption played a role in their previous sexual assault experiences. Given this recognition of alcohol as a risk factor, it is surprising that participants did not appear to be more sensitive to threat in the DRAT conditions involving alcohol. This suggests that our participants were able to identify an important sexual assault risk factor, but they did not adapt their behavior to accommodate the increased level of risk in the presence of this factor. This discrepancy between the recognition of risk factors and failure to react appropriately to increased risk is documented in the sexual assault literature. For example, Norris and colleagues (1996) found that female college students (n = 66) were able to easily identify general risk factors for sexual assault (e.g., alcohol consumption) but had difficulty providing specific information about how they might take precautionary action against these risks or react to a risky sexual situation involving these factors. Other research suggests that merely identifying sexual assault risk factors is insufficient in preventing sexual revictimization. For instance, Hanson and Gidycz (1993) found that a rape prevention program focusing on identification of sexual assault risk factors and disproving sexual assault myths was not effective in reducing sexual revictimization. These researchers modified their program and discovered that reductions in long-term sexual revictimization were seen following increases in interactive role play and discussion related to use of appropriate resistance strategies during risky sexual interactions (Gidycz, et al., 2001)

In sum, it is possible that women in the current study may continue to be vulnerable to sexual victimization due to maladaptive views regarding alcohol consumption and sexual assault. Although they identified alcohol use as a general risk factor for sexual assault and reported that it played a significant role in their previous assault experiences, they did not appear to recognize that while consuming alcohol their personal levels of sexual assault risk increased at a rate similar to (or possibly greater than) that of other women. This is surprising given the histories of

substance-associated sexual assault reported by many women in our sample. These women also failed to adapt their behavior in response to the presence of a sexual risk factor (i.e., alcohol consumption) during a sexual decision making task. In a real world setting, it is possible that these tendencies would be associated with weaker recognition of personal sexual assault risk and the decreased sensitivity to threat in risky sexual situations. Moreover, research suggests that a history of sexual victimization is associated with higher levels of alcohol use and endorsement of alcohol expectancies that focus on the positive aspects of drinking (Abbey et al., 1999; Benson, Gohm, & Gross, 2007; Corbin, Bernat, Calhoun, McNair, & Seals, 2001; Rohsenow, 1983; Southwick et al., 1981; Testa & Derman, 1999). It is possible that these positive beliefs about drinking would lead to (or justify) elevated levels of alcohol consumption, even when women recognize that drinking may be a risky behavior.

Subsequent intoxication may then create additional physical and cognitive barriers to the accurate evaluation of risk and employment of effective resistance strategies (Abbey et al., 2001; Brecklin & Ullman, 2010; Harrington & Leitenberg, 1994; Testa & Parks, 1996; Ullman et al., 1999). This process may be further complicated by the use of alcohol consumption as a coping mechanism to alleviate emotional distress and mental health symptoms associated with a history of sexual victimization (Bandura, 1969; Khantzian, 1985; Miranda, Meyerson, Long, Marx, & Simpson, 2002; Stasiewicz & Maisto, 1993). That is, reliance on alcohol use as a method of avoiding or decreasing negative emotional experiences may create a cycle in which women focus on or ascribe more value to the negative reinforcement properties of alcohol use (i.e., intoxication reducing negative emotions or internal states) and fail to attend to the increased levels of sexual assault risk associated with alcohol consumption.

Narratives of Self-Blame

Finally, qualitative examination of sexual assault narratives suggests that participants more commonly viewed their behavior as a variable leading to their victimization experience, in comparison to the behavior of the perpetrator. Victim focused attribution statements related to the victim's inability to protect themselves, a specific erroneous action (e.g., letting someone into their apartment), substance use, or their perceived promiscuity. Looking specifically at substance-related sexual assault attributions, there appeared to be a distinction in how participants viewed their own substance use in relation to perpetrator substance use. Their own substance use was associated with the assumption of responsibility for the assault experience, while substance use by the perpetrator was often used to alleviate responsibility for perpetration. High levels of victim based attributions are not surprising given that women typically report elevated self-blame following a substance-related sexual assault (Ullman & Najdowski, 2010). Higher levels of self-blame are also endorsed by women with a history of multiple sexual victimizations (Filipas & Ullman, 2006).

Research suggests that self-blame can be detrimental to recovery from a sexual assault (Arata, 2000; Classen, Palesh, & Aggarwal, 2005; Ullman, 1997; Wyatt, Notgrass, & Newcomb, 1990). For instance, self-blame following a sexual assault experience is associated with delayed disclosure of the assault, poorer psychological adjustment, and higher levels of psychological distress (Breitenbehcher, 2006; Classen et al., 2005; Coffery, Leitenberg, Henning, Turner, & Bennett, 1996; Ullman, 1997; Wyatt et al., 1990). Some researchers argue that focusing attributions of responsibility on external variables may be more beneficial to recovery and facilitate better mental health (Ullman, 1997). Research also indicates that self-blame is associated with sexual revictimization (Arata, 2000; Gutterman, 1994; Kellog & Hoffman, 1997; Miller, Markman, & Handley, 2007). For example, Arata (2000) found that the relationship

between childhood and adolescent victimization was mediated by self-blame, post-traumatic symptoms, and consensual sexual behavior. Miller and colleagues (2007) found that self-blame following college women's adolescent sexual assault experiences prospectively predicted revictimization over a 4 month follow-up period. Gutterman (1994) found that women who endorsed self-blame related to repeated childhood sexual abuse were more likely to be sexually victimized in adulthood.

The specific manner in which self-blame may increase vulnerability to sexual revictimization is unclear. One possibility is the aforementioned finding that women may utilize alcohol and illicit substances to cope with the psychological distress associated with self-blame and other aversive internal states, which may in turn expose them to risky sexual situations and increase the likelihood of sexual revictimization (Carbone-Lopez, Kruttschnitt, & Macmillan, 2006; Coffrey et al., 1996; Miranda et al., 2002; Polusny & Follette, 1995; Root, 1989). This prediction is congruent the self-medication hypothesis proposed by Khantzian (1985) and existing behavioral theories of substance use which suggest that drug and alcohol use may serve as a mechanism to cope with and reduce negative emotions (Bandura, 1969; Stasiewicz & Maisto, 1993).

Limitations and Future Directions

The results of this study should be considered in light of several important limitations. To begin with, utilizing a sample of incarcerated women limits the generalizability of these findings to the general public. Given the elevated rates of mental illness, childhood maltreatment, and substance use found in incarcerated populations, it is possible that these individuals represent a subsample of women who are exposed to a variety of factors that inherently increase their vulnerability to sexual assault. It is probable that utilizing the DRAT alcohol and perspective

manipulations in a sample of females from the community who report lower levels of pre-existing sexual victimization risk factors (e.g., history of previous assault, mental health problems, etc.) may provide useful information about threat detection and alcohol expectancies without the influence of so many variables.

Also, it is possible that given the high rates of alcohol use reported by our sample, a stronger alcohol manipulation may be necessary in the DRAT instructions to convey an increased level of victimization risk. The instructions used in the alcohol conditions for the current study stated that the individuals in the recording had "had several drinks and felt buzzed." Although this language has been used in past DRAT research with college samples (Bernat et al., 1998), this description may not have the same meaning for heavy substance users, given their increased frequency and quantity of alcohol consumption. Further, in consideration of the high rates of drug use endorsed by our sample, it may be useful to examine differences in DRAT latencies using an illicit drug use manipulation.

Next, much of the information provided by our participants was retrospective in nature (e.g., estimations of substance use, traumatic childhood experiences, sexual assault narratives, etc.), so the accuracy of participants' responses may be impacted by recall biases and poor memory. Further, participants attempted to provide information about times in their lives in which they may have heavily abused drugs and alcohol, further impairing their ability to accurately recall these events. One way in which to address this limitation is the utilization of a longitudinal design in which a community sample of females are administered the DRAT with the alcohol manipulation and followed across an extended period of time in an attempt to examine the association between threat detection skills, levels of alcohol consumption, and future alcohol related sexual victimization experiences.

Another limitation of this study relates to the ambiguity of the variables actually measured by the DRAT. While many researchers assert that the DRAT assesses situational threat and interpersonal aggression (Soler-Baillo et al., 2004; Wilson et al., 1999), the ambiguity of this task's instructions suggests that other variables (e.g., beliefs about sexual appropriateness, rape myth acceptance, etc.) may also be measured by DRAT latencies. In addition, the DRAT focuses on only heterosexual sexual victimization, which may make it an ineffective tool to study sexual assault within non-heterosexual populations. While the current study employed inclusion criteria which required a history of sexual contact with a male, the DRAT may not be a valid assessment tool for participants who identified their sexual orientation as bisexual or homosexual. Further, questions related to sexual orientation in the demographics questionnaire did not utilize behavioral definitions of varying sexual orientations. This may have resulted in an overestimation of heterosexuality in our sample, given that incarcerated females may identify as 'heterosexual' but engage in sexual contact or romantic relationships with females during their incarceration. Also, research suggests that performance on the DRAT may be impacted by sexual victimization history. That is, women with a history of multiple sexual victimizations display longer DRAT latencies than women with a history of a single victimization or no previous assaults (Wilson et al., 1999). While it would be preferable to examine DRAT latencies across different victimization categories in our sample, the high levels of sexual trauma reported by our sample prevented this type of comparison. Replicating this study with a sample displaying greater variability in their sexual assault histories may be beneficial.

Lastly, the current study focused primarily on threat detection without directly inquiring about the type of resistance strategy a participant might make in reaction to that cue. Future research should explore the types of reactions that women may employ during risky sexual

situations involving alcohol use and specifically how these responses relate to the initial identification of threat. Existing literature in this area has not utilized real time estimates of risk detection in their methodology, instead relying on vignettes (Meadows et al. as cited in Messman-Moore & Brown, 2006). Using behavioral threat detection tasks, such as the DRAT, may provide novel information regarding the relationship between threat detection skills and resistance strategies to aggression.

Summary

Substance-related sexual trauma is a prevalent phenomenon that appears to impact incarcerated women at rates higher than the general public (Brecklin & Ullman, 2010; NISVS, 2010; Testa, 2002; Testa, 2004; Ullman, 2003). The findings of the current study suggest that one mechanism which might contribute to increased sexual assault vulnerability in this population are beliefs about the impact of drug and alcohol use on sexual behavior. Women within our sample underestimated their risk of sexual victimization during alcohol consumption, even though they endorsed higher rates of previous sexual assaults involving substance use. Further, while these women appeared to recognize that substance use was a general risk factor for sexual assault, they failed to adapt their sexual decision making in the presence of this factor. Given the elevated levels of substance use reported by our sample, it is possible that the benefits of substance use (e.g., alleviation of negative affect) may outweigh the risks (e.g. increased vulnerability to sexual assault; Bandura, 1969; Stasiewicz & Maisto, 1993). High levels of self-blame following substance-related sexual assault may further exacerbate these maladaptive patterns of substance use. Research examining ways in which to modify erroneous beliefs regarding substance use and sexual behavior may be one manner in which to reduce rates of substance-related sexual victimization within this population.

Table 1.

Demographic composition of the sample.

Demographic variable	*N*	%
Ethnicity		
European American/Caucasian	55	59.1
Hispanic American/Hispanic	22	23.7
Native American/American Indian	7	7.5
Other ethnicity	9	9.7
Sexuality		
Heterosexual	66	71.0
Bisexual	22	23.7
Homosexual[1]	5	5.4
Education		
Less than high school degree	19	20.5
Completed high school	16	17.2
GED	25	26.9
Some college	25	26.9
College degree or further	8	8.5

[1]While a small portion identified themselves as homosexual, all of these individuals disclosed prior sexual contact with a male, which was a requirement for participation in the current study.

Table 2.

Criminal charge for current incarceration.

Type of Criminal Charge	*N*	%
Drug offense	29	31.2
DUI	6	6.5
Aiding and abetting	5	5.4
Kidnapping	2	2.2
Assault/battery	6	6.5
Murder/manslaughter/attempted murder /conspiracy to commit murder	9	9.7
Parole/probation violation	6	6.5
Forgery	14	15.1
Injury to a child	5	5.4
Burglary/robbery/theft	21	22.6

Table 3.

Interpersonal violence (IPV) exposure history.

Type of IPV Exposure	*N*	%
Witnessing family violence (Before 16)	68	73.1
Physical violence (Before 16)	61	65.6
Physical violence (After 16)	72	77.4
Forced touching (Before 16)	63	67.7
Forced touching (After 16)	49	52.7
Completed rape (Before 16)	49	52.7
Completed rape (After 16)	50	53.8
IPV exposure before age 16	82	88.2
IPV exposure after 16	79	84.9
Lifetime IPV exposure	90	96.8

Table 4.

Lifetime sexual victimizations involving substance use by the victim and/or perpetrator.

Proportion of assaults involving substance use	*N*	%
None	10	13.0
A little	11	14.3
Some	13	16.9
A lot	20	26.0
All of the time	23	29.9

Table 5.

Sexual victimizations involving substance use by the victim.

Type of sexual victimization	*N*	%
Fondling, kissing, or petting – Alcohol consumption	46	59.7
Fondling, kissing, or petting – Drug consumption	44	57.1
Attempted sexual intercourse – Alcohol consumption	37	48.1
Attempted sexual intercourse – Drug consumption	39	50.6
Completed sexual intercourse – Alcohol consumption	34	44.2
Completed sexual intercourse – Drug consumption	27	35.1
Any assault with victim substance use	60	77.9

Table 6.

Substance consumption during last sexual assault prior to incarceration.

	N	*%*
Consumed Alcohol	22	29.3
Too drunk to know what was happening	13	59.0
Voluntary consumption of alcohol	21	95.5
Some voluntary/some involuntary consumption of alcohol	1	4.5
Consumed drugs	37	49.3
Too high to know what was happening	21	56.8
Voluntary consumption of drugs	32	86.5
Some voluntary/some involuntary consumption of drugs	4	4.3
Consumed drugs without knowing	1	2.7
Incapacitated sexual assault	28	63.6
Substance-facilitated sexual assault	3	6.8

Figure 1.

DRAT mean latencies across conditions. Error bars represent standard error.

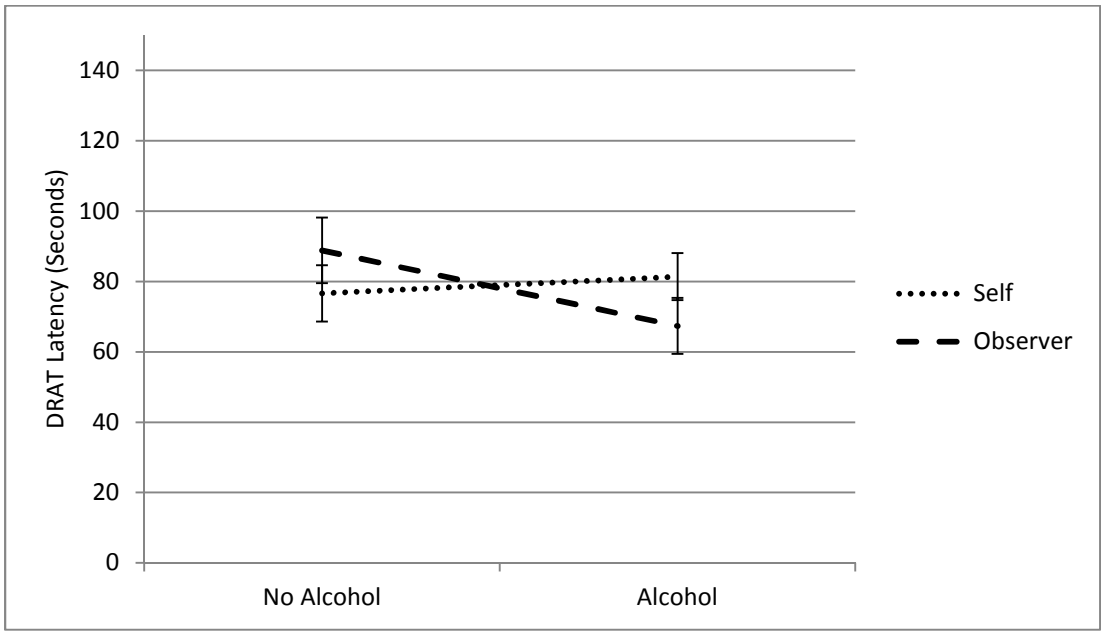
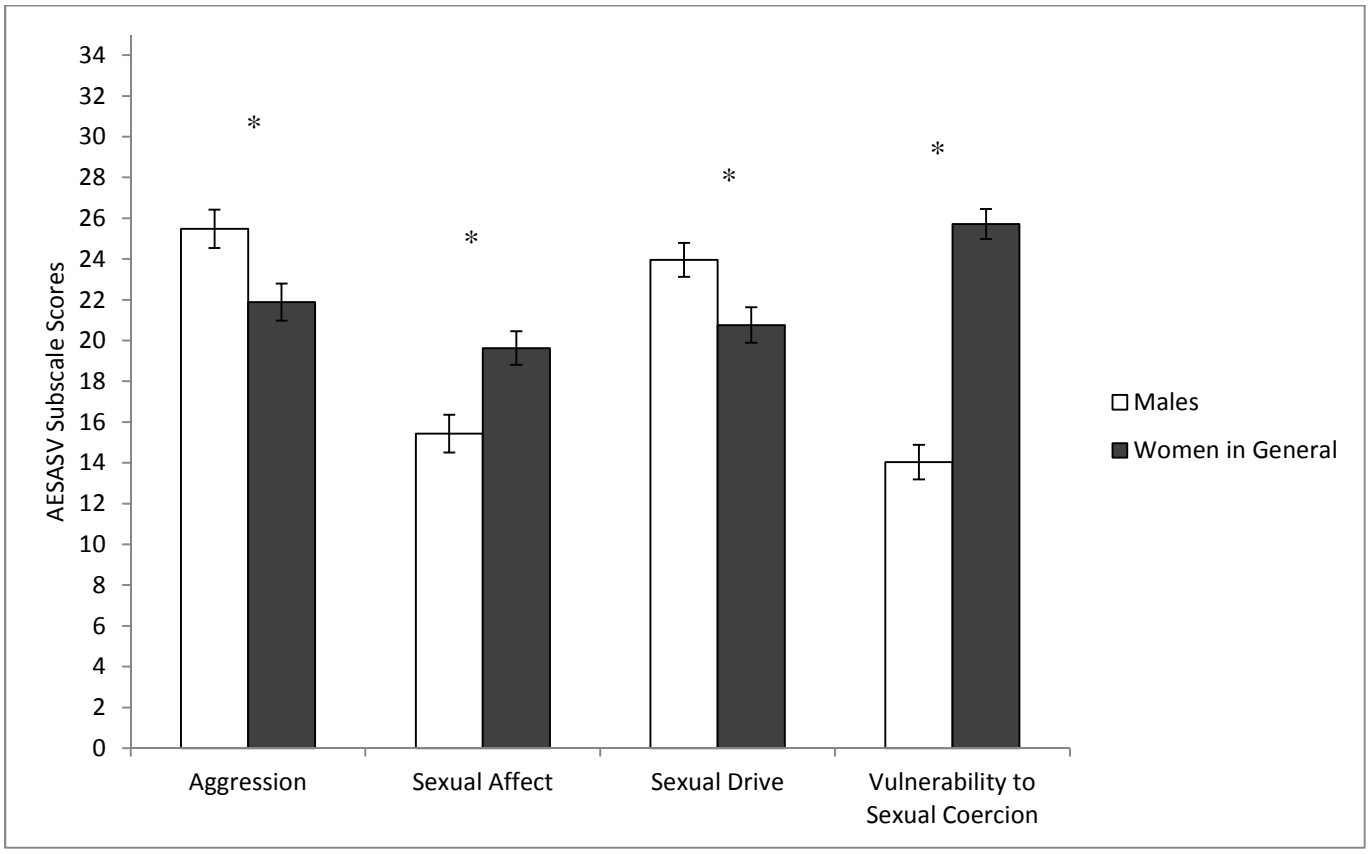


Figure 2.

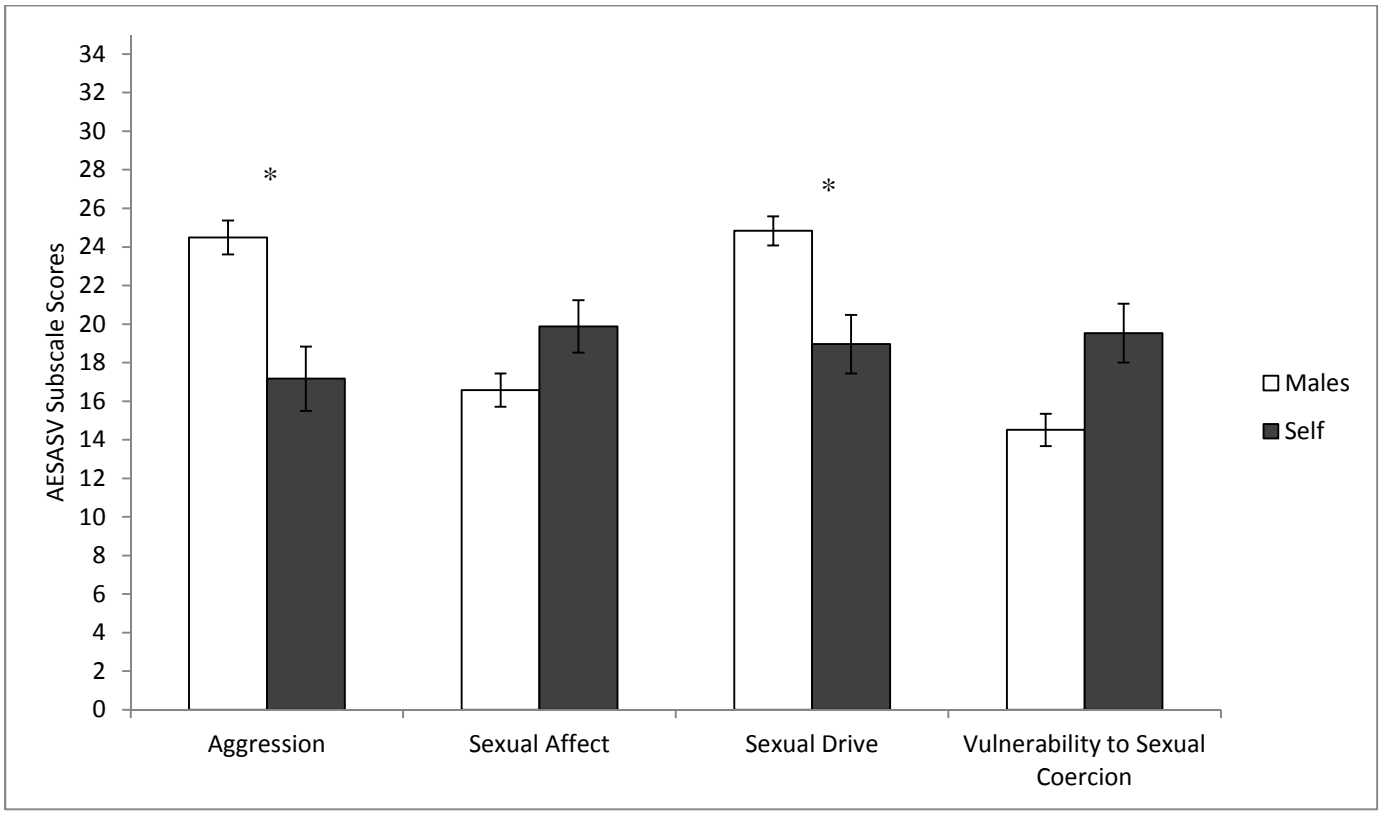
Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability Questionnaire subscale scores across males and 'women in general'. Error bars represent standard error.



Note: * denotes significance at $p \leq 0.004$

Figure 3.

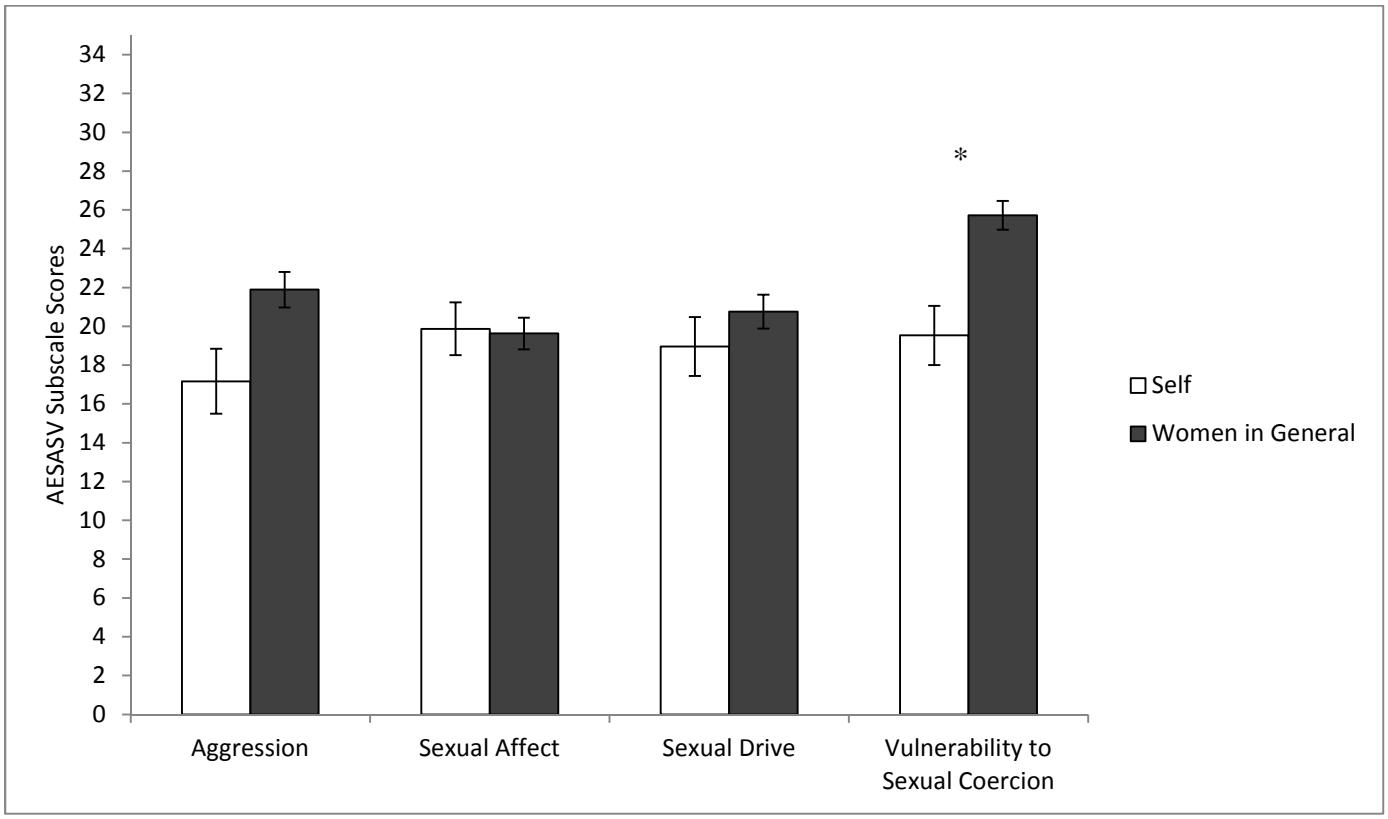
Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability Questionnaire subscale scores across males and 'self'. Error bars represent standard error.



* denotes significance at $p \leq 0.004$

Figure 4.

Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability Questionnaire subscale scores across self and 'women in general' perspectives. Error bars represent standard error.



* denotes significance at $p \leq 0.004$

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Demographics Questionnaire

The biographical information on this page is used to provide summaries of those who participate in this study without providing details about any one individual.

1. Age: ____

2. Education

___ Sixth grade or less
___ Completed 8th grade
___ Some high school
___ Completed high school
___ GED
___ some college
___ 2 year college degree
___ 4 year college degree
___ some graduate school
___ completed a graduate program

3. Employment status prior to being at the PWCC:
   (1) □ full-time (2) □ part-time (3) □ occasional (4) □ disability/SSI
   (5) □ no income

4. What year did you last work: _____

5. Your income the last 12 months you worked: _____

6. Marital/relationship status prior to incarceration:
   (1) □ single (2) □ divorced (3) □ widowed
   (4) □ married (5) □ living with partner (6) □ not living with current partner

7. Has your relationship status changed since you came to the PWCC? ___ Yes ___ No
   7a. If yes, how? _____

8. Parent: ___ Yes ___No 8a. Number of children under the age of 18 ____

9. Ethnicity (check all that apply):
   (1) □ African American / Black
   (2) □ Caribbean / Haitian
   (3) □ African
   (4) □ Asian American
   (5) □ Asian / Pacific-Islander
   (6) □ White / European American / Caucasian
   (7) □ European
   (8) □ Hispanic American / Hispanic
   (9) □ Native American / American Indian
   (10) □ Other _____

10. What is your sexual orientation?
    (1) Heterosexual
    (2) Homosexual
    (3) Bisexual

11. If participant identifies as homosexual: Have you had sexual contact with a male?
    (1) Yes
    (2) No

12. Why are you in prison? What crime are you charged with? _____

13. On what date did the crime occur? _____
    How old were you? _____

14. How long have you been at the PWCC? _____ (number of months)

15. How long is your sentence? _____ (number of months)

16. When are you eligible for release? _____ (month/year)

17. How many times have you been incarcerated? _____

18. What length sentence(s) have you served in the past? _____

19. How many times have you been convicted of the following crimes?

Disorderly conduct, public drunkenness, or driving under the influence	_____
Sexual assault, sexual misconduct, or rape	_____
Prostitution	_____
Larceny, robbery, theft, burglary, or fraud	_____
Illegal drug charges	_____
Assault	_____
Murder, manslaughter or homicide	_____

20. What programming have you participated in since arriving at PWCC? (list in the space below)

_____

_____

DRAT INSTRUCTIONS

Self with no alcohol consumption:

"You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. When the tape begins I would like you to imagine that you are actually in this situation and the male in the recoding is a man you are on a date with. You have just returned from a third date. As you listen to the tape, use the same judgment you would typically use, or anticipate that you would use, in a similar situation. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

Self with alcohol consumption:

"You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. When the tape begins I would like you to imagine that you are actually in this situation and the male in the recoding is a man you are on a date with. You have just returned from your third date in which you both had several drinks and now feel pretty 'buzzed'. As you listen to the tape, use the same judgment you would typically use, or anticipate that you would use, in a similar situation. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

Observer with no alcohol consumption:

"You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. The individuals have just returned from a third date. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

Observer with alcohol consumption:

"You will now listen to an audio recording of an interaction between a man and woman who have been on two previous dates. The individuals in the recording have returned from their third date in which they had several drinks and reported feeling pretty 'buzzed'. Press the button if and when you believe the man in the recording has 'gone too far.' Regardless of whether you decide to press the button or not, you will have the option to continue listening to the entire interaction. You may choose to discontinue listening to the recording by pressing the button a second time."

Alcohol Expectancies Regarding Sex, Aggression, and Sexual Vulnerability

Please rate the extent to which you agree with each of the following statements using the scale below:

1	2	3	4	5
Not at all				Very much

When drinking alcohol…
It is easy for me/men/women to have a fight or argument.
I/men/women am/are mean.
I/men/women say and do rude things.
I/men/women become hostile.
I/men/women am/are short-tempered.
I/men/women feel angry.
I/men/women am/are likely to hit or slap.
I/men/women am/are likely to be loving.
I/men/women am/are affectionate.
I/men/women am/are sensual.
I/men/women become passionate.
I/men/women feel intimate.
I/men/women say and do romantic things.
I/men/women have a strong sex drive.
I/men/women am/are likely to initiate sex.
I/men/women feel sexually aroused.
I/men/women become sexually excited.
I/men/women am/are interested in having sex.
I/men/women want to have sex.
I/men/women am/are at greater risk of being coerced into having sex.
I/men/women am/are more sexually vulnerable.
I/men/women am/are taken advantage of sexually.
I/men/women am/are likely to be forced by my date to have sex.
I/men/women am/are likely to be pressured to have sex.
I/men/women become an easy target(s) for sexual advances.

Posttraumatic Stress Disorder Checklist – Civilian Version (PCL-C)

Subject #: _____

Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem *in the last month*.

No.	Response:	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories, thoughts,* or *images* of a stressful experience from the past?					
2.	Repeated, disturbing *dreams* of a stressful experience from the past?					
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening again* (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful experience from the past?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful experience from the past?					
6.	Avoid *thinking about* or *talking about* a stressful experience from the past or avoid *having feelings* related to it?					
7.	Avoid *activities* or *situations* because *they remind you* of a stressful experience from the past?					
8.	Trouble *remembering important parts* of a stressful experience from the past?					
9.	Loss of *interest in things that you used to enjoy?*					
10.	Feeling *distant* or *cut off* from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

Life Stressor Checklist Revised (Wolfe & Kimering, 1997; McHugo et al., 2004)

This is a questionnaire about life events that are very stressful. Some people experience things in life that are very upsetting and which would be frightening or stressful to nearly anyone. These events include things like a physical or sexual assault, the death of a child or spouse, or being in a disaster like an earthquake or a flood. We would like to ask you whether any of these types of things has ever happened to you. We would also like to ask you about some ways these events have affected your life.

1. Please read the description of each event.
2. Circle "NO" if you have *never* experienced that event.
3. Circle "YES" if you have *ever* experienced that event.
4. If you circle "YES" please go on to answer questions a-f below the event.
   If you circle "NO" you may skip questions a-f below the event.

Please think about your whole lifetime when answering the questions. If an event *occurred more than once*, for example you had 3 car accidents, answer the questions for the time that had the largest impact on you.

1. Have you ever been in a serious disaster (for example, an earthquake, hurricane, tornado, large fire, or explosion)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

2. Have you ever seen a serious accident (for example, a bad car wreck or an on-the-job accident)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

3. Have you ever had a very serious accident or accident-related injury (for example, a bad car wreck or an on-the-job accident)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

4. Was a close family member ever sent to jail?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

5. Were you ever put in foster care or put up for adoption?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

6. Did your parents ever separate or divorce while you were living with them?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

7. Have you ever been separated or divorced?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

8. Have you ever had serious money problems (for example, not enough money for food or a place to live)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

9. Have you ever had a very serious physical or mental illness (for example, cancer, heart attack, serious operation, felt like killing yourself, hospitalized because of nerve problems)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

10. Have you ever been emotionally abused or neglected (for example, being frequently shamed, embarrassed, ignored, or repeatedly told that you were "no good")?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

11. Have you ever been physically neglected (for example, not fed, not properly clothed, or left to take care of yourself when you were too young or ill)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

12. Have you ever had an abortion or miscarriage (lost your baby)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

13. Have you ever been separated from your child against your will (for example, the loss of custody or visitation or kidnapping)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

14. Has a baby or child of yours ever had a severe physical or mental handicap (for example, mentally retarded, birth defects, can't hear, see, walk)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

15. Have you ever been responsible for taking care of someone close to you (not your child) who had a severe physical or mental handicap (for example, cancer, stroke, Alzheimer's disease, AIDS, nerve problems, can't hear, see, walk)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

16. Has someone close to you died suddenly or unexpectedly (for example, an accident, sudden heart attack, murder or suicide)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

17. Has someone close to you died (do not include those who died suddenly or unexpectedly)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

18. When you were young (before age 16) did you ever see violence between family members (for example, hitting, kicking, slapping, punching)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

19. Have you ever seen a robbery, mugging, or attack taking place?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

20. Have you ever been robbed, mugged, or physically attacked (not sexually) by someone you did not know?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

21. *Before age 16*, were you ever abused or physically attacked (not sexually) by someone you knew (for example, a parent, boyfriend, or husband hit, slapped, choked, burned, or beat you up)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

22. *After age 16*, were you ever abused or physically attacked (not sexually) by someone you knew (for example, a parent, boyfriend, or husband hit, slapped, choked, burned, or beat you up)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

23. Have you ever been bothered or harassed by sexual remarks, jokes, or demands for sexual favors by someone *at work or school* (for example, a co-worker, a boss, a customer, another student, a teacher)?	**YES NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

24. *Before age 16*, were you ever touched or made to touch someone else in a *sexual way* because he/she forced you in some way or threatened to harm you if you didn't?	**YES NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

25. *After age 16*, were you ever touched or made to touch someone else in a *sexual way* because he/she forced you in some way or threatened to harm you if you didn't?	**YES NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

27. *Before age 16*, did you ever have sex (oral, anal, genital) when you didn't want to because someone forced you in some way or threatened to harm you if you didn't?	**YES NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

28. *After age 16*, did you ever have sex (oral, anal, genital) when you didn't want to because someone forced you in some way or threatened to harm you if you didn't?	**YES NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

29. Have you ever been directly exposed to war, armed conflict, or terrorism (were there soldiers or others fighting or hurting people near where you lived)?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

30. Have you ever had leave where you were living and move to another location (country, state, or city) because you could not pay for basic needs, like food clothing or shelter, or because you felt unsafe?	**YES**	**NO**

If Yes, did it happen: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

How many times in the year prior: once (1) twice (2) 3 times (3) 4 times (4) more than 4 times (5)

Sexual Assault Involving Alcohol and/or Drugs

If a participant endorses previous a sexual assault, questions regarding lifetime prevalence of sexual assault involving alcohol and/or drug consumption will be presented (adapted from Lawyer et al., 2010).

Specifically participants will be asked:

1) Has anyone ever had sex play (fondling, kissing, or petting but not intercourse) with you when you didn't want to when you were passed out from alcohol or were too drunk to know what was going on?

2) Has anyone ever had sex play (fondling, kissing, or petting but not intercourse) with you when you didn't want to when you were passed out from drugs or were too high to know what was going on?

3) Has anyone ever attempted sexual intercourse (get on top of you, attempt to insert his penis) with you when you didn't want to when you were passed out from alcohol or were too drunk to know what was going on but intercourse did not happen?

4) Has anyone ever attempted sexual intercourse (get on top of you, attempt to insert his penis) with you when you didn't want to when you were passed out from drugs or were too high to know what was going on but intercourse did not happen?

5) Has anyone ever had sexual intercourse (vaginal, anal, or oral intercourse or penetration by objects other than the penis) with you when you didn't want to when you were passed out from alcohol or were too drunk to know what was going on?

6) Has anyone ever had sexual intercourse (vaginal, anal, or oral intercourse or penetration by objects other than the penis) with you when you didn't want to when you were passed out from drugs or were too high to know what was going on?

7) Have any of your previous sexual assaults involved drug and/or alcohol use by the other person involved?

8) How much of the time have your sexual assault experiences involved alcohol use or drug use by you or the person who assaulted you? (Response options: 0 – none, 1 – a little, 2 – some, 3 – a lot, 4 – all of the time)

Since many of the participants will endorse multiple sexual assaults in their lifetime, they will be asked to answer the following questions in reference their most recent sexual victimization prior to their incarceration:

Tell me a bit about the assault.

Who was involved in the assault?

How did the assault come about?

What do you think lead up to this?

How old were you when this happened?

Did you consume alcohol before the incident occurred?

Were you passed out or too drunk to know what was going on?

When this happened, did you take the alcohol because you wanted to or were you given the alcohol without your knowledge or permission?
Response options:
a) Took it because I wanted to
b) Took it without knowing
c) Took some because I wanted to and took some without knowing or consenting
d) Not sure

Where did you consume the alcohol?
Response options:
a) My place
b) His place
c) A car or other vehicle
d) A house party
e) At a bar or restaurant
f) Other

Did you consume drugs before the incident occurred? Which drugs?

Were you passed out or too high to know what was going on?

When this happened, did you take the drugs because you wanted to or were you given the drugs without your knowledge or permission?
Response options:
e) Took them because I wanted to
f) Took them without knowing
g) Took some because I wanted to and took some without knowing or consenting
h) Not sure

Where did you consume the drugs?
Response options:
g) My place
h) His place
i) A car or other vehicle

j) A house party
k) At a bar or restaurant
l) Other

Where did the person(s) have sexual contact with you during this incident?
Response options:
a) My place
b) His place
c) A car or other vehicle
d) A house party
e) At a bar or restaurant
f) Other (specify)

What was the person's relationship to you?
Response options:
a) Friend
b) Stranger
c) Acquaintance known less than 24 hours
d) Romantic partner
e) Other adult
f) Other (specify)

The Alcohol Use Disorders Identification Test

Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during the time in your life when you used alcohol the most." Explain what is meant by "alcoholic beverages" by using referring to the "Drink Equivalency" page. Code answers in terms of "standard drinks."

1. During that time, how often do you have a drink containing alcohol?
(0) Never
(1) Monthly or less
(2) 2 to 4 times a month
(3) 2 to 3 times a week
(4) 4 or more times a week

2. During that time, how many drinks containing alcohol did you have on a typical day when you were drinking?
(0) none
(0) 1 or 2
(1) 3 or 4
(2) 5 or 6
(3) 7, 8, or 9
(4) 10 or more

3. During that time, how often do you have six or more drinks on one occasion?
(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

4. During that time, how often did you find that you were not able to stop drinking once you had started?
(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

5. During that time, how often did you fail to do what was normally expected from you because of drinking?
(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

6. During that time, how often did you need a first drink in the morning to get yourself going after a heavy drinking session?
(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

7. During that time, how often did you have feelings of guilt or remorse after drinking?
(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

8. During that time, how often were you been unable to remember what happened the night before because you had been drinking?
(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?
(0) No
(1) Yes

10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?
(0) No
(1) Yes

DRINK EQUIVALENTS

HARD LIQUOR

1 mixed drink	= 1 drink
1 shot glass	= 1 drink
½ pint	= 6 drinks
1 pint	= 12 drinks
1 fifth	= 20 drinks
1 quart or liter	= 24 drinks

WINE

1 glass	= 1 drink
1 bottle	= 6 drinks
1 "wine cooler"	= 1 drink
1 gallon	= 30 drinks

BEER OR ALE

1 12 oz. bottle	= 1 drink
1 12 oz. can	= 1 drink
1 40 oz. bottle	= 3 drinks
1 six pack	= 6 drinks
1 pitcher	= 5 drinks
1 case	= 24 drinks

Drug Use Identification Test (DUDIT)

Begin the DUDIT by saying "Now I am going to ask you some questions about your use of drugs during the time in your life when you used drugs the most." Explain what is meant by "drug use" by using referring to the "List of Drugs" page.

1. During that time, how often did you use drugs other than alcohol?
   (0) Never
   (1) Monthly or less
   (2) 2 to 4 times a month
   (3) 2 to 3 times a week
   (4) 4 or more times a week

2. During that time, did you use more than one type of drug on the same occasion?
   (0) Never
   (1) Monthly or less
   (2) 2 to 4 times a month
   (3) 2 to 3 times a week
   (4) 4 or more times a week

3. During that time, how many times did you take drugs on a typical day when you were using?
   (0) none
   (0) 1 or 2
   (1) 3 or 4
   (2) 5 or 6
   (3) 7 or more

4. During that time, how often were you influenced heavily by drugs?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

5. During that time, how often did you feel that your longing for drugs was so strong that you could not resist it?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

6. During that time, how often had you not been able to stop taking drugs once you started?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

7. During that time, how often had you taken drugs and then neglected to do something you should have done?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

8. During that time, how often had you needed to take a drug in the morning after heavy drug use the day before?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

9. During that time, how often did you have guilty feelings or a bad conscience because you used drugs?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

10. Have you or anyone else ever been hurt (mentally or physically) because of your drug use?
    (0) No
    (1) Yes

11. Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?
    (0) No
    (1) Yes

LIST OF DRUGS

(Note! Not alcohol!)

Cannabis	Amphetamines	Cocaine	Opiates	Hallucinogens	Solvents/inhalants	GHB and others
Marijuana Hash Hash oil	Methamphetamine Phenmetraline Khat Betel nut Ritaline (Methylphenidate)	Crack Freebase Coca leaves	Smoked heroin Heroin Opium	Ecstasy LSD (Lisergic acid) Mescaline Peyote PCP, angel dust (Phencyclidine) Psilocybin DMT (Dimethyltryptamine)	Thinner Trichlorethylene Gasoline/petrol Gas Solution Glue	GHB Anabolic steroids Laughing gas (Halothane) Amyl nitrate (Poppers) Anticholinergic compounds

PILLS – MEDICINES

Pills count as drugs when you take

- more of them or take them more often than the doctor has prescribed for you
- pills because you want to have fun, feel good, get ”high”, or wonder what sort of effect they have on you
- pills that you have received from a relative or a friend
- pills that you have bought on the ”black market” or stolen

SLEEPING PILLS/SEDATIVES

Alprazolam	Glutethimide	Rohypnol
Amobarbital	Halcion	Secobarbital
Apodorm	Heminevrin	Sobril
Apozepam	Iktorivil	Sonata
Aprobarbital	Imovane	Stesolid
Butabarbital	Mephobarbital	Stilnoct
Butalbital	Meprobamate	Talbutal
Chloral hydrate	Methaqualone	Temesta
Diazepam	Methohexital	Thiamyal
Dormicum	Mogadon	Thiopental
Ethcholorvynol	Nitrazepam	Triazolam
Fenemal	Oxascand	Xanor
Flunitrazepam	Pentobarbital	Zopiklon
Fluscand	Phenobarbital	

PAINKILLERS

Actiq	Durogesic	OxyNorm
Coccilana-Etyfin	Fentanyl	Panocod
Citodon	Ketodur	Panocod forte
Citodon forte	Ketogan	Paraflex comp
Dexodon	Kodein	Somadril
Depolan	Maxidon	Spasmofen
Dexofen	Metadon	Subutex
Dilaudid	Morfin	Temgesic
Distalgesic	Nobligan	Tiparol
Dolcontin	Norflex	Tradolan
Doleron	Norgesic	Tramadul
Dolotard	Opidol	Treo comp
Doloxene	OxyContin	

Pills do NOT count as drugs if they have been prescribed by a doctor and you take them in the prescribed dosage.