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Substance Use and Sexual Risk Within the Context of Gender Inequality in South Africa

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Abstract

This study examines substance use and sexual risk within the context of gender inequality among 163 women from an urban region of South Africa who were participating in a 2004–2006 study funded by the National Institute of Alcohol Abuse and Alcoholism. Items assessed patterns of substance use, gender inequality, risk communication, and psychological distress. Multivariate logistic regression analyses revealed that economic dependence on a main partner and traditional beliefs about a woman's right to refuse sex were associated with substance use prior to or during sex with that partner. The findings demonstrate that substance abuse prior to sex may reinforce traditional beliefs and that women with more progressive beliefs about gender ideology seem better able to control their substance use in risky environments.

Keywords

substance abuse; sexual risk; gender inequality; sex work; traditional women's roles; partner communication; South Africa

"*…gender inequality and AIDS is a preordained equation of death*."

Stephen Lewis, 2004

Substance use in South Africa is becoming increasingly widespread, and public health officials and researchers have begun to document the relationship between substance use and HIV risk. However, the relationship is unlikely to be meaningfully understood without defining the role that culture, inequality, and poverty play in placing women at risk for HIV.

Heavy alcohol consumption, in particular, is a current major public health concern in South Africa. In a national household survey conducted with over 13,000 individuals in South

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Africa in 1998, over 30% of respondents reported risky drinking (five or more drinks per day for men and three or more drinks per day for women) on weekends (Parry et al., 2005a). In addition, 28% of male and 10% of female participants scored above the cutoff level on the CAGE questionnaire (Ewing, 1984), indicating that they had experienced symptoms of alcohol use problems, which were most prevalent in the lowest socioeconomic stratum (i.e., poorest segment) of the sample (Parry et al.).

Compounding the problem of alcohol consumption in South Africa is the widespread use of cannabis. Lifetime prevalence rates of cannabis use among high-school students nationally were found to be 20% among males and 7% among females (Reddy et al., 2003). Rates were particularly high (27%) for male students in both the Western Cape and the Gauteng provinces. In addition, national surveillance data indicate that 22% to 53% of patients attending substance abuse treatment centers in five sentinel sites had cannabis as their primary or secondary drug of abuse (Parry et al., 2005b).

The association between substance use and HIV transmission via sexual risk behavior has been well documented (Fritz et al., 2002; Mataure et al., 2002; Mnyika, Klepp, Kvale, and Ole-King'ori, 1997; Ndinya-Achola et al., 1997). Alcohol and cannabis use can impair decision-making processes (Leigh and Stall, 1993; Naranjo and Bremner, 1993) and intoxication can contribute to sexual risk taking by reducing perceptions of personal risk. Research shows that women who use these substances are less likely to practice safe sex consistently with their partners (Wingood and DiClemente, 1998).

Study findings also indicate that substance use is strongly associated with high-risk sexual behavior (Logan, Cole, and Leukefeld, 2002; Morojele et al., 2006), such as having multiple partners (Graves and Leigh, 1995; Shillington, Cottler, Compton, and Spitznagel, 1995), unprotected sex (Wingood and DiClemente, 1998), and exchanging sex for money and/or drugs (Scheidt and Windle, 1995; Shillington et al., 1995). Substance use has also been found to be associated with HIV seroposivity and sexually transmitted infections (STIs; Anderson and Dahlberg, 1992; Morrison, Sunkutu, Musaba, and Glover, 1997; Shafer et al., 1993).

South Africa is one of the countries with the highest number of people living with HIV/AIDS (Department of Health, 2006; UNAIDS, 2002). HIV prevalence is estimated to be about 11% in South Africa, which roughly translates to 4.2 to 5.3 million people living with HIV/AIDS (Shisana et al., 2005).Women are disproportionately affected by the AIDS epidemic in South Africa; with HIV prevalence among women ages 15 to 24 being four times higher than among men in the same age group (16.9% vs. 4.4%; Shisana et al.). In addition, the HIV prevalence rate in South Africa is highest among Black Africans (13.3%) and Coloureds (1.9%)1 (Shisana et al.). Thus, the combination of high rates of alcohol and cannabis use and high prevalence of HIV has set the stage for serious public health consequences among women of childbearing age and their children.

Despite the pervasive use of alcohol and cannabis in South Africa and the established link between substance use and sexual risk behavior and HIV, there is a paucity of research about the social and contextual factors associated with substance use. Given that the primary method of HIV transmission in South Africa is unsafe heterosexual sex (Lamptey, 2002), it is important to examine the contextual factors of sexual relationships that may be associated with substance use patterns and HIV risk to better inform intervention approaches.

[1]The South African census classifies people by population group. Membership in a group is based on self-perception and self-classification rather than legal definition. The four main population groups in South Africa are Black African, Coloured, White, and Indian.

South Africa is in transition and faces challenges related directly to its historical experiences with apartheid. Large racial and gender disparities persist in household income and access to education, housing, and health care. Further, high unemployment rates adversely affect equal access to jobs, particularly among South African women—specifically Black African women—who often lack adequate education and job skills and are more likely than men in all racial categories to be unemployed (Gilbert and Walker, 2002). Overall, the social worth of South African women is often based on having and keeping a male partner (Campbell, 2000). Thus, many South African women depend on male partners for their economic survival and the traditionally low status of women is improved by the presence of a partner, even a shared partner (Jewkes, Levin, and Penn-Kekana, 2003).

It is well understood that sexual relationships are often the nexus of unequal power relations between women and men (Logan, Walker, Cole, and Leukefeld, 2002). In South Africa, inequality in sexual relationships is commonly manifested as and imposed through sexual coercion, sexual violence, and assault. Traditional beliefs about gender and sexuality with male partners often determine the timing, nature, and frequency of sexual interactions; decisions about whether condoms and contraceptives will be used; and the legitimacy of having multiple sex partners (Eaton, Flisher, and Aaro, 2003; Wechsberg, Luseno and Lam, 2005; Wood and Jewkes, 1997). The economic vulnerability of and unequal power dynamics faced by many South African women places them at a disadvantage in their ability to negotiate condom use and to leave risky sexual relationships.

Although the association between substance use (particularly injecting drug use) and HIV risk, and the association among gender inequality, sexual negotiation and communication, and HIV risk have been well established, little attention has been paid to the nature of the relationship among gender inequality, sexual communication, and substance use patterns that place women at risk for HIV. The present study examines the association between substance use patterns and experiences of gender inequality among high-risk poor women in South Africa who use alcohol and other illicit drugs, particularly cannabis, *before* or during sex.

Methods

Data for this study are drawn from the Women's Health CoOp-Pretoria, a randomized trial of a woman-focused HIV prevention intervention for high-risk women who use alcohol and other drugs. This intervention was adapted from the North Carolina (NC) Women's CoOp (Wechsberg et al., 2003; Wechsberg, Lam, Zule, and Bobashev, 2004) and the Sunnyside/Pretoria Women's CoOp Project (Wechsberg, Luseno, and Lam, 2005; Wechsberg, Luseno, Lam, Parry, and Morojele, 2006). The intervention was refined through a formative phase that involved conducting in-depth interviews and focus groups with former Sunnyside/Pretoria Women's CoOp Project participants and gatekeepers to understand risk behaviors and barriers to risk reduction, and to determine innovative ways to address risk behaviors within a South African woman's life context. The adaptation process involved revising and pretesting the questionnaire, modifying and pretesting the intervention, developing outreach strategies, and setting up field operations.

A community advisory board (CAB) was also established and comprised a cross-section of professionals from nongovernmental organizations (NGOs), nonprofessionals, service providers, and researchers, many of whom had served as board members for the pilot project. CAB members helped revise the questionnaire and offered feedback to the research team. Items from the original U.S. study and the Pretoria pilot project that have demonstrated reliability and relevance to the target population were selected (Wechsberg et al., 2003; Wechsberg, Luseno, Lam, Parry, and Morojele, 2006). A field manual was

developed to address daily operations, including participant referrals to available resources. Full-time field staff who speak English, Zulu, and Sesotho were trained to conduct outreach, perform urine drug screens and HIV antibody testing, conduct baseline and follow-up interviews, and deliver the two-session intervention. They were also required to pass the Research Triangle Institute (RTI) human subjects course. Human subjects and ethics reviews in the United States and South Africa were conducted at each phase of the study. All consents, forms, assessments, and interventions were translated into Zulu and Sesotho.

Recruitment

Recruitment for study participation involved outreach that was conducted in targeted communities and areas known for illicit drug activity and sex work, including daily rate hotels, informal settlements, weekly apartment dwellings, shelters, and established communities. Staff canvassed these streets and venues, as well as other locales frequented by substance-using women, and posted fliers and distributed leaflets to market the study. A targeted sampling plan was used to balance recruitment communities (i.e., outreach zones), and field staff worked in pairs to recruit study participants. The staff approached and engaged women and verbally requested permission to conduct a brief screener to determine whether they were eligible to participate in the study.

Eligibility Criteria

Eligible participants were female and at least 18 years of age. They reported use of alcohol on at least 13 of the past 90 days, reported trading sex for money or drugs in the previous 90 days, provided written consent to participate, and provided verifiable locator information for Gauteng Province, South Africa. Appointments and transportation arrangements to the field site were made for potential participants who met preliminary eligibility criteria. Implementation of the study began in June 2004. As of February 2006, 476 women had been screened, 396 were found eligible, and 265 were randomized into the experiment. Data were not kept on the number of women who were approached to be screened but refused. This analysis includes only women who were substance abusers engaged in sex work and reported having a main sex partner in the past 30 days (N = 163).

Study Sample

Overall, the women recruited for the study were predominantly Black African (99%) and ranged in age from 18 years old to 53 years old (mean age = 27.6 years). Women spoke several different languages, including Sesotho, Zulu, and English. The majority of women (92.0%) did not finish high school, and almost one fourth (22.7%) completed only primary school (i.e., eighth grade or less). Less than 1% of women with main sex partners were married to those partners, and 39.8% lived with their partner. Over two thirds (67.5%) of the women had at least one child. Women reported financially supporting an average of 3.14 other people (not including themselves). Yet the average monthly income from sex work was only US$160 (about ZAR 960).2,3 Only about one third (36.2%) of women reported receiving income from sources other than sex work. Sample characteristics are summarized in Table 1.

Data Collection and Assessment

On arrival at the field site for their appointment, women were invited to a private office and rescreened for eligibility before informed consent was obtained for study participation.

[2]Using an exchange rate of US$1:ZAR6.

[3]The minimum monthly wage for domestic workers in urban settings—-predominantly Black African and Coloured unskilled women —-is US$166 (approximately ZAR997/-) (Republic of South Africa, 2005).

Intake data collection began with a locator form to enable outreach staff to contact participants for subsequent assessments. Field staff then conducted urine drug screens for cocaine, cannabis, opiates, amphetamines/methamphetamine, and ecstasy use. Breath alcohol testing was performed to determine the breath alcohol concentration at the time of the interview. Study participants were then assessed by self-report at a 2-part intake occurring 2–4 days apart and at 3- and 6-month follow-up interviews. Data for the analysis are derived from the intake interviews.

Measures

The two dependent variables were alcohol use prior to or during sex and cannabis use prior to or during sex with a main partner in the previous 30 days. Participants were asked, “In the past 30 days, did you use the following substances immediately before or during sex with your main sexual partner?” Response categories for each substance were yes or no.

Gender inequality and communication variables included measures of sexual coercion, attitudes toward refusal of sex with a main partner, economic dependence on main partner, and communication with main partner about sexual risk. Sexual coercion was measured using a six-item Likert scale asking individuals how much they agree or disagree with statements indicating sexually coercive experiences (coefficient alpha=.73). Sample items included, “Sometimes you have sex with your main sex partner even when you do not want to because it is expected of you,” and “If you refuse to have sex with your main partner he will refuse to give you money or pay bills.” Higher scores indicate greater sexual coercion.

Attitudes toward refusal of sex were measured using a seven-item scale that asked participants, “Please answer yes or no to the following questions which ask about whether you think a woman has a good reason to refuse sex with her main sex partner” (coefficient alpha = .72). Sample items included the following: “If she is menstruating,” “If she is pregnant,” and “If her main sex partner beats her.” Higher scores indicate greater endorsement of a woman’s right to refuse sex.

Economic dependence on main partner was measured with the item, “How often does your main sex partner give you money?” Response options included never, less than one time a month, one time a month, two to three times a month, two to three times a week, daily, or almost daily. Higher scores indicate receiving money more often from a partner; thus, greater economic dependence.

Communication about partner risk was measured using an eight-item scale with items asking whether in the past 90 days individuals asked their main sex partner about a variety of that partner’s risk behaviors, including how many sex partners he has had, whether he ever injected drugs, whether he ever shared injecting equipment, whether he ever had an STI, whether he has HIV, whether he had sex with someone else while dating/together with the current partner, and whether the participant asked their main partner to get tested for HIV or STIs (coefficient alpha = .83). Higher scores indicate more communication with partner.

Psychological functioning, particularly depression and anxiety, and family history of substance use often co-occur with substance use problems (Hawkins, Catalano and Miller, 1992; Kessler et al., 1997; McCarthy and Anglin, 1990; Moscato et al., 1997; Regier et al., 1990). In addition, age at first use of alcohol is associated with later problems. Thus, these measures were included as psychological/individual risk control variables. Depression and anxiety were measured with an adapted version of the TCU DATAR depression and anxiety scales (Joe, Knezek, Watson, and Simpson, 1991; Simpson, 1991). The depression scale is a seven-item Likert-type scale asking how often in the past 90 days participants experienced various symptoms of depression (coefficient alpha = .75). Response options ranged from

"Never" to "Always." Responses were summed for a total score, with higher scores indicating higher levels of depression. The anxiety scale is also a seven-item Likert-type scale asking how often participants experienced various anxiety symptoms in the past 90 days (coefficient alpha = .78). Responses ranged from "Never" to "Always" and were summed for a total score, with higher scores indicating higher levels of anxiety.

Age of first intoxication from alcohol was measured by asking participants, "How old were you when you first got drunk?" Family history of alcohol and other drug use was measured by asking participants whether any of their blood relatives had problems with alcohol consumption and problems with drug consumption (yes–no response for each question).

Two demographic control variables, age and education, were included in the multivariate models. Participants reported their highest level of education. Age and education were used as continuous variables in the multivariate model.

Analysis

Descriptive frequencies and means are presented for demographics and all variables of interest. Bivariate analyses were conducted to examine the association between contextual variables and the two dependent variables. Statistical significance was assessed using one-way analysis of variance (ANOVA) for continuous variables. The variables assessed using one-way ANOVA included sexual coercion, attitudes toward refusal of sex with a main partner, economic dependence on main sex partner, and communication with main partner about sexual risk. Multiple logistic regression was conducted to assess the associations between contextual factors and the two dependent variables controlling for demographic and psychological factors. These models employed logistic regression using a backward conditional selection procedure. The Hosmer-Lemeshow Goodness-of-Fit test was employed to choose the best-fitting model for each dependent variable. Analyses were conducted using SPSS 11.0.

Results

The majority of women (55.8%) reported using alcohol, and 28.2% reported using cannabis before or during sex with their main partner in the previous 30 days. The average score for the depression scale was 18.2 and 15.6 out of a possible score of 7 to 35 for the anxiety scale. Over half of the sample (58.4%) had a family member who had a history of alcohol-use-related problems, and almost 20% had a family member with a history of illicit drug problems. Many of the women in the sample (19.6%) had consumed alcohol by age 15. The average age of first becoming intoxicated on alcohol was almost 19 years. Almost half of the sample (49.1%) used cannabis for the first time at 18 years of age or older. Alcohol and cannabis were the only substances considered for these analyses because the prevalence of other substances of misuse (e.g., crack cocaine, methamphetamine, heroin, and methaqualone) among the study participants was very low.

Table 2 presents the bivariate associations between the gender inequality and communication variables and the dependent variables. Women who used alcohol before or during sex with their main partner scored significantly lower on the refusal of sex attitudes scale than women who did not use alcohol before or during sex with their main partner ($p < .01$), indicating that alcohol use before sex with main partners is associated with less endorsement of a woman's right to refuse sex with her main partner. The mean score for sexual coercion was 15.9 on a scale of 6 to 30. Women scored an average of 4.9 on the sexual refusal attitudes scale out of a possible range of 0 to 7. The mean score for risk communication was 3.8, on a scale of 0 to 8, and the mean score for economic dependence (how often women received money from their main sex partner) was 4.0 on a scale of 1 to 7.

Women who used cannabis prior to or during sex reported receiving money from their main sex partner more often ($p < .05$) than those who did not use cannabis prior to or during sex with their main sex partner. Greater communication with the main sex partner about partner's risk was weakly associated with alcohol use ($p < .10$) and strongly associated with cannabis use ($p < .05$) prior to or during sex with that partner.

Table 3 presents the results of the multivariate logistic regression models examining the association between gender inequality and communication variables with alcohol and cannabis use. Controlling for individual risk and demographics, sexual refusal attitudes remained significantly associated with alcohol use prior to or during sex—the odds of using alcohol prior to sex decreased by 28%, with a unit increase in endorsement of a woman's right to refuse sex ($p < .01$). Receiving money from a main sex partner also remained significantly associated with cannabis use before sex—greater economic dependence on a main sex partner increased the odds of cannabis use prior to or during sex with that partner by 26% ($p < .05$). Risk communication remained significantly associated with alcohol use before or during sex ($p < .05$), with a unit increase in the communication score increasing the odds of alcohol use before or during sex by 16%. However, risk communication was no longer significantly associated with cannabis use controlling for individual factors. A unit increase in the depression score significantly increased the odds of alcohol use before or during sex by 8%. The odds of a respondent with a family history of alcohol-use-related problems using alcohol before or during sex were .47 times the odds of a respondent with no family history of alcohol problems.

Discussion

> Women are the resilient force that sustains the continent, and they are being eviscerated by a virus. And the world, there and here, largely inert, is watching it happen.
>
> Stephen Lewis, 2004

Generations of Black South Africans suffered through years of oppression during the apartheid era. Black women have been further subjugated into traditional roles by male partners who control them through sexual and physical victimization. Traditionally, Black South African men tend to have multiple sex partners, and the ability to do this is enhanced by greater financial status. The history of apartheid and the effect it has had on traditional African culture reinforces class issues and male dominance over women. Whether ownership in a traditional sense or symbolic sense can be measured, a woman's sense of control or her ability to bargain in her relationship through trading for shelter or financial support often places her in a subservient role to a man. In part because of these traditional roles and the sexual relationships men have with women, Black South African women are now bearing the burden of HIV disease.

This analysis examined the association between selected measures of gender inequality and substance use patterns that often place poor, Black South African women at high risk for HIV. Women with more traditional beliefs about a woman's right to refuse sex were more likely to use alcohol prior to or during sex with their main sex partner. Those with more progressive beliefs about gender ideology appear to be better able to control their substance use in risky environments.

Similarly, economic dependence on male partners was associated with a greater likelihood of using cannabis in the context of sex with that partner. This finding may indicate that poor women, particularly those who are economically dependent on a male partner, may be influenced to engage in risky substance use behavior by a substance-using male partner—

55.9% of women in the sample reported that their main sex partner used alcohol to the point of intoxication and 42.9% reported that their main sex partner used drugs at least once in the past 30 days)—because they feel that they are disempowered and have little choice.

Interestingly, greater communication with a partner about sexual risk was associated with a greater likelihood of risky substance use. It may be that when women drink or use cannabis their inhibitions are lowered and they feel more comfortable talking with their partner about his risk. Event-level data examining discussion of sexual risk in the context of substance use should be collected to examine this question. However, women who engage in communication about partner risk when high or drunk (and when their partners are high or drunk) may actually be putting themselves in a situation that heightens potentially violent reactions from their partners. Although substance use can lower inhibitions and possibly make women more comfortable with initiating discussions about sexual risk, excessive consumption and intoxication can cause women to not exercise personal power to reduce any risks.

It was not possible to discern from these analyses whether women who use substances before sex are able to consume moderate but not excessive amounts. Further, a history of a substance-abusing relative did not reinforce the findings. Because alcohol consumption to the point of intoxication is so common, it may be a more normalized and expected behavior. Although a family history of alcohol-use-related problems predicted alcohol use before or during sex in this sample, the effect of this history on the personality of adult children in South Africa is unclear. The extant literature from studies conducted in the United States and other industrialized countries suggests that growing up in an alcoholic environment predicts extreme patterns of substance use, such as abstaining from alcohol or other drug use or being a ”heavy user.” According to this body of literature, first-born children would be less likely to use alcohol, whereas middle children would be more likely to be heavy alcohol users compared with their younger siblings (Ackerman, 1983). However, the relations between birth order and personality among adult children of alcoholics have not been reported in the literature from South African studies. Additional research that examines relations between family history of alcohol-use-related problems, birth order, and alcohol use before or during sex among South Africans would advance understanding of the etiological factors associated with alcohol misuse in this population.

These findings support the assumption that unequal gender relations and traditional gender ideology in combination with a woman’s substance use with her main sex partner may increase her risk for victimization and HIV. This phenomenon is likely not unique to South Africa, as the combination of poverty and substance use in many settings and cultures may place women at an even greater disadvantage in their relationships with men. However, in South Africa, where the HIV prevalence among women attending antenatal clinics is 30% (Department of Health, 2006), women’s skills to negotiate sexual protection need to be enhanced more than ever. Although the use of any substance before having sex with a main sex partner may give women some measure of perceived self-confidence to communicate the need for sexual protection, the next prevention intervention step may be to instill negotiation behavioral protection patterns among Black South African women, including women with more progressive beliefs about gender equality.

Study Limitations

This study has a number of limitations. First, criteria for inclusion in the study sample included being female, substance use, and being engaged in sex work. Therefore, the study population represents a targeted sample, and the findings may not be representative of Black South African women.

Second, the analysis focuses on women's roles with their main sex partner. Although focusing on this type of partnership is important, it should be recognized that women may act differently with other types of male partners. For example, anecdotal findings indicate that women report that they often feel more in control of interactions with clients than with their main sex partners because the former is considered to be "business." Thus, focusing on main sex partners may preclude interpretation of the findings to other partners (e.g., casual sex and sex trading partners).

Future Research

Ongoing research is needed to not only examine associations between partner substance use, risk communication, and gender inequality but also to explore how women's roles may differ within the context of various types of sexual relationships and how differing role dynamics may lead to sexual risk-taking. It is not atypical for both men and women in South Africa to have multiple sex partners, including sex trading partners, casual partners, and main partners. South Africa is also known to have high rates of sexual victimization and rape. Further investigation is needed to determine how different types of consensual and forced sexual relationships contribute to HIV risk.

The interface between substance use, gender roles, and poverty and sexual relationship dynamics occurs in a larger social context of gender inequality in South Africa. Addressing such gender issues may be a key component of more effective HIV/AIDS prevention. In addition, interventions that address not only gender roles but also access to economic opportunities and educational equity are needed for women to begin to challenge their traditional lack of control and underclass status. Thus, future research needs to explore ways to provide women with opportunities to build self-confidence, empower themselves, improve contextual decision-making skills, and potentially enhance economic independence.

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Biographies

Wendee Wechsberg, Ph.D., is the senior program director of the Substance Abuse Treatment Evaluations and Interventions Research Program at RTI. Dr. Wechsberg has more than 20 years of clinical addiction experience and has directed outpatient drug-free, methadone, and residential substance user treatment programs. Dr. Wechsberg is currently the PI/project director on several studies, including the NIAAA-funded R01 to test an HIV prevention intervention for women at high risk for HIV in Pretoria, South Africa reported on in this paper. She has published in the areas of gender and ethnicity, outreach, HIV risk, and women substance users.

Winnie Luseno, M.S., is a Research Policy Analyst at RTI International with a master's degree in applied economics. She is currently the project coordinator for the HIV prevention intervention study with high-risk women reported on here. Her other research interests include poverty, food security, health coverage, and market behavior under conditions of risk and uncertainty in developing countries.

Kara Riehman is a Technical Director at ORC Macro. Her research has focused on examining the influence of relationship dynamics on HIV risk behavior, intimate partner violence and substance abuse treatment. She also conducts research on how gender differences in social relationships influence risk behavior among both adolescents and adults. She has conducted extensive secondary data analysis and published articles on the influence of drug-using partners on substance abuse treatment motivation, and the influence of relationship power dynamics on treatment retention.

Rhonda Karg, Ph.D., is a Research Clinical Psychologist with RTI International who has more than 10 years of experience providing and evaluating brief interventions for substance use and its comorbid disorders. Her research focuses on enhancing motivation to reduce substance use and HIV risk, and developing and evaluating culturally competent mental health and substance abuse services for underserved populations.

Felicia Browne, MPH, CHES, is a public health analyst in RTI's Substance Abuse Treatment Evaluations and Interventions Program. She recently received her master's of public health in health behavior and health education, with an emphasis on research methods and global health. She has several years of training in qualitative and quantitative research methods and has experience in a variety of topic areas, including HIV/AIDS, substance abuse, and health disparities. She currently works on several HIV prevention intervention studies for at-risk women in the United States and South Africa, and she serves as the project coordinator for an HIV prevention study for pregnant African-American women in drug treatment.

Charles Parry, Ph.D., Medical Research Council of South Africa, Alcohol & Drug Abuse Research Unit is based in Cape Town. He also holds the position of Extraordinary Professor in Psychology at Stellenbosch University. He obtained his PhD in Community Psychology at the University of Virginia in 1989 and undertook an NIMH-funded Postdoctoral Fellowship in Clinical Services Research at Western Psychiatric Institute & Clinic (University of Pittsburgh) from 1989 to 1990. His areas of research interest include substance use epidemiology and substance use and HIV/AIDS.

Glossary

Unequal power relations	The interpersonal relationships that result in unequal control that are commonly manifested and imposed through sexual coercion, sexual violence, and assault.
Traditional beliefs	The beliefs of the indigenous population.
Apartheid	The official policy of racial segregation that was formerly practiced in South Africa.

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Table 1

Selected sample characteristics of women substance users (N = 163)

	Percent	Mean (*SD*, Range)
Demographic characteristic		
Age		27.6 (6.6, 18–53)
Language		
Sesotho	61.3	
Zulu	54.3	
Xhosa	19.8	
English	54.3	
Education		
Grade school or Less	22.7	
Less than high school	68.0	
Completed high school or above	8.0	
Marital status[1]		
Involved but not living with main partner	52.2	
Not married but living with main partner	39.8	
Married	0.6	
Have any children	67.5	
Number people financially supporting		3.14 (2.03, 1–14)
Financially supporting children	52.8	
Income from sex work past month		$160 ($190, $0–833)
Receive money other than from sex work	36.2	
Substance use		
Alcohol prior to sex	55.8	
Cannabis prior to sex	28.2	
Crack cocaine prior to sex	3.1	
Psychological risk		
Depressive symptoms		18.2 (5.3, 7–34)
Anxiety symptoms		15.6 (5.8, 7–30)
Family history of alcohol use problems	58.4	
Family history of drug use problems	19.9	
Age first intoxicated		18.9 (4.2, 0–32)
Age of initial alcohol use		
15 or younger	19.6	
16 to 17	27.0	
18 or older	53.4	
Age of first cannabis use		
15 or younger	8.6	
16 to 17	11.0	
18 or older	49.1	
Gender inequality and communication		

	Percent	Mean (*SD*, Range)
Sexual coercion		15.9 (4.8, 6–30)
Sex refusal attitudes		4.9 (1.9, 0–7)
Risk communication		3.8 (2.6, 0–8)
How often receive money from main partner		4.0 (1.8, 1–7)

[1] Note: 7.4% answered; single (6.2%); and separated/widowed (1.2%).

Table 2

Bivariate associations between scales of contextual variables and substance use (N = 163)

	Alcohol use prior to or during sex		Cannabis use prior to or during sex	
Scale/score	**Yes**	**No**	**Yes**	**No**
Sexual coercion scale (*SD*)	16.2 (4.9)	15.4 (4.8)	16.4 (5.1)	15.6 (4.7)
Sex refusal attitudes scale (*SD*)	4.5 (2.0)**	5.3 (1.7)	4.9 (1.8)	4.9 (1.9)
Risk communication scale (*SD*)	4.2 (2.4)+	3.5 (2.8)	4.5 (2.6)*	3.6 (2.6)
Frequency of receiving money from main partner score (*SD*)	4.0 (1.8)	4.0 (1.7)	4.4 (1.9)*	3.8 (1.7)

+ $p < .10$,

* $p < .05$,

** $p < .01$.

Note: One-way ANOVAs for continuous variables used to assess statistical significance. Scale/score ranges: sexual coercion, 6–30; sex refusal, 0–7; risk communication, 0–8; and frequency of receiving money from main partner, 1–7.

Table 3

Multivariate logistic regression models (N = 163)

	Alcohol use prior to or during sex		Cannabis use prior to or during sex	
	Odds ratio (95%CI)	***SE***	**Odds ratio (95% CI)**	***SE***
Gender Inequality and Communication				
Sexual coercion	1.04 (0.95–1.13)	0.04	1.03 (0.94–1.13)	0.05
Sex refusal attitudes	0.72** (0.58–0.89)	0.11	0.9 (0.73–1.11)	0.11
Risk communication	1.16* (1.00–1.33)	0.07	1.14 (0.99–1.32)	0.08
How often receive money from main partner	1.02 (0.82–1.27)	0.11	1.26* (1.00–1.58)	0.12
Controls				
Age	1.03 (0.96–1.10)	0.03	1.02 (0.95–1.09)	0.03
Education	0.99 (0.86–1.13)	0.07	1.05 (0.91–1.21)	0.07
Age first intoxication	0.94 (0.85–1.04)	0.05	0.93 (0.83–1.04)	0.06
Family history of alcohol use problems	0.47* (0.22–1.00)	0.38	1.22 (0.56–2.63)	0.39
Family history of drug use problems	2.01 (0.76–5.35)	0.5	1.71 (0.67–4.36)	0.48
Depressive symptoms	1.08* (1.01–1.17)	0.04	1.07 (0.99–1.15)	0.04

* $p < .05$,

** $p < .01$.