

# **Alcohol expectancies and risky drinking among men and women at high-risk of HIV infection in Cape Town, South Africa.**

**Redwaan Vermaak\***, Leickness C. Simbayi\*, Seth C. Kalichman\*\*,  
Demetria Cain\*\* & Sean Jooste\*

\* Human Sciences Research Council, Cape Town, South Africa

\*\* University of Connecticut, Storrs, USA

## **ABSTRACT**

**Objectives:** This study examined the differential patterns of alcohol outcome expectancies in relation to drinking before sex and having sex partners who drink before sex.

**Methods:** A sample of 614 men and 158 women sexually transmitted infections clinic patients in Cape Town South Africa participated in a survey as part of another study.

**Results:** Hierarchical regressions, controlling for age, education, and alcohol use showed that men's sexual enhancement alcohol expectancies were associated with drinking before sex and having sex partners who drank before sex. Behavioral disinhibition expectancies were inversely related to drinking before sex. For women, there were no associations between alcohol expectancies and drinking before sex, although sexual enhancement expectancies were related to having sex partners who drank before sex.

**Conclusions:** We conclude that alcohol outcome expectancies, particularly expectancies that alcohol will enhance sexual experiences, are related to HIV transmission risks. Sexual risk reduction interventions for those at greatest risk for HIV/AIDS should directly address alcohol expectancies.

**BACKGROUND:** There is ample evidence that HIV risks in southern Africa are facilitated by alcohol use. People who drink alcohol often meet sex partners in alcohol serving establishments and are less likely to use condoms. Individuals who drink alcohol and contract sexually transmitted infections (STI) are therefore among the highest risk for HIV transmission and should be the target of effective behavioral interventions.

## **OBJECTIVE**

This study examined the differential patterns of alcohol outcome expectancies in relation to drinking before sex and having sex partners who drink before sex. In particular the associations between drinking in sexual contexts and three alcohol outcome expectancies were tested: sexual enhancing, behavioral disinhibiting, and social facilitating expectancies.

## **METHOD**

- Participants were 614 men and 158 women receiving STI diagnostic and treatment services from a public STI clinic in Cape Town, South Africa
- Participants were recruited to complete anonymous surveys of sexual behaviour and health
- Potential participants were referred to the study recruiter by the clinic nurse following their routine clinical services
- Characteristics of men and women was analysed by using age, gender, race, years of education, employment, marital status, and HIV testing history
- Sexual risk behaviours were assessed by participants reporting their number of male and female sex partners and frequency of sexual events, including vaginal and anal intercourse with and without condoms in the previous 3 months
- Alcohol and other drug use were assessed through participants reporting if they had ever used alcohol, dagga (marijuana), cocaine, Mandrax (methaqualone), and other drugs. Global use of alcohol was assessed by the Alcohol Use Disorder Identification Test (AUDIT)
- Drinking in sexual context were assessed by participants indicating whether they or their sexual partners drank before sex in the past 3 months, representing situational use of alcohol
- Alcohol outcome expectancies were assessed through Goldman and Darkes (2004) three dimensional alcohol outcome expectancies: sexual enhancement expectancies,  $\alpha = 0.95$ ; behavioural disinhibition expectancies,  $\alpha = 0.92$ ; and social facilitation expectancies,  $\alpha = 0.91$

Table 1.

Characteristics of men and women receiving STI clinic services

Characteristic	Men (N = 614)		Women (N = 158)		X <sup>2</sup>
	N	%	N	%	
Less than age 25	266	44	80	51	9.7
Married	57	9	14	9	2.9
Employed	472	78	76	48	54.2**
Indigenous-African race	602	98	154	98	5.2
Drank at least monthly	291	47	35	22	47.9**
Typically more than 2 drinks	142	23	16	10	28.9**
AUDIT score ≥ 9	311	71	122	29	39.4**
Used other drugs	179	29	23	15	13.7**
Previous STI	302	49	79	50	0.1
Exchanged sex	49	8	12	8	0.1
Tested for HIV	264	43	87	55	7.5**
Were HIV positive	26	4	10	6	1.1
Years of education (M, SD)	9.6	3.5	10.6	3.2	3.2 <sup>a</sup> **

Note: <sup>a</sup>t-test for differences between genders, \*\* $p < .01$ .

### ***Sexual risk behavior***

- 273 (45%) men and 32 (20%) women reported drinking before sex in the previous 3 months
- 186 (30%) men and 92 (59%) women indicated that a sex partner had drunk before sex during that time period
- For men, drinking before sex and having a partner who drank before sex were associated with having had two or more sex partners in the past 3 months
- Among women, drinking before sex was associated with multiple partners but was not related to engaging in unprotected intercourse.
- However, women who reported that a sex partner drank before sex indicated multiple partners and engaging in unprotected intercourse.

Table 2.

Alcohol use before sex by self and partners among men and women in relation to multiple sex partners and engaging in unprotected intercourse in the previous 3 months

	Participant alcohol use					Partner alcohol use				
	Participant did not drink before sex		Participant did drink before sex		$\chi^2$	Participant did not drink before sex		Participant did drink before sex		$\chi^2$
	<i>N</i>	%	<i>N</i>	%		<i>N</i>	%	<i>N</i>	%	
<i>Men</i>										
2+ sex partners	207	61	221	81	28.4* *	276	65	151	81	16.1* *
Engaged in unprotected intercourse	273	81	248	91	12.2* *	347	82	173	93	12.8* *
<i>Women</i>										
2+ sex partners	38	30	25	78	24.1* *	20	31	43	47	4.0* *
Engaged in unprotected intercourse	97	78	29	91	2.5	44	69	82	89	10.1* *

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

**Alcohol expectancies as predictors of alcohol use before sex.**

Correlation matrix among alcohol use and alcohol outcome expectancy variables for men (correlations above the diagonal) and women (correlations below the diagonal)

Table 3.

Correlation matrix among alcohol use and alcohol outcome expectancy variables for men (correlations above the diagonal) and women (correlations below the diagonal)

	<b>AUDIT</b>	<b>Sexual enhancement</b>	<b>Behavioral disinhibition</b>	<b>Social facilitation</b>	<b>Drank before sex</b>	<b>Partner drank before sex</b>
AUDIT	–	.03	? .10*	.02	.63**	.52**
Sexual enhancement	.05	–	.65**	.79**	.17**	.20**
Behavioral disinhibition	? .06	.74**	–	.71**	? .03	.04
Social facilitation	.03	.73**	.71**	–	.10**	.13**
Drank before sex	.79**	.17**	? .03	.10*	–	.74**
Partner drank before sex	.34**	.22**	.04	.10*	.55**	–
Men's mean	10.4	3.1	3.1	3.2	2.3	1.9
SD	10.6	1.0	0.9	0.9	1.8	1.6
Women's mean	4.9	2.7	3.1	2.9	1.6	2.7
SD	8.8	1.1	1.0	1.0	1.3	1.8
$t(770)^a$	5.9**	4.3**	0.4	3.3**	4.5**	5.6**

Note: <sup>a</sup>*t*-test for difference between men and women, \**p* < .05, \*\**p* < .01.

Table 4.

Hierarchical regressions predicting alcohol use by self and partner in sexual contexts for men and women

	Men				Women			
	Drank before sex		Partner drank before sex		Drank before sex		Partner drank before sex	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Block 1: participant characteristics								
Age	.07	2.1*	.05	1.5	.01	0.1	.07	0.9
Education	.04	1.1	.01	0.2	.01	0.1	.09	1.3
AUDIT	.61	19.2**	.51	14.7**	.79	15.7**	.32	4.3**
Block 2: alcohol expectancies (AE)								
Sexual enhancement	.27	5.2**	.26	4.5**	.15	1.8	.36**	2.9
Behavioral disinhibition	? .11	? 2.4*	? .02	? 0.3	? .01	.06	? .19	1.6
Social facilitation	? .03	? 0.5	? .06	0.9	? .11	1.4	? .05	0.4
$df$	6, 607		6, 607		6, 151		6, 151	
$F$	76.9**		77.6**		29.6**		6.1**	
$R^2$	.426		.306		.637		.195	
$\Delta R^2$ for AE block	.036**		.038**		.009		.05*	

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

- Hierarchical regressions for men demonstrated that age and AUDIT scores were significantly related to drinking before sex.
- Sexual enhancement and behavioral disinhibition outcome expectancies predicted drinking before sex contributing an additional 3.6% of the variance ( $p < 0.01$ )
- Frequencies of partner drinking before sex, AUDIT scores were significant in the first block and sexual enhancement expectancies contributed 3.8% ( $p < 0.01$ ) of the explained variance over and above the other variables.
- For women, analysis showed that AUDIT scores were significantly related to drinking before sex
- Women who reported more problem drinking were more likely to drink before sex
- However, none of the alcohol expectancy measures was related to drinking before sex.
- Partners drinking before sex AUDIT was significant and in the second block sexual enhancement expectancies accounted for an additional 5% ( $p < 0.01$ ) of the explained variance.

## **CONCLUSIONS**

- Alcohol use before sex is consistently related to sexual risk practices and could itself be considered a marker for STI/HIV risks.
- Alcohol outcome expectancies were associated with drinking before sex as well as having sex partners who drank before sex.
- For men, beliefs that alcohol enhances sexual experiences were the only expectancies that were positively related to greater frequencies of drinking before sex and greater frequencies of partner drinking before sex.
- However, beliefs that alcohol disinhibits behavior were inversely associated with the frequency that men drank before sex.
- Therefore, it could be that men believe that alcohol leads to less control use alcohol less in sexual situations simply because they value remaining in sexual control.
- Importantly, the relationship between behavioural disinhibition expectancies and drinking before sex was not related to women's partners drinking before sex.
- These finding confirm qualitative reseach suggesting women do not expect alcohol to enhance sexual behaviour and experiences (Morojele et al, 2006) and are consistent with theh conclusion that women's risk for STI/HIV are to a great extent determined by their partner's behaviours

### ***Recommendations***

- Behavior intervention research is needed to identify the optimal strategies for altering alcohol outcome expectancies to reduce sexual risk–related alcohol use and ultimately reduce sexual risk behaviors.
- Motivational counseling approaches include cognitive restructuring strategies that can address expectancies that alcohol enhances sexual outcomes.
- Effective counseling for risk-related alcohol use can be integrated into existing counseling services offered by STI clinics including voluntary counseling and testing for HIV.
- Implementing effective interventions that break the association between alcohol use and sexual risk in places with extremely high prevalence rates of HIV infection should be a global public health priority.
- Alcohol outcome expectancies represent cognitions that are amenable to intervention

## **REFERENCES**

Coo, R. L., & Clark, D. (2005). Is there an association between alcohol consumption and sexually transmitted diseases? A systematic review. *Sexually Transmitted Diseases*, 32, 156-164.

Goldman, M., & Darkes, J.(2004). Alcohol expectancy multiaxial assessment: A memory network-based approach. *Psychological Assessment*, 16, 4-15.

Kalichman, S. C., Simbayi, L. C., Jooste, S., Cain, D., & Cherry, C. (2006). Sensation seeking alcohol use, and sexual behaviours among sexually transmitted infection clinic patients, Cape Town, South Africa. *Psychology of Addictive Behaviors*, 20, 298-304.

Morojele, N. K., Kachieng'a, M. A., Mokoko, E., Nkoko, M. A., Parry, C. D. H., Nkowane, A. M., et al. (2006). Alcohol use and sexual behaviour among risky drinkers and bar and shebeen patrons in Gauteng province, South Africa. *Social Science & Medicine*, 62, 217-227.

Parry, C. D. (2005). South Africa: Alcohol today. *Addictions*, 100, 426-429.

Simbayi, L. C., Kalichman, S. C., Jooste, S., Mathiti, V., Cain, D., & Cherry, C. (2004). Alcohol use and sexual risks for HIV infection among men and women receiving sexually transmitted infection clinic services in Cape Town, South Africa. *Journal of Alcohol Studies*, 65, 434-442.

Simbayi, L. C., Mwaba, K., & Kalichman, S. (2006). Perceptions of STI clinic attenders about HIV/AIDS and alcohol as a risk factor with regard to HIV infection in South Africa: Implications for HIV prevention. *Social Behaviour and Personality*, 34, 535-544.