

Acute Alcohol Intoxication & Sexual Risk Likelihood: Exploring Cultural Factors

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**Abstract**

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Factors affecting women's engagement in risky sexual behaviors remain a significant research focus with women comprising the majority of cases of chlamydia and gonorrhea. Additionally, the prevalence of HIV/AIDS in women of color (WOC) is up to twenty times that of white women (WW). Previous research demonstrates that while alcohol intoxication is a risk factor for risky sex, risk perception and ethnic identity (in both WOC and WW) may be protective. The current study examines 1) if acute alcohol intoxication affects sexual risk 2) the association of sexual risk with race/ethnicity, ethnic identity and risk perception and 3) whether risk perception mediates the impact of alcohol and race on sexual risk. Participants included 390 women, dichotomized into WOC (35%) and WW (65%), who completed race/ethnicity demographics and the Multigroup Ethnic Identity Measure and were randomly assigned to alcohol (.10 BAC) or no alcohol conditions. Afterwards, they were instructed to project themselves into an eroticized text scenario assessing risky sex likelihood (comprised of oral sex, vaginal sex and abdication likelihood). Path analysis indicated that intoxicated women endorsed higher sexual risk behavior likelihood; WOC endorsed lower sexual risk behavior likelihood, which was mediated by risk perception; and that, as ethnic identity increased, sexual risk likelihood decreased in WW. The results support previous research and add to the literature a novel application of alcohol administration and heat-of-the-moment risk scenarios to dynamically examine risk and protective factors related to culture and drinking.

## **Background**

Women are at a high risk for HIV/AIDs and other sexually transmitted infections (STIs). They make up a majority of cases of chlamydia and gonorrhea and comprise a quarter of HIV/AIDS cases, 85% of which are through heterosexual transmission. Furthermore, women are at a higher risk for contracting STIs through unprotected sex than men and the negative health consequences of untreated STIs are often more serious (Centers for Disease Control, 2013). Women of color have an even higher rate of risk. Although new HIV infections dropped 21% in black women in 2010, the incidence is still twenty times that of white women. HIV rates for Asian Americans have increased to be comparable white women, while HIV rates for all other minorities are up to four times that of white women (Centers for Disease Control, 2013). In summary, factors affecting women's engagement in risky sexual behaviors remain a significant research focus, especially for women of color.

Women who engage in risky sexual behaviors are at higher risk for HIV/AIDs and other STIs than women who do not have unprotected intercourse, sex with a new partner, a casual partner, or concurrent partners, or who abdicate sexual decision making to such partners. Sexual abdication, an emerging concept, is defined as one's willingness to let a partner decide how far to go in a sexual encounter (Masters et al. in press; Stoner, et al. 2007). One factor affecting women's engagement in risky sexual behaviors is alcohol use. Research indicates that alcohol consumption is linked to sex with multiple partners, unprotected intercourse, and intentions to engage in unprotected intercourse. Additionally, research has shown that alcohol decreases risk perception (Norris et al., 2013) and is positively associated with sexual abdication (Zawacki et al., 2009). Furthermore, experimental studies have established that alcohol can and does have a causal impact on risk behavior (George et al., 2009; MacDonald 2000; Maisto 2004). Alcohol

Myopia Theory (Steele & Josephs, 1990) posits that when drinking there is a reduction in cognitive processing ability created by the pharmacological effects of alcohol intoxication. This can result in a narrowed attentional focus in which the person may attend to only the most salient situational cues. These salient or proximal cues may focus on sexual arousal instead of distal cues such as disease risk (Cooper, 2002 & 2010; Davis et al., 2007; George et al. 2009; George & Stoner, 2000; Hendershot & George, 2007; Rehm, Shield, Joharchi, & Shuper, 2012).

While alcohol is a potential risk factor for unprotected sex, ethnic identity (EI) may be a protective factor for risk behavior. Phinney (2007) conceptualized EI as a multifaceted, dynamic construct that involves exploration and sense of commitment and belonging to one's ethnicity. An individual self-identifies as part of a group, seeks information and experiences relevant to their ethnicity, and develops attachment and commitment. However, these processes are not necessarily linear. As such, exploration, commitment and belonging are derived from developmental and social identity theories (Marcia, 1980; Tajfel, 1981) and can unfold curvilinearly in recursive and retrograde patterns. While Phinney's Multigroup Ethnic Identity Measure encompasses all individuals, minority individuals typically endorse a higher ethnic identity than white individuals. However, white ethnic identity, conceptualized as identifying with an American national identity or subgroup identity such as Irish or Italian, has also shown to be salient and impactful on risk outcomes (Phinney & Ong, 2007).

Ethnic identity may be a protective factor by contributing to a secure, achieved identity, as well as increased social identity, social support and psychosocial adjustment. Also, ethnic identity may be protective by contributing to increased self-esteem and positive self-attitudes from belonging to meaningful groups. Additionally, empirical studies demonstrate associations between ethnic identity and increased psychological well-being, decreased drinking and drug use

and decreased sexual risk in the form of lower number of risky sexual acts, fewer sexual partners, fewer concurrent sexual partners and increased condom use. Participants in a number of these studies included white people in addition to people of color (Beadnell et al. 2003; Corneille & Belgrave, 2007; Herd & Grube, 1996; Oparanozie et al. 2012; Phinney, Cantu, & Kurtz, 1996; Yasui et al. 2004; Zaff et al. 2002).

In addition to ethnic identity, perceived risk in a sexual encounter may decrease risky sexual behavior. STI risk perception can include perceiving the sexual behavior as risky (i.e. unprotected sex), the self as risky (i.e. being a member of a group that is associated with high STI rates), or a sexual partner as risky (i.e. a new sex partner). The health belief model (HBM) suggests that perceived risk of acquiring a disease predicts health behaviors (Janz & Becker, 1984). Accordingly, perceiving high STI/HIV risk would decrease sexual risk behaviors. Research has also shown that perceptions of risk are higher in casual relationships compared to primary relationships (Mehrortra 2009) and in women compared to men (McNair 2009, Mehrortra 2009). Additionally, with high prevalence rates, public health campaigns and community outreach often target minority populations. These targeted messages of high risk in unprotected sexual situations may be associated with increased perceptions of risk for women of color. For example, the recent 21% drop in new HIV infections in black women could be related to community messages and increased risk perception.

### **Current Study**

The current study investigates the effects of acute alcohol intoxication, race/ethnicity, ethnic identity and risk perception on oral sex, vaginal sex and abdication likelihood. In addition, the interactive effects of alcohol by EI and race by EI on sexual risk likelihood are examined. Finally, risk perception, including self-STI risk, self-HIV risk and partner STI/HIV risk, are

examined as mediators between race/ethnicity and sexual risk likelihood and between alcohol and sexual risk likelihood. The current study is novel in that it utilizes sober and intoxicated participants in an in-the-moment eroticized sexual risk scenario to examine dynamically risk and protective factors related to culture and drinking. Given the previously cited research we used path analysis (see Figure 1a) to explore race effects and evaluate several hypotheses:

*Alcohol, Race and Ethnic Identity as Predictors of Sexual Risk Taking*

Exploratory question: The direct effects of race (women of color vs. white women) on oral, vaginal and abdication likelihood will be explored.

Hypothesis 1: Intoxicated participants will have an increased oral, vaginal and abdication likelihood in comparison to sober participants.

Hypothesis 2: Participants with higher ethnic identity will have a decreased oral, vaginal and abdication likelihood in comparison to sober participants

Hypothesis 3: An interaction of alcohol by ethnic identity such that if alcohol causes increased risky sex and higher ethnic identity is associated with lower drinking/sex endorsement, then ethnic identity may interact with alcohol to lessen alcohol's effects on sexual risk likelihood

Hypothesis 4: An interaction of ethnic identity by race such that EI is more protective for WOC than WW

*The Influence of Risk Perceptions*

Hypothesis 5: Women of color will endorse higher self-HIV, self-STI and partner risk perception than white women

Hypothesis 6: Increased perception of self-STI risk, self-HIV risk and partner risk will be associated with decreased oral, vaginal and abdication likelihood

Hypothesis 7: Risk Perception will mediate race on oral, vaginal and abdication likelihood such that WOC will perceive greater risk and endorse less risky outcomes

Hypothesis 8: Risk Perception will mediate alcohol on oral, vaginal and abdication likelihood such that sober participants will perceive greater risk and endorse less risky outcomes

## **Method**

### **Participants**

Participants included women aged 21-30, recruited from an urban community through print and online advertisements seeking single female drinkers to participate in a research study on male-female social interactions. Eligible participants had at least one occasion of unprotected sex and at least one instance of heavy episodic drinking (4 or more drinks within two hours) within the past year. Additional inclusion criteria comprised at least one of the following HIV/STI risk factors: (a) two or more male sex partners in the past year; (b) new male sex partner in the past year; (c) having had an STI; or (d) knowing or suspecting that a past year male sex partner had a concurrent sexual relationship, an STI and/or HIV, a same-sex sexual encounter, ever used IV drugs, or been incarcerated in the last 12 months. Exclusion criteria per NIAAA guidelines (2005) included 1) medical conditions or medication prescription contraindicating alcohol use and 2) a history of problem drinking determined by the Brief Michigan Alcohol Screening Test (Pokorny, Miller, & Kaplan, 1972).

The final data set included 390 women. Although 440 women participated in the study, 50 women's data were not included in the final sample due to alcohol administration error ( $n = 32$ ) and participant's choosing to not answer main study variables ( $n = 18$ ). Participants' mean age was 24.7 years ( $SD = 2.8$ ). Participants were predominantly European American (64.5%); 9.3% were African American/Black, 6.6% were AA/Black Multiracial, 5.9% were Asian

American, .7% were Hawaiian/API, 1.0% were Native American, and 10.8% were multi-racial or other. Hispanic/Latino ethnic identity was reported by 8.1% of participants. Proportions of the sample belonging to each racial or ethnic group roughly matched those of the region in which the study was conducted. However, for the current analyses, participants were then dichotomized into women of color ( $n = 141$ , 34.6%) and white women ( $n = 263$ , 64.5%). Participants reported consuming an average of 12.95 drinks per week ( $SD = 9.20$ ) and an average of 16.03 lifetime sexual partners ( $SD = 15.28$ ).

### **Procedures**

When the participant arrived at the laboratory, a female experimenter used a handheld breathalyzer (Alco-Sensor IV, Intoximeters, Inc.) to verify that her blood alcohol concentration (BAC) was 0.00%, obtained informed consent, and had the participant take a urine test to ensure she was not pregnant. Participants then completed background questionnaires in a private room including demographics and a measure of ethnic identity.

Participants were randomly assigned to a beverage condition (alcohol or control). Beverage condition was not masked; participants in both groups were cognizant of whether they were receiving an alcoholic or control beverage. Each participant was weighed to determine the amount of 190-proof grain alcohol needed to achieve a peak blood alcohol concentration (BAC) of .10%, with participants receiving 1.0 ml ethanol/kg body weight. Drinks consisted of one part grain alcohol to six parts cranberry juice (or juice only for controls), were divided into three equal portions, and were consumed over a 12 minute period. Alcohol participants received breathalyzer tests every four minutes until a criterion BAC of .07 or greater was reached to ensure they were on the ascending limb of the blood alcohol curve for the presentation of the sexual scenario. Following a yoked control protocol (Schacht, Stoner, George, & Norris, 2010),

control participants completed the same number of breathalyzer tests as their alcohol yokes.

After meeting the BAC criterion, participants read the stimulus story and completed dependent measures. The mean BAC among alcohol participants immediately prior to beginning the story was .08% (SD .01); immediately upon completion, it was .10% (SD .01).

The experimental sexual scenario was developed using data from focus groups on young women's sexual relationship experiences, as well as the team's previous research, and was pilot tested to ensure realism. Participants read the written scenario on a computer screen in a private room. The approximately 1600-word stimulus story described a sexual situation with the participant as the protagonist. It established that she had previously had sex with the male character (Michael), that they had previously used a condom, and that she was on the pill (to eliminate pregnancy concerns associated with unprotected sex). Validity checks indicated that 97% of participants correctly perceived scenario prior condom use and 95%, scenario oral contraceptive use. The story then described a dating situation, which eventually led to sexual activity where a condom was available, but the male character requested unprotected sex. Descriptions and dialogue were eroticized to increase the participant's sexual arousal. Participants rated the scenario as very realistic ( $M = 5.80$ ,  $SD = 1.37$ ; 1 not at all realistic to 7 extremely realistic). After reading the sexual scenario, participants were asked to rate their partner's riskiness, the risk likelihood of HIV and STIs and the likelihood of unprotected oral sex, unprotected vaginal sex and abdication.

Post-story, alcohol participants completed a detoxification period until their BACs were below .03%. All participants were debriefed, paid (\$15/hour), and released. Procedures were approved by the university's Human Subjects Division.

## **Measures**

*Multigroup Ethnic Identity Measure – Revised. (MEIM-R; Phinney & Ong, 2007;  $\alpha = .90$ ).*

The MEIM-R can be used as an overall measure of the strength of an individual's ethnic identity. The scale consists of two factors: Exploration (e.g., "I have often talked to other people in order to learn more about my ethnic group"), and Commitment ("I have a strong sense of belonging to my own ethnic group"), with ratings on scales of 1 = *Strongly Disagree*, to 5 = *Strongly Disagree*. An overall mean is calculated from the two factors.

### *Risk Perception*

Self risk perception was assessed through STI Risk (2 items; likelihood of contracting an STI and likelihood of getting tested for an STI;  $r = .393, p < .01$ ) and HIV Risk (2 items; likelihood of contracting an HIV and likelihood of getting tested for HIV;  $r = .465, p < .01$ ). Risk perception of partner was assessed through Partner Risk (2 items; likelihood that Michael has an STI and likelihood that Michael has been tested for an STI;  $r = .149, p < .01$ ). Participants indicated likelihood on 7-point scales (1 = *not at all likely*; 7 = *extremely likely*).

### *Risky Sex Likelihood*

Risky sex likelihood was assessed through Oral Sex Likelihood (2 items; likelihood of performing oral sex and likelihood of receiving oral sex;  $r = .475, p < .01$ ), Vaginal Sex Likelihood (1 item; likelihood of vaginal sex without a condom), and Abdication Likelihood (3 items; likelihood of letting your partner decide whether or not to use a condom, likelihood of letting your partner 'slip it in' without a condom, and likelihood of going along with what your partner wants about not using a condom;  $\alpha = .92$ ). Participants indicated likelihood on 7-point scales (1 = *not at all likely*; 7 = *extremely likely*).

### **Data Analytic Strategy**

We conducted a path analysis using Mplus statistical modeling software for Windows (version 7; Muthén & Muthén, 2012) to test the theoretical model in Figure 1a, which represents all of the hypothesized relationships among variables. We screened data for outliers, skewness, kurtosis, and missingness prior to modeling. Our estimation method was maximum likelihood.

### **Results**

Bivariate correlations for all study variables are presented in Table 1. Means and standard deviations of ethnic identity, risk perception and sexual risk likelihood grouped by race/ethnicity are presented in Table 2.

The hypothesized model is shown in Figure 1a. It was a good fit for the data,  $\chi^2(9) = 15.33, p = .08$ ; root mean square error of approximation (RMSEA) = .04 (90% confidence interval: .000, .078) ; comparative fit index (CFI) = .99; Tucker-Lewis Index (TLI) = .97; standardized root mean squared residual (SRMR) = .02. The standardized coefficients for significant pathways are presented in Figure 1b.

#### **Alcohol, Race and Ethnic Identity as Predictors of Sexual Risk Taking**

In examining our exploratory question, the results indicated that race was associated with oral sex likelihood such that women of color were less likely to endorse engaging in oral sex. Hypothesis 1 was supported in that there was also a direct effect of alcohol condition on vaginal sex likelihood and alcohol condition on abdication likelihood such that intoxicated participants were more likely to endorse intentions to engage in vaginal sex and to abdicate. Hypothesis 4 was partially supported in that EI was protective, however contrary to predictions it was protective for WW and not WOC. Specifically, there was an interaction between race and ethnic identity on vaginal sex likelihood such that ethnic identity was protective, but only for white women. A graph of this interaction is shown in Figure 2. Hypothesis 2 (examining the direct

effect of EI on sexual risk likelihood) and Hypothesis 3 (examining the interaction of alcohol X EI on sexual risk likelihood) did not reveal any significant findings.

### **The Influence of Risk Perceptions**

In support of Hypothesis 5, there was a direct effect of race on self-HIV, self-STI and partner risk perception such that women of color perceived greater risk than white women. Additionally, in support of Hypothesis 6, perception of partner risk was negatively associated with oral and vaginal sex likelihood such that participants who perceived greater risk were less likely to engage in unprotected oral or vaginal sex. Similarly, perception of personal STI risk was negatively associated with abdication and vaginal sex likelihood such that participants who perceived greater risk were less likely to engage in risky behavior.

We also tested the indirect effects of alcohol and race on oral, vaginal, and abdication likelihood via women's perceptions of risk (coefficients and standard errors are presented in Table 3). Although there was a significant total indirect effect from race to oral sex likelihood, no specific indirect pathways through the risk perception variables were found to be significant. As stated in Hypothesis 7, there was a significant indirect effect of race to vaginal sex likelihood through perceptions of STI risk and a significant indirect effect of race to abdication likelihood through perceptions of STI risk such that women of color perceived greater risk and endorsed a lower likelihood of risky behavior than white women. Hypothesis 8 (risk perception mediating alcohol on oral, vaginal and abdication likelihood) did not reveal any significant findings.

### **Discussion**

We used a laboratory experiment to examine how alcohol, race, ethnic identity and risk perception influenced sexual risk likelihood. We found support for a five of our hypotheses, each of which has implications for understanding in-the-moment sexual decision making as well as

subsequent prevention and intervention efforts. First, as predicted in Hypothesis 1, alcohol intoxication increased the likelihood of risky sexual behavior. This direct effect supports previous research that alcohol has a causal impact on increasing risk behavior (George et al., 2009; MacDonald 2000; Maisto 2004). As posited by Alcohol Myopia Theory, intoxicated women in our study may have focused attention on arousal cues in the sexual scenario and thus endorsed a greater likelihood of unprotected vaginal sex as well as abdication of decision making to their partner. The latter finding adds to a nascent literature regarding abdication as a sexual risk construct. In addition to alcohol predicting abdication likelihood, correlational analysis revealed significant positive correlations between abdication and vaginal sex likelihood and abdication and oral sex likelihood.

There was an interaction of race by ethnic identity on vaginal sex likelihood such that higher ethnic identity was protective for white women. Although WOC had a higher mean ethnic identity than WW, there was no significant slope difference for level of ethnic identity on vaginal sex likelihood for WOC. This partially supports Hypothesis 4 in that ethnic identity was be protective, however it was counter to predictions that ethnic identity would be more impactful for women of color than white women. Perhaps because WOC endorsed higher risk perception and lower sexual risk likelihood across a number of variables, ethnic identity did not add additional protection.

As mentioned above, we explored the effects of race on sexual risk likelihood. Although WOC typically have higher STI/HIV prevalence rates than WW, these rates vary among minority groups and there have also been recent decreases in incidence rates. Due to these factors we did not predict the direction of association between race and risk likelihood. The results indicated that WOC reported a significantly lower likelihood of oral sex than white women.

Also, as predicted in Hypothesis 5, WOC endorsed significantly higher self-STI risk, self-HIV risk and partner risk than WW and in some cases this perceived risk mediated the influence of race on sexual risk likelihood. Specifically, in support of Hypothesis 7 there were significant indirect effects of race to vaginal sex likelihood and race to abstinence likelihood through perceptions of STI risk, such that WOC perceived greater risk, which resulted in endorsing a lower likelihood of risky behavior. Although it may be surprising due to prevalence rates that WOC endorsed less risky sexual behavior, these findings are in line with our postulation that minority communities receive targeted risk messages and perceive their environment as more risky. Also, in support of Hypothesis 6, there were direct effects of higher risk perception predicting lower risk behavior likelihood irrespective of race. In summary, as stated by the health belief model (Janz & Becker, 1984), perceived risk of acquiring a disease predicted health behaviors.

### **Limitations**

Limitations include measurement constraints and generalizability concerns. Due to sample size we dichotomized in white women and women of color. There are differences between ethnic minority groups that may be overlooked due to this grouping. Additionally, while using a “multigroup” ethnic identity measure allowed for comparison between groups, it may not have the power or specificity of a targeted ethnic group measure. Also, while experimental scenarios have high external validity, they can never include all elements of real sexual situations. Finally, care must be taken when generalizing current findings to other groups of women given volunteers for sexuality research tend to have more liberal attitudes and sexual experiences than non-volunteers and that alcohol consumption patterns and sexual risk indicators of this study’s sample are high relative to the general population.

### **Conclusions and Future Directions**

Our results suggest that it is important to investigate the direct and interactive effects of multiple factors that impact in-the-moment sexual decision-making. Interventions aimed at decreasing sexual risk likelihood should focus on highlighting the risk and impaired decision making associated with drinking. Likewise, the concept of sexual abdication or relinquishing decision making to one's partner should be labeled as a potential hazard for increased risk behaviors and STI/HIV contraction. Increased ethnic identity and perception of risk could be offered as promising protective factors to mitigate sexual risk. Fostering the utilization of race/ethnicity and ethnic identity as belonging to a meaningful group that provides healthy social support, identity and consensus regarding risky sexual situations could promote safer decision making. Likewise, community prevention messages elucidating the risky environment involved in unprotected sex with a new or casual partner should persist and expand to target white women in addition to women of color. Future research could use a larger sample of women of color to avoid dichotomization, employ more targeted ethnic identity measures and include qualitative components to clarify perceived risk and sexual risk taking behaviors.

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Table 1

*Bivariate correlations of all study variables*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Alcohol condition	—	-.07	.02	.01	-.02	-.09	-.05	-.10*	.07	.16**	.16**
2. Race/ethnicity		—	.34**	.21**	.35**	.19**	.25**	.11*	-.20*	-.11*	-.13**
3. Ethnic Identity			—	.70**	.68**	.14**	.18**	.08	-.03	-.06	-.07
4. Alcohol X EI				—	.48**	.14**	.12*	.03	-.04	-.05	-.05
5. Race X EI					—	.07	.10	-.03	.02	.05	-.01
6. STI Risk						—	.75**	.37**	-.17**	-.33**	-.28**
7. HIV Risk							—	.36**	-.17**	-.30**	-.25**
8. Partner Risk								—	-.20**	-.22**	-.16**
9. Oral Likelihood									—	.33**	.32**
10. Vaginal Likelihood										—	.84**
11. Abdication Likelihood											—

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

Table 2

*Descriptives grouped by Race*

Variable	<i>WOC</i>		<i>White Women</i>		<i>Total</i>	
	Mean(SD)	Range	Mean(SD)	Range	Mean(SD)	Range
			<i>N=141</i>		<i>N=263</i>	<i>N=404</i>
Ethnic Identity	2.69(.85)	1-4	2.08(.78)	1-4	2.29(.85)	1-4
STI Risk	4.88(1.36)	1-7	4.30(1.42)	1-7	4.49(1.43)	1-7
HIV Risk	4.36(1.62)	1-7	3.52(1.55)	1-7	3.79(1.63)	1-7
Partner Risk	4.27(1.18)	1-7	4.01(1.15)	1-7	4.10(1.18)	1-7
Oral Likelihood	5.27(1.86)	1-7	5.96(1.44)	1-7	5.73(1.63)	1-7
Vaginal Likelihood	3.52(1.99)	1-7	4.02(2.12)	1-7	3.85(2.09)	1-7
Abdication Likelihood	3.06(1.98)	1-7	3.62(1.97)	1-7	3.43(2.00)	1-7

Table 3

*Examinations of indirect effects on sexual risk likelihood*

	Standardized Estimate	SE	p-value
<b>Oral Sex Likelihood</b>			
Total Alcohol Indirect Effect	.015	.011	.169
via STI Risk	.004	.006	.505
via HIV Risk	.001	.002	.778
via Partner Risk	.010	.008	.222
Total Race Indirect Effect	-.032	.016	.041*
via STI Risk	-.011	.015	.457
via HIV Risk	-.006	.018	.729
via Partner Risk	-.015	.009	.111
<b>Vaginal Sex Likelihood</b>			
Total Alcohol Indirect Effect	.024	.018	.181
via STI Risk	.014	.011	.204
via HIV Risk	.003	.006	.641
via Partner Risk	.007	.006	.266
Total Race Indirect Effect	-.077	.021	.000**
via STI Risk	-.040	.017	.020*
via HIV Risk	-.027	.018	.135
via Partner Risk	-.010	.007	.174
<b>Abdication Likelihood</b>			
Total Alcohol Indirect Effect	.019	.015	.194
via STI Risk	.013	.011	.215
via HIV Risk	.002	.005	.653
via Partner Risk	.004	.005	.384
Total Race Indirect Effect	-.063	.018	.001**
via STI Risk	-.037	.017	.029*
via HIV Risk	-.021	.018	.264
via Partner Risk	-.006	.006	.330

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

Figure 1a  
*Hypothesized Model*

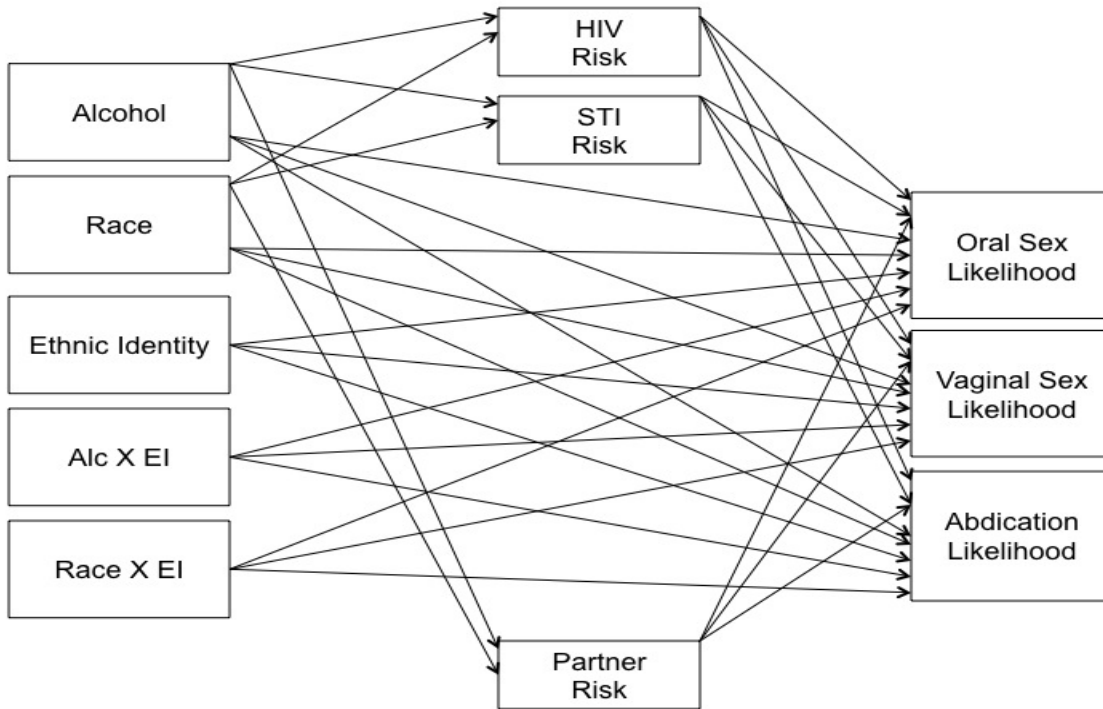
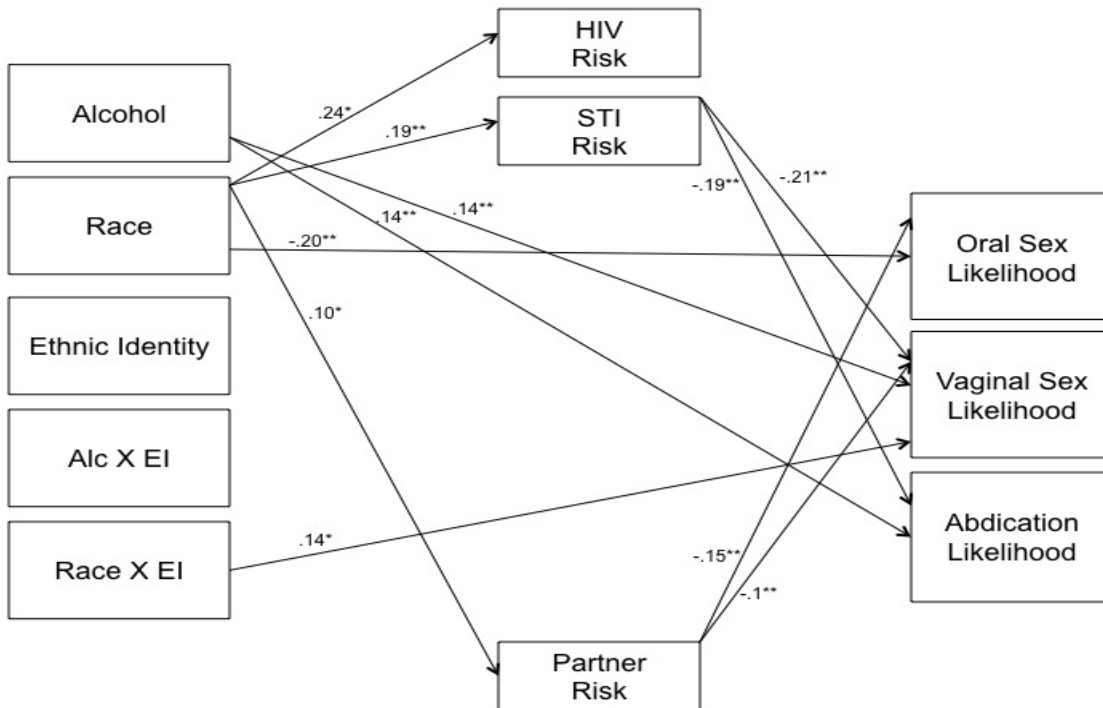


Figure 1b  
*Significant model pathways*



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

Figure 2

*Race X ethnic identity on vaginal sex likelihood*

