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The *African Journal of Drug & Alcohol Studies* is an international scientific peer-reviewed journal published by the African Centre for Research and Information on Substance Abuse (CRISA). The Journal publishes original research, evaluation studies, case reports, review articles and book reviews of high scholarly standards. Papers submitted for publication may address any aspect of alcohol and drug use and dependence in Africa and among people of African descent living anywhere in the world.

The term "drug" in the title of the journal refers to all psychoactive substances other than alcohol. These include tobacco, cannabis, inhalants, cocaine, heroin, prescription medicines, and traditional substances used in different parts of Africa (e.g., kola nuts and khat).

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# COMPARISON OF BASELINE DRINKING PRACTICES, KNOWLEDGE, AND ATTITUDES OF ADULTS RESIDING IN COMMUNITIES TAKING PART IN THE FAS PREVENTION STUDY IN SOUTH AFRICA

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## ABSTRACT

Foetal Alcohol Syndrome (FAS) has been identified as among the most serious consequences associated with hazardous and harmful drinking in the Western Cape province, South Africa. Community surveys were conducted in two wine growing regions in this province to assess drinking behaviour, guide interventions and serve as a baseline for assessing the impact of population-level interventions. As part of a cross-sectional comparative study interviews were conducted with 384 and 209 randomly selected adults in the prevention (PC) and comparison communities (CC) respectively. Over 80% of respondents resided in urban areas, except in the CC, where 61% of males resided on farms. Symptoms of hazardous or harmful drinking were reported by 16.0% of females and 32.5% of males in the PC, while 19.3% of females and 56.2% of males in the CC reported such drinking. Over two-thirds of respondents indicated that it was equally harmful for a woman to drink during any of the trimesters of pregnancy, but more than 30% of the women interviewed had never had a health worker speak to them about the effects of drinking during pregnancy. Over 10% had never heard of fetal alcohol syndrome. The findings reinforce the need for interventions to address hazardous/harmful use of alcohol in both communities and also to address gaps in knowledge regarding the effects of drinking during pregnancy.

**Key Words:** Alcohol, epidemiology, pregnancy, South Africa

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## INTRODUCTION

The World Health Organization (WHO)'s *Global Status Report on Alcohol* identified South Africa as being at high risk for alcohol-related problems. While abstention from drinking was found to be high, among drinkers it fell into the category of countries having highest consumption of absolute alcohol (AA)/drinker per year. South Africa also fell into the second highest category of countries that have harmful patterns of drinking and into the category of countries with the highest level of past year heavy episodic drinking, for both male and female drinkers (World Health Organization, 2011).

Among the nine provinces in South Africa, the Western Cape is particularly problematic for harmful alcohol use. National HIV/AIDS surveys (Shisana et al., 2005; 2009), for example, found that this province had the highest proportion of the general population aged 15 and older scoring eight or above on the AUDIT questionnaire (Babor et al., 2001), 16% in 2005 and 15% in 2008. Similarly, the National Youth Risk Behaviour Surveys found that young persons in grades 8 to 11 in the Western Cape reported substantially higher levels of binge drinking in the past 30 days than in other provinces (Reddy et al., 2003; 2010), 34% in 2003 and 41% in 2008. General population surveys have also found problem drinking to be higher in non-urban than in urban settings in this country.

Foetal Alcohol Syndrome (FAS) has been identified as among the most serious consequences associated with hazardous and harmful drinking in the Western Cape province, with rates as high as 88 per 1000 being reported in the prevention community of this study and surrounding areas (May et al., 2005; 2007). The prevention community (PC) is a town situated about a one hour drive from Cape Town that serves as a hub for the many local wine farms. Several large scale intervention projects have been implemented in recent years to address FAS, including a large U.S. National Institute on Alcohol Abuse and Alcoholism (NIAAA)-funded study designed to trial a comprehensive, public health model, community-wide, FAS prevention programme defined by the Institute of Medicine (IOM) in the PC and four other Western Cape Province comparison communities (CC). One nested study within this larger trial involves community surveys to assess the effect of the intervention on drinking at the community level.

Specific aims of this sub-study include: (i) assessing the health of the population in the PC and CC with a particular focus on alcohol, tobacco and other drug use and associated problems, (ii) determining the knowledge and attitudes of respondents towards risky drinking practices in both communities, (iii) assessing responses in both communities to selected policy options designed to address such practices, and (iv) serving as a baseline measure of the impact of a broad range of universal, selected and indicated interventions to be rolled out as part of the larger trial.

## METHOD

### Design

Cross-sectional surveys were undertaken between October 2008 and June 2010 in the PC and CC.

### Sampling

A cluster random sampling approach was used to select study participants, In the PC the predetermined target sample (N=384) was divided among the nine municipal wards according to the proportion of persons aged 18 to 64 in the 2001 Census (Statistics South Africa, 2001). In the CC the target sample comprised 384 participants who were similarly selected from 10 municipal wards. The CC are situated over a mountain from the PC. In both areas farming is the predominant employment sector. Exclusion criteria included persons residing in institutions and persons younger than 18 years and older than 65.

For wards comprising only urban areas, maps of the wards were obtained from the municipality. On each map 4x4 centimeter blocks were drawn covering all the wards

and each was numbered. A random number generator was then used to select 20% of the blocks per ward. Plots were numbered in the chosen blocks and the total number of participants that were needed to be interviewed in that ward was divided into the total number of blocks. The random number generator was again used to identify the plots and the municipality approached to provide the physical address corresponding to each selected number. If there were more than one eligible interviewee present within each household, then all potential interviewees were identified and one randomly selected.

In wards comprising only farms, two persons were interviewed per farm. The number of persons to be interviewed per ward was divided by two yielding a number of farms that needed to be visited, i.e. every "nth" farm. If the number of persons to be interviewed was an odd number then three persons would be interviewed at the last farm. The random number generator was used to select the "n" farms. The residents of the selected farms were then listed on a sheet and the random number generator used to select the two (or three) interviewees per farm.

In wards comprising farms and urban areas, census and other information was used to come up with a ratio of residents of farms and urban areas. This ratio was multiplied by the number of interviewees to be selected from the ward to give the number of residents to be interviewed from farms and urban areas. Numbers were rounded off to the nearest whole number and the strategies identified above for selecting interviewees from farms and urban areas were then used to identify interviewees in each area. If a person meeting eligibility criteria was not at home or refused to participate, then interviewers went to a neighbouring house (first left, then right, and reversing this the next time they needed to replace someone who was not at a target house) until they obtained someone suitable to interview.

**Instrument**

The questionnaire comprised 250 questions and was adapted from various U.S. national household surveys and previous field surveys utilized by members of the study team in the United States and South Africa. It contained demographic questions, questions on health status and risky behaviours, drinking behaviour and associated consequences, questions about use of tobacco and other drugs, and various questions assessing knowledge and attitudes regarding the effects of drinking and the consequences of drinking. It included both the CAGE and AUDIT scales. The Alcohol Use Disorders Identification Test (AUDIT) is a 10 item self-rating questionnaire and has been validated for use in primary health care settings and community settings. A total score of 8 or more on the AUDIT indicates hazardous and harmful alcohol use as well as possible alcohol dependence (Barbor, Higgins-Biddle, Saunders & Monteiro, 2001). In the four-item CAGE scale (Erwing, 1984) asks if participant have ever felt that they should cut down on their drinking (C); have been annoyed by being criticized for drinking (A); felt guilty about drinking (G); or have ever had a drink first thing in the morning to steady nerves or get rid of a hangover (E). Participants with affirmative answers to two or more questions were classified as screening positive for alcohol problems. The full questionnaire was available and administered in either English or Afrikaans.

**Procedures**

Teams of one or two well-trained interviewers approached potential study participants and explained the study to them and took them through the consent process. Interviews were conducted in the homes of study participants or outside if necessary to ensure privacy. Respondents were given a Rand 50 (equivalent to $7.15) shopping voucher for completing the survey. Data collection was completed from October 2008 to June 2010 in the PC and from November 2008 to May 2010 in the CC. Protocols and consent forms were approved by ethics committees from the University of New Mexico, the University of Cape Town, and Stellenbosch University.

**Data analysis**

Descriptive statistical analyses were performed using SPSS version 20 (IBM, 2011). For the bivariate analyses within sites, in order to compare males and females on selected variables, Chi-square tests of association and t-tests for independent samples were undertaken. In order to compare the PC and CC binomial logistic regression (forward stepwise) was undertaken. Variables were selected for inclusion based on the variables where big differences between PC and CC were evident from the descriptive statistics presented from the within-site gender comparisons in the bivariate analyses.

## RESULTS

The final sample included 384 participants from the PC and 209 from the CC.

**Within site bivariate analyses by gender**

The data show that there were significantly more females in the baseline samples in both communities (Table 1) but that the age of male and female participants did not differ in each of the two sites. Ethnic differences between males and female at the two sites were also not found to differ significantly. Over 60% of males and females in each site defined themselves as being "Coloured"[1]. In the CC males were found to be more likely to reside in rural areas whereas female participants were more likely to reside in urban areas. In the PC no differences between males and females were noted in terms of years of schooling completed, whereas in the CC females were more educated than male participants. With regard to marital status, no significant differences were noted in either community. In both communities females reported being more religious than males, but this was only found to be statistically significant in the CC. In both communities substantially more males reported working for money than females, and in both substantial differences were noted in occupations reported for males and females. For example, more males were farmworkers than females in both sites, and in the CC more females reported being factory workers or doing domestic work than their male counterparts. Differences between males and females were also noted in both communities with regard to usual employment status with, more males being likely to report working full time.

A comparison of selected health measures is contained in Table 2, with a focus on risky behaviours and HIV/AIDS. More males in the CC reported ever having a TB diagnosis. In both communities substantially more male participants reported having had sex under the influence of alcohol than females. In the CC significantly more females than males reported having been tested for HIV/AIDS. In the PC, among those disclosing that they were HIV positive, the mean age at which they were diagnosed with HIV is substantially lower among males than females. Significant gender differences were also seen regarding unprotected sex and domestic violence experienced, with males engaging in more of the former, and females experiencing more of the latter, across both the PC and CC sites.

In terms of the use of alcohol, tobacco and other drugs (Table 3), within the two sites males and females differed from each other on virtually all variables studied, with male use, problematic use and negative consequences always being worse than that for females. More than 90% of males reported lifetime use of alcohol compared to only 65% to 75% of females. Substantially more male drinkers consumed alcohol in the past week as compared to female drinkers, but this was only statistically significant in the CC. Differences in types of drinks were also noted between males and females, with, for example, significantly more males reporting nearly always drinking beer in the PC as compared to females, more females

[1]The terms "white", "black", and "Coloured" refer to demographic markers and do not signify inherent characteristics. They were chosen for their historical significance. Their continued use in South Africa is important for monitoring improvements in health and socio-economic disparities, identifying vulnerable sections of the population, and planning effective prevention and intervention programmes.

**Table 1:** Baseline **s**ocio-demographics by gender separately for prevention and comparison communities (%, unless otherwise specified)

| Variables | Prevention Community (N=384) | | | Comparison Communities (N=209) | | |
|---|---|---|---|---|---|---|
| | **Males** | **Females** | ***p*** | **Males** | **Females** | ***p*** |
| Gender of Sample | 31.3 | 68.7 | 0.000 | 39.2 | 60.8 | 0.002 |
| Current Age | | | | | | |
| Range | 18 – 64 | 18 – 64 | NS | 18 - 64 | 18 – 64 | NS |
| Mean (SD) | 37.1 (12.7) | 38.1(12.4) | (0.494) | 38.3 (13.4) | 38.2 (11.7) | (0.965) |
| Ethnic or Racial Group | | | | | | |
| Indian/Asian | 0.0 | 0.8 | | 0.0 | 0.0 | |
| Black | 16.7 | 17.2 | | 13.8 | 14.5 | |
| Coloured | 63.3 | 60.3 | | 72.5 | 62.1 | |
| White | 19.2 | 21.8 | NS | 13.8 | 23.4 | NS |
| Other | 0.8 | 0.0 | (0.478) | 0.0 | 0.0 | (0.210) |
| Current location of residence | | | | | | |
| Rural | 15.8 | 11.4 | | 61.3 | 14.5 | |
| Urban (conventional) | 84.2 | 87.5 | NS | 38.8 | 85.5 | 0.000 |
| Urban (informal settlement) | 0.0 | 1.1 | (0.255) | 0.0 | 0.0 | |
| Years of schooling completed | | | | | | |
| Mean (SD) | 10.1 (2.7) | 10.0 (2.6) | NS (0.677) | 7.5 (4.1) | 9.4 (2.9) | 0.000 |
| Marital status | | | | | | |
| Single (never married) | 40.0 | 30.0 | | 30.4 | 28.5 | |
| Married | 48.3 | 49.0 | | 35.4 | 39.0 | |
| Living with boyfriend/girlfriend | | | | | | |
| common law partner | 8.3 | 11.8 | | 31.6 | 20.3 | |
| Separated | 0.0 | 2.3 | | 1.3 | 3.3 | |
| Divorced | 3.3 | 3.0 | (NS) | 1.3 | 2.4 | NS |
| Widowed | 0.0 | 3.8 | 0.057 | 0.0 | 6.5 | (0.111) |
| Does respondent practice a religion | | | | | | |
| Yes | 88.3 | 93.5 | NS (0.117) | 76.2 | 87.9 | 0.037 |
| Work for money | 62.5 | 38.0 | 0.000 | 83.8 | 49.2 | 0.000 |
| Usual occupation | | | | | | |
| Factory worker | 5.8 | 3.8 | | 7.5 | 16.4 | |
| Farm worker | 11.7 | 4.2 | | 55.0 | 10.7 | |
| Office worker | 5.8 | 6.9 | | 1.2 | 1.6 | |
| Housewife | 0.0 | 26.7 | | 0 | 25.4 | |
| Domestic work | 0.0 | 2.7 | | 0 | 7.4 | |
| Other | 50.8 | 25.6 | 0.000 | 23.8 | 23.0 | 0.000 |
| Usually does not work | 5.0 | 3.8 | | 2.5 | 4.9 | |
| Unemployed | 20.8 | 26.3 | | 10.0 | 10.7 | |
| Usual employment status, | | | | | | |
| Full time | 55.0 | 28.6 | | 79.7 | 27.3 | |
| Part time | 10.0 | 9.9 | | 1.3 | 10.7 | |
| Seasonal | 0.0 | 0.4 | | 3.8 | 19.8 | |
| Unemployed | 21.7 | 32.8 | | 11.4 | 17.4 | |
| Not employed, disabled | 5.8 | 2.3 | 0.000 | 2.5 | 1.7 | 0.000 |
| Not employed and not looking | | | | | | |
| for work | 7.5 | 26.0 | | 1.3 | 22.3 | |
| Student or no occupation | 0.0 | 0.0 | | 0.0 | 0.8 | |
| Total weekly household income | 2011.3 | 1960.9 | NS | 936.4 | 1640.5 | (NS) |
| Rand, Mean (SD) | (2919.4) | (2696.5) | (0.877) | (1316.6) | (3094.2) | 0.064 |

**Table 2:** Baseline health status by gender separately for prevention and comparison communities (%, unless otherwise specified)

| Variables | Prevention Community (N=384) | | | Comparison Communities (N=209) | | |
|---|---|---|---|---|---|---|
| | Males | Females | *p* | Males | Females | *p* |
| Ever diagnosed with TB | 11.7 | 9.5 | NS (0.517) | 17.5 | 7.3 | 0.024 |
| Sexually active | 77.5 | 71.9 | NS (0.246) | 80.0 | 68.5 | NS (0.072) |
| Has a sexually transmitted disease | 6.7 | 6.1 | NS (0.834) | 12.5 | 11.3 | NS (0.793) |
| Has had unprotected sex | 12.5 | 6.5 | 0.050 | 28.7 | 15.3 | 0.021 |
| Has had sex while under the influence of alcohol | 29.4 | 13.7 | 0.000 | 45.0 | 12.1 | 0.000 |
| Has been tested for HIV/AIDS | 67.5 | 70.3 | NS (0.575) | 56.2 | 71.0 | 0.031 |
| Has been diagnosed with HIV/ AIDSs | 0.8 | 1.9 | NS (0.440) | 0.0 | 2.4 | NS (0.162) |
| Among those diagnosed with HIV/ AIDS, age diagnosed Mean (SD) | 20.0 (0.00) | 33.4 (4.0) | 0.039 | N/A | 34.7 (1.53) | NS (-) |
| Among those diagnosed with HIV/ AIDS, respondent is on HIV/AIDS medication | 100.0 | 50.0 | NS (0.361) | N/A | 66.7 | NS (-) |
| Domestic violence events personally experienced (lifetime) | 0.8 | 40.1 | .000 | 2.5 | 100.0 | .000 |

*n<3. ** - will not be reported due to small number of males reporting having experienced domestic violence

reporting drinking beer in the CC, and more males reporting drinking wine, champagne and hard liquor in the CC than their female counterparts.

Current male drinkers in both communities reported drinking more than twice the number of drinks in the past week than females in these communities (Table 3). The mean number of binge drinking episodes in the past week was high among current male and female drinkers, but significantly less among female drinkers in both the PC and CC. Across both sites more than 10% of respondents were rated as having symptoms of alcohol problems as measured by the CAGE questionnaire and such symptoms were rated as being higher among males in both sites, particularly so in the CC where almost half of males in the entire sample scored above the cutoff on this instrument. In both sites significantly more males compared to females scored above the cutoff of 8 on the AUDIT, 16% to 19% of females and 33% to 56% of males. In the CC almost one in four males scored 20 or above on this instrument which is indicative of possible alcohol dependence.

At both sites males were more likely to report having sex with non-regular partners when they have been drinking compared to females, but this was only statistically significant in the CC. Statistically significant difference in the age of first trying cigarettes was noted between males and females in the CC site. At both sites more females than males disagreed or strongly disagreed with the statement that alcohol should be made more available (Table 4). The majority of men and women knew that it was harmful for a woman to consume alcohol during all nine months of her pregnancy. However, more men than women did not know or were not sure when drinking was most harmful. Similarly, most men and women knew that all beverages containing alcohol can be equally harmful for the fetus, but more men than women indicated that drinking spirits was more harmful than other types of alcoholic beverages. According to the data, only a

**Table 3:** Baseline use of alcohol, tobacco and other drugs by gender separately by site (%, unless specified otherwise)

| Variables | Prevention Community (N=384) | | | Comparison Community (N=209) | | |
|---|---|---|---|---|---|---|
| | **Males** | **Females** | ***p*** | **Males** | **Females** | ***p*** |
| Ever consumed alcohol | 90.8 | 74.8 | 0.000 | 92.5 | 65.0 | 0.000 |
| Age first tried alcohol Mean (SD) | 18.0 (4.4) | 19.7 (5.3) | 0.005 | 16.3 (3.55) | 19.3 (5.43) | 0.000 |
| Age began drinking regularly Mean (SD) | 19.8 (4.6) | 21.3 (5.8) | 0.032 | 19.6 (3.8) | 21.2 (3.6) | 0.011 |
| Past 12 month use of alcohol | 64.2 | 47.5 | 0.002 | 75.0 | 46.8 | 0.000 |
| Among current drinkers*, consumed alcohol in past week | 75.3 | 62.4 | NS (0.057) | 88.3 | 56.9 | 0.000 |
| Nearly always drink beer (Current drinkers) | 46.8 | 28.8 | 0.010 | 20.0 | 43.1 | 0.006 |
| Nearly always drink hard liquor (Current drinkers) | 6.5 | 4.0 | NS (0.453) | 3.3 | 0.0 | 0.000 |
| Nearly always drink wine or champagne (Current drinkers) | 15.6 | 20.8 | NS (0.347) | 44.3 | 22.4 | 0.014 |
| Among current drinkers, number of drinks consumed in past week Mean (SD) | 10.5 (16.8) | 4.0 (6.9) | 0.000 | 12.7 (12.3) | 3.7 (4.9) | 0.000 |
| Among current drinkers, drinkers only, number of binges in past week Mean (SD) | 0.8 (1.1) | 0.5 (0.9) | 0.037 | 1.1 (1.3) | 0.5 (0.7) | 0.003 |
| Among current drinkers, estimated BAC for heaviest drinking day in past week: Mean (SD) | 0.159 (0.3) | 0.071 (0.1) | 0.017 | 0.199 (0.3) | 0.087 (0.1) | NS (0.062) |
| CAGE Score | | | | | | |
| 0-1 | 80.0 | 88.6 | | 52.5 | 83.1 | |
| 2-4 | 20.0 | 11.4 | 0.025 | 47.5 | 16.9 | 0.000 |
| AUDIT scores | | | | | | |
| 0-7 | 67.5 | 84.0 | | 43.8 | 80.6 | |
| 8-15 | 21.7 | 10.3 | | 26.2 | 12.9 | |
| 16-19 | 5.8 | 2.7 | | 6.2 | 4.0 | |
| 20-40 | 5.0 | 3.0 | 0.003 | 23.8 | 2.4 | 0.000 |
| When drinking they are more likely to have sex with a non-regular sex partner (among current drinkers) | 5.2 | 1.6 | NS (0.153) | 11.7 | 0.0 | 0.007 |
| Age first tried smoking cigarettes or chewing tobacco: Mean (SD) | 17.9 (4.7) | 18.3 (6.0) | NS (0.685) | 16.5 (3.9) | 18.1 (4.5) | 0.046 |
| Age began smoking cigarettes or chewing tobacco regularly Mean (SD) | 19.0 (5.0) | 18.7 (5.61) | NS (0.741) | 18.9 (3.9) | 19.8 (4. 6) | NS (0.277) |
| Age first tried illegal drugs like cannabis or methamphetamine Mean (SD) | 19.3 (4.4) | 18.5 (3.5) | NS (0.576) | 20.2 (6.3) | 19.9 (6.0) | NS (0.901) |
| Among drug users, age began using illegal drugs regularly Mean (SD) | 18.7 (3.2) | 19.8 (4.5) | NS (0.428) | 22.1 (7. 3) | 11.5 (9.2) | NS (0.077) |
| Frequency of use of cigarettes during the past 12 months | | | | | | |
| Never | 55.0 | 67.2 | | 37.5 | 60.2 | |
| Less often than every other month | 0.0 | 0.8 | | 1.2 | 0.8 | |
| Once every month or two | 0.0 | 1.1 | | 2.5 | 0.8 | |
| Once every 2 or 3 weeks | 0.8 | 0.0 | | 1.2 | 0.0 | |
| Once a week or more often | 44.2 | 30.9 | 0.033 | 57.5 | 38.2 | 0.023 |
| Frequency of cannabis use | | | | | | |
| Never | 94.1 | 99.2 | | 89.7 | 98.4 | |
| Less than once per month | 2.5 | 0.4 | | 1.3 | 1.6 | |
| Once every 1 to 2 months | 0.8 | 0.4 | | 1.3 | 0.0 | |
| Once every 2 to 3 weeks | 0.0 | 0.0 | | 1.3 | 0.0 | |
| Once a week or more often | 2.5 | 0.0 | 0.014 | 6.4 | 0.0 | 0.023 |

*-past 12 months

**Table 4:** Baseline knowledge, attitudes and exposure to information by gender separately for each site (%, unless otherwise specified)

| Variables | Prevention Community (N = 384) | | | Comparison Communities (N = 209) | | |
|---|---|---|---|---|---|---|
| | Males | Females | Significance *p* | Males | Females | Significance *p* |
| Alcohol should be made more available | | | | | | |
| Strongly disagree | 75.0 | 85.9 | | 33.8 | 58.2 | |
| Disagree | 15.8 | 9.5 | | 41.2 | 28.7 | |
| Neither agree./nor disagree | 2.5 | 3.8 | | 1.2 | 6.6 | |
| Agree | 2.5 | 0.0 | | 16.2 | 4.9 | |
| Strongly agree | 4.2 | 0.8 | 0.003 | 7.5 | 1.6 | 0.000 |
| Mean number of drinks it takes a person to get drunk (SD) | | | | | | |
| Man | 6.2 (4.2) | 6.5 (5.0) | NS (.607) | 7.1 (4.2) | 7.2 (5.5) | NS (0.922) |
| Woman | 4.1 (3.5) | 4.2 (3.6) | NS (0.912) | 4.2 (2.4) | 4.3 (3.0) | NS (0.827) |
| During which months of a woman's pregnancy is it most harmful to drink alcohol | | | | | | |
| First 3 months | 19.2 | 17.6 | | 7.5 | 13.0 | |
| 4-6$^{th}$ month | 4.2 | 2.3 | | 2.5 | 0.0 | |
| 7-9$^{th}$ month | 1.7 | 1.5 | | 3.8 | 0.8 | |
| All months | 68.3 | 77.9 | | 75.0 | 82.1 | |
| Don't know/not sure | 6.7 | 0.8 | 0.011 | 11.2 | 4.1 | 0.033 |
| Mean number of drinks per day pregnant women can drink without hurting foetus (SD) | 0.4 (1.1) | 0.2 (0.5) | 0.013 | 0.3 (0.8) | 0.1 (0.5) | NS (0.052) |
| Which alcoholic beverage is more harmful to drink during pregnancy | | | | | | |
| Beer | 0.8 | 1.1 | | 1.2 | 1.6 | |
| Wine | 3.3 | 1.9 | | 5.0 | 0.8 | |
| Spirits | 16.7 | 6.5 | | 17.5 | 7.3 | |
| None is harmful | 0.0 | 0.4 | | 1.2 | 1.6 | |
| All could be equally harmful | 75.8 | 88.5 | | 70.0 | 84.6 | NS |
| Don't know/not sure | 3.3 | 1.5 | 0.024 | 5.0 | 4.1 | (0.095) |
| Has a doctor or any health care provider ever talked with them about the effects of drinking alcohol during pregnancy | | | | | | |
| Yes | 27.4 | 69.2 | | 29.9 | 61.7 | |
| No | 71.8 | 30.8 | | 68.8 | 38.3 | |
| Didn't recall/not sure | 0.9 | 0.0 | 0.000 | 1.3 | 0.0 | 0.000 |
| Ever heard about foetal alcohol syndrome or FAS | | | | | | |
| Yes | 80.0 | 88.1 | | 65.8 | 86.2 | |
| No | 20.0 | 11.9 | | 31.6 | 13.0 | |
| Didn't recall/not sure | 0.0 | 0.0 | 0.036 | 2.5 | 0.8 | 0.003 |

NS = not statistically significant

third of the men and two-thirds of the women had discussed the consumption of alcohol with a doctor or health care provider. At both sites more women than men reported having had such discussions. Lastly, women were significantly more likely than men to report having heard of the terms fetal alcohol syndrome of FAS. In fact between 20% and 34% of men reported never having heard of these terms.

**Comparisons across sites**

The baseline data show that the PC and the four CC appear to be quite different on many measures. For example, from Table 1 it is evident that a greater proportion of males were interviewed in the PC as compared to the CC (39.2% versus 31.3%), but more males were from the coloured ethnic group in the CC (72.5% versus 63.3% in the PC). The CC are substantially more rural. Educational achievement also appears to be greater in the PC, especially among males. In the CC, males were three times more likely to be living with a girlfriend or in a common law arrangement: 31.6% versus 8.3% in the PC. Female respondents in the PC were more likely to be practicing a religion (93.5%) when compared to the CC (87.9%), and more males and females in the CC appear to work for money than their counterparts in the PC. Males in the CC were five times more likely to be farm workers (55.0% vs. 11.7%); more males and females were unemployed in the PC. Twenty-four percent of workers in the CC were seasonal workers compared to just 0.4% in the PC and pay for males in the CC was half of what is paid for males in the PC (see Table 1).

With regard to selected health status variables (Table 2), the proportion of males reporting ever having received a TB diagnosis was substantially greater in the CC. Almost twice as many respondents had a sexually transmitted disease in the CC and unprotected sex appeared to be more frequent in the CC. Rates of domestic violence experienced by females in the CC appeared to be more than double those of females in the PC.

With regard to use of various substances and consequences of their use (Table 3), there were several differences between the two sites. For example, use of beer appears to be more common among male respondents in the PC as compared to the CC whereas use of wine (and champagne) appears to be more commonly reported among males in the CC. Problematic alcohol use as measured by the CAGE and AUDIT questionnaires was high at both sites, but appears to be even higher among males in the CC as does having sex with non-regular sex partners. Conversely the mean age of beginning to use illegal drugs regularly appeared to be substantially lower among females in the CC (11.5 years of age versus 19.8 years). The frequency of cigarette use among male smokers in the CC also appeared to be substantially higher than among males in the PC.

With regard to knowledge, attitudes and exposure to information (Table 4), sentiments against making alcohol more available appeared to be stronger among both males and females in the PC as compared to the CC. Uncertainly regarding when in a women's pregnancy it was most harmful to drink appeared to be higher among both males and females in the CC. Among males at least knowledge of FAS appeared to be substantially lower in the CC.

Binary logistic regression (forward stepwise) results (Table 5) showed that the following two variables significantly discriminate between participants from the two communities: occupation (being a farmworker verses not) and attitude toward alcohol. Respondents from the CC were more likely to be farmworkers, and the stronger the attitude that alcohol should be made more available, the greater the likelihood that a participant was from the CC. Overall, these variables correctly classify 72.4% of respondents as being either from the

**Table 5:** Forward stepwise binomial logistic regression results

| Variables | Wald | df | Sig. |
|---|---|---|---|
| Occupation (being a farmworker) | 32.920 | 1 | .000 |
| Attitude toward alcohol | 29.047 | 1 | .000 |

$R^2$ = .13 (Cox & Snell), .19 (Nagelkerke). Model $\chi^2$ = 80.08, $p$ = .000

PC or the CC (overall model significance ($X^2$ = 32.79, $p$ = .000).

## DISCUSSION

In both communities (PC and CC) high levels of lifetime and past 12 month alcohol use were recorded, substantially higher for both males and females than among provincial samples in the Western Cape province Survey (Department of Health, Medical Research Council, OrcMacro, 2003). Percentages for lifetime use were more than 20% higher in the PC and CC samples. With regard to alcohol use in the past 12 months, levels were at least 9% higher in the PC and CC samples among males and almost 20% higher among females. The proportion of the population in the PC and CC having hazardous or harmful alcohol use ranged between 32.5% and 56.2% for males and between 16.0% and 19.3% for females. These proportions are substantially higher than the provincial estimates (Shisana et al., 2009) and are likely to be due to factors such as greater poverty in rural areas and the legacy of the "Dop" system whereby farm workers in some areas used to receive part of their wages in alcohol, and a pattern of heavy binge drinking, particularly on weekends, developedVarious differences between males and females at the two sites were noted in both sites, namely in lifetime use of alcohol and, symptoms of problem drinking (as indicated by high CAGE scores) and harmful drinking (as indicated by the AUDIT). This is to be expected given greater levels of problematic drinking reported among males in South Africa and elsewhere in the world (Obot & Room, 2005; Parry et al., 2005; Shisana et al., 2009). In the CC males were more likely than females to be found to reside in rural areas, to be less educated, and to earn less. Some of these differences are likely due to an oversampling of male farmworkers in the CC than in the PC.

Differences between men and women were also found in views regarding harmful drinking during pregnancy. More men indicated that it is more harmful to drink during particular trimesters rather than saying it is harmful to drink during all trimesters. It is of concern that across the two sites between 30.8% and 38.3% of women had not had a doctor or health care provider ever talk to them about the effects of drinking during pregnancy. An even greater proportion of men had not had such conversations with providers. This is not surprising because men in South Africa are known to consult health care settings less frequently than women (Harris, et al, 2011). The high levels of men and women who indicated that they had not heard of the terms foetal alcohol syndrome or its Afrikaans equivalent or "FAS" is a matter of concern given that this health issue has received considerable attention in the local, community media for almost two decades, at least in the PC.

This baseline study revealed various differences between the PC and CC. In particular, the multivariate analysis highlighted significant differences in occupation (more farm workers in the PC) and attitudes to attitude towards alcohol (more permissive in the CC). However, as the CC is more rural and situated further from Cape Town, these findings are not unexpected.

The study and the findings reported above have various limitations. The relatively small sample size, especially in the CC, made it difficult to undertake complex multivariate analyses. The fact that more farm workers were sampled in the CC may mean that the two samples are not entirely comparable. In addition, the data pertain to two particular communities in the Western Cape that were not randomly selected. Therefore, the findings may not be generalisable to all rural, farming communities in the Western Cape.

## CONCLUSIONS

Across both sites, the baseline community surveys revealed that substantial amounts of alcohol are consumed by drinkers on a typical drinking day, with heavy or binge drinking commonly reported. It is of further concern that more than 30% of women had never had

a health worker speak to them about the effects of drinking during pregnancy, and that over 10% of women had never heard of FAS. The need for interventions to reduce hazardous and harmful drinking in the study communities was therefore confirmed. Careful consideration should be given to addressing ignorance regarding when it is harmful to drink alcohol during pregnancy. Also there is an obvious need for health workers to talk to men and women about the effects of drinking during pregnancy and to discuss FASD in general. Future surveys with larger sample sizes which will permit more detailed, sophisticated, and representative multivariate analyses of the data are needed and are planned by the authors.

It is hoped that subsequent community surveys undertaken in 2012 will show that interventions instituted locally have led to a reduction in harmful drinking practices and an improvement in knowledge of risky behaviours, attitudes about heavy drinking, and a reduction in risky behaviours.

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# STRESS, ALCOHOL USE AND WORK ENGAGEMENT AMONG UNIVERSITY WORKERS IN NIGERIA

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## ABSTRACT

This study examined the relationship among stress, workplace alcohol use and work engagement among 228 University of Nigeria, Nsukka, workers. The results of the regression analyses showed that job stress significantly predicted workplace alcohol use ($\beta = .17$, $p < .01$). Workplace alcohol use also significantly predicted employee work engagement ($\beta = -.35$, $p < .001$). The results also showed that gender is a significant predictor of workplace alcohol use ($\beta = -.20$, $p < .01$). Marital status also significantly predicted workplace alcohol use ($\beta = -.16$, $p < .05$). The implications of these findings to work productivity and workplace counseling were discussed.

**Key Words:** Stress, Alcohol Use, Work Engagement

## INTRODUCTION

Globalization and the recent increase in competition among firms seem to have brought to the limelight the relevance of human resource in modern organizations. Organizations are forced to innovate, initiate and possibly practice cost reduction mechanisms, use intelligent supply chain solutions either to be ahead in competition or to keep pace with competitors. To achieve this feat, organizations are constantly searching for ways of identifying talent, to nurture the talent and to retain the talent along with the organization for a long time if possible (Lakshmi, 2012). These practices are possible only if the work force is able to adapt to situations and withstand challenges. One of the keys to withstanding various organizational challenges is for organizations to have engaged workforce. This may be the reason Lakshmi (2012) asserted that employee engagement is the driver which can help in obtaining quality outputs, improved performance, employee participation, and increased motivation levels. Employee engagement, therefore, seems to be a driver of success for many organizations. As a result this concept has received special research attention among organizational researchers (Bakker, Schaufeli, Leiter, & Taris, 2008; Macey & Schneider, 2008). Engaged employees are fully involved in and enthusiastic about their work (May, Gilson, & Harter, 2004). Research suggests that engaged workers are a source of inspiration; they are vigorous and keep up the spirit in their team (Engelbrecht, 2006).

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Macey and Schneider (2008) in their review of the construct found evidence of the proliferation of various definitions of engagement. They conceptualized employee engagement as an "aggregate multidimensional construct" (p. 18) that contains different types of engagement (i.e., trait, state and behavioral engagement), each of which entails various conceptualizations. Several authors (e.g., Griffin, Parker, & Neal, 2008; Saks, 2008) have argued against this approach by emphasizing that such a cocktail construct may only create conceptual confusion. The current researchers adopt Schaufeli and Bakker's (2010) definition of work engagement as a positive, fulfilling, and work-related state of mind that features vigor, dedication, and absorption as its components. Vigor is characterized by high levels of energy while working, and the willingness to invest effort in one's work. Dedication refers to being strongly involved in one's work, and experiencing a sense of significance and enthusiasm. Finally, absorption is characterized by being fully concentrated and happily engrossed in one's work (Schaufeli & Bakker, 2010).

Despite the value of employee work engagement to organizations, some behaviors by employees could diminish its capacity. One of such behavior is substance use. Substance use such as alcohol can have significant consequences for the individuals, their co-workers, employers, and organizations as a whole. Alcohol use has been associated with absenteeism (Ames, Grube, & Moore, 1997; Blum, Roman, & Martin, 1993), poor work performance (Lehman & Simpson, 1992; Mangione, Howland, Amick, Cote, Lee, & Bell, 1999), workplace accidents (Elliot & Shelley, 2006), and impaired teamwork (Bennett & Lehman, 1999). There is abundant evidence that alcohol intake in particular excessive alcohol use during work affect the quality of human capital accumulation which may disorientate the employee to treat their jobs with levity (Ames, Grube & Moore, 1997; Frone, 2006; Pringle, 1995) When workers do not show up to work, co-workers often have to go beyond their limits to make up the difference.

Even when alcoholic workers report to work, they may find it difficult to focus on their assigned roles and their lack of engagement on the job can negatively affect the organization. Engagement describes workers' cognitive, emotional, and behavioural attentiveness on the job (Koopman, Pelletier, Murray, Sharda, Berger, Turpin, & Bendel, 2002). Workers with high levels of engagement are actively involved in the tasks at hand and avoid distractions that might interfere with their work performance. On the other hand, workers who are disengaged (i.e., have low levels of engagement) tend to be unmotivated to perform their tasks well. They are likely to be easily distracted on the job, daydream frequently, and complete tasks in a more of a robotic manner than workers with high engagement (Koopman,et al., 2002).

Low engagement causes problems such as low productivity and on-site accidents for organizations (Koopman et al., 2002). Low engagement might be just as damaging and costly for organizations as absenteeism. In other words, when employees report to work but do not put their best effort on the job, might be also be as harmful as when they do not show up for work at all. The negative impact of low engagement on organization productivity has been compared with the outcomes associated with absenteeism (Burton, Conti, Chen, Schultz & Edington, 1999). It has even been suggested that the costs resulting from low engagement exceeds the costs of medical claims and absenteeism combined (Collins, Baase, Sharda, Ozminkowski, Nicholson, Billotti, Turpin, Olson, & Berger, 2005).

The use of alcohol in the workplace tends to pose some challenges for most employees and the relationship between alcohol use and negative job outcomes has been well documented (e.g., Grundberg, Movic, Anderson – Connolly & Greenberg, 1999; Mangione et al., 1999; Lehman & Simpson, 1992). It seems there is no clear laws or policies targeted at the restriction of drinking in the workplace in most organizations in Nigeria in spite of the fact that research has established

links between alcohol consumption and absenteeism, lowered work productivity and employee morale as well as rising health care costs (Ames & Rubhun, 1992). It is therefore envisaged that alcohol use during working periods would be negatively associated with work engagement.

Research indicates that many workers use alcohol (Roman & Blum, 2002). People tend to use alcohol to escape from the stress experienced at work. Individuals may become problem drinkers when they attempt to use alcohol as a stress coping mechanism.

The presence of stress in the world of work may have increased in recent time due to the high work pressure that often emanates from the increased demands by employers to meet set targets as a result of increasing competitive business environment. Thus, workers have to cope with the stress. However, in stress-coping (Wills & Shiffman, 1985) and self-medication (Khantzian, 1997) models of substance abuse, drugs are thought to serve a coping function whereby they facilitate general mood regulation. There is reason to believe that some people use a diverse array of psychoactive drugs, including alcohol (Cooper, Russell, Skinner, & Windle, 1992; Fiki, 2007), cocaine (Jaffe & Kilbey, 1994), cannabis or marijuana (Schafer & Brown, 1991), and tobacco (Schleicher, Harris, Catley & Nazir, 2009) as a means of regulating their mood and coping with work-related stress.

According to Frone (1999), literature on the causes of employee alcohol use generally takes one of the following two perspectives. The first views the causes of employee alcohol use as external to the work place. This means that, an employee may have a family history of alcohol abuse that leaves him or her vulnerable to developing drinking problems, have personality traits reflecting low behavioural self-control that make it difficult to avoid alcohol, or experience social norms and social networks outside work (Ames, Delaney & Janes, 1992; Trice & Sonnenstuhl, 1990). Although external factors clearly influence employee drinking habits, a second perspective views the causes of employee alcohol use as partly arising from the work environment itself.

Most studies linking work stress and alcohol consumption have therefore shown some association between drinking and job stress. For example, as far as cross-sectional studies are concerned, Hingson, Mangione and Barrett (1981) conducted a household survey and reported that job stress was associated with mean alcohol consumption, heavy drinking, and drunkenness. House, Strecher, Metzner and Robbins (1986) found that job tension was associated with average weekly alcohol consumption. In addition, Ragland, Greiner, Yen and Fisher (2000) studied urban transit operators and documented that those who often experienced job stress were likely to drink heavily. Evidence from longitudinal studies have also shown that stress is implicated in alcohol consumption. Crum, Muntaner, Eaton and Anthony (1995) reported that, among men, even after adjusting for job insecurity and workplace support, alcohol dependence and abuse were associated with high-strain jobs. However, Mensch and Kandel (1988) show low correlation between alcohol consumption and job stress among young men, and Cooper, Russel and Frone (1990) documented no significant relationship between job pressure and alcohol consumption or problem drinking. Head, Stansfeld and Siegrist (2004) also reported no significant association between objectively assessed stress and alcohol dependence among male workers by cohort study. The above evidence showed that numerous cross-sectional and longitudinal studies have been conducted to assess the association of occupational environment and stress with alcohol consumption, harmful drinking, and alcohol dependence, and findings are conflicting and inconclusive.

Despite the fact that it is widely believed that increased alcohol consumption is a common response to work-related stress, empirical tests of this model have consistently failed to support a strong relationship (Blum & Roman, 1997). Reports of small effect sizes between work stress and alcohol consumption and problems (e.g., Shore, 1997; Wilsnack &

Wilsnack, 1992) have been noted in previous investigations, prompting many researchers to develop more nuanced models to explain the relationship between work stress and alcohol (Ames & Rebhun, 1996). Frone (2003) argued that models that identify vulnerable subgroups of workers as well as the intervening linkages between work stressors and alcohol use are a promising direction for future research. It is therefore important to test the relationship between stress and alcohol use among several groups and in different contexts. The focus of this current study is to examine whether stress could be linked to workers' alcohol consumption during working periods in Nigerian university context where there is limited empirical reports. It also explores whether alcohol consumption during work could be related to work engagement.

## METHOD

### Participants and Procedure

The participants were 228 administrative staff of the University of Nigeria, Nsukka. Out of the 228 participants, 136 (59.652%) were men. Among the respondents, 160 were married while 68 were single. The ages of the respondents ranged between 23 years to 59 years, with an average age of 42.40 years. The minimum educational qualification of the participants was senior school certificate.

The survey was administered individually in various offices during working hours by selected and trained research assistants. The respondents were assured of the anonymity in their responses. They were allowed to complete the survey at their convenience and the research assistants returned to collect the completed survey at the time agreed upon by the respondent and the research assistant. Out of the 289 workers surveyed initially, 235 (81.31%) completed and returned their questionnaire. Seven out of the 235 retuned copies of the questionnaire were not properly completed and were discarded leaving 228 that were used for data analysis. All the respondents volunteered to participate in the study.

### Measures

*Employee engagement*

The short version of the Utrecht Work Engagement Scale (UWES-9) was used to measure employee work engagement (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002; Schaufeli & Bakker, 2010). The scale measures three dimensions of work engagement: vigour, dedication and absorption. Although the original UWES-9 scale was a seven-point Likert-type, in other to make response easier, a 5-point Likert-type response format ranging from 0 to 4 "Never" to "Very often," was adopted in the present study. Other researchers (e.g., Halbesleben, Harvey, & Bolino, 2009; Bakker, & Xanthopoulou, 2009) equally used 5-point against the 7-point in their separate studies. The scale has a reliability coefficient (Cronbach's alpha) of .89. Sample items include: "At my work, I feel bursting with energy" (vigour), "I am enthusiastic about my job" (dedication), and "I feel happy when I am working intensely" (absorption).

*Job Stress*

To assess job stress, the Role-based Stress Questionnaire developed by Rizzo, House and Lirtzman (1970) was adopted. The questionnaire comprises of 18 items that measure role conflict and role ambiguity among employees. The Role-based Questionnaire has been used in several studies in several countries including Nigeria (e.g. Ugwu, 1995). The reliability coefficient (Cronbach's alpha) of .91 was obtained for the present study. Sample items include: I receive incompatible requests from two more people (role conflict); I know what my responsibilities are (role ambiguity).

*Employee alcohol use*

To assess alcohol use among workers we adopted the method used by earlier researchers (e.g. Frone, 2006) to assess frequency of alcohol use during and after work. The participants were asked how often during the past one year they consumed alcohol in six different contexts: shortly before starting the day's work, within 2 hours of starting their work, during lunch breaks, while working, after the

close of work, and took alcohol during social and other events. The response options range from very often (5), Often (4), Sometimes (3), Rarely (2), to Never (1). To obtain an individual's total score on workplace alcohol use, the person's scores in these contexts: shortly before starting the day's work, within 2 hours of starting the work, during lunch breaks, and while working were added up. A Cronbach's alpha coefficient of .84 was obtained for the present study.

**Data Analyses**

Analyses were carried out on the data using correlation and regression. Correlational analyses were used to determine the intercorrelations of the study variables. Regression was employed in order to assess the amount of variance explained by each type of predictor variable.

## RESULTS

The results of the correlational analysis showed that stress had positive relationship with workplace alcohol use ($r = .21$, $p < .001$). This means that the more stress the participants report the higher their report of workplace alcohol use. The results further revealed significant negative relationship between alcohol use and work engagement ($r = -33$ $p < .001$), showing that workers who use alcohol at workplace tend to report higher scores on work engagement. Stress was positively related to work engagement ($r = .14$, $p < .05$). Thus, the higher the participants' scores on stress , the higher their scores on work engagement. Gender was also significantly related to alcohol use ($r = -.19$, $p < .01$). Male participants tend to score higher in workplace alcohol use than female participants. Marital status was also significantly related to alcohol use ($r = -.24$, $p < .001$). Married participants tend to score higher in workplace alcohol use than single participants.

The results of the regression analysis showed that gender significantly predicted workplace alcohol use ($\beta = -.20$, $p < .01$). Marital status also significantly predicted workplace alcohol use ($\beta = -.16$, $p < .05$). The results also revealed that stress significantly predicted workplace alcohol use ($\beta = .17$, $p < .01$) even when the effects of the control variables (gender, age, and marital status) were statistically controlled. Stress contributed to 2.8% variance in workplace alcohol use above the effects of the control variables. With regard to work engagement, the regression results showed that none of the control variables statistically predicted the participants' work engagement. As a block, the control variables contributed an insignificant 1.5% variance in work engagement. Workplace alcohol use significantly and negatively predicted employee work engagement ($\beta = -.35$, $p < .001$). Workplace alcohol

**Table 1:** Means, standard deviations, and inter-correlation among study variables

| Variables | Mean | Standard Deviation | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| Engagement | 25.40 | 5.74 | - | | | | | |
| Gender | 1.40 | .49 | -.05 | - | | | | |
| Age | 38.40 | 7.10 | .04 | -.04 | - | | | |
| Marital Status | 1.30 | .46 | .10 | .07 | -.07 | - | | |
| Alcohol Use | 6.27 | 2.83 | -.33*** | -.19** | .01 | -.24*** | - | |
| Stress | 57.42 | 11.52 | .14* | -.09 | .10 | -.03 | .21*** | - |

**Keys:** *** = $p < .001$; ** = $p < .01$; * = $p < .05$

**Note:** A total of 228 employees completed the questionnaires. Gender (1 = male, 2 = female); Marital status (1 = Married, 2 = Single,). Raw scores for workplace alcohol use, age, stress, and engagement were keyed in as they were collected.

use contributed to a significant 11.4% variance in employee work engagement above the effects of the control variables.

## DISCUSSION

The results of the study demonstrated that workers' perception of stress is positively related to workplace alcohol use. Results of the regression analyses provide important information about the link between stress and workplace alcohol use. Earlier studies (e.g. Crum et al., 1995, Hingson et al., 1981) have also demonstrated that stress is linked to alcohol consumption or problem drinking. Although there are several ways (both adaptive and maladaptive) of coping with stress (Onyishi, 2005), many people may view the use of alcohol as a way of relaxing after long hours of work or stress-inducing activities. The use of alcohol during work however, seems not to fall into this reasoning. The result of the present study demonstrates that individuals may also take alcohol as a mitigating mechanism to prevent stress or to reduce the impact of stress during work.

In this study, it was also found that alcohol use negatively predicted employee work engagement. Workers who are engaged in their jobs are viewed to be highly involved and committed workers who go about performing assigned roles with enthusiasm. Employees who are engaged are also productive while workers who are disengaged are easily distracted and less productive (Koopman, et al., 2002). The finding that workers who use alcohol during work periods are less engaged than those who do not use alcohol while working demonstrates that alcohol use during work could have detrimental effects on both the worker and the organization. The present finding could help us to understand the previous findings that linked alcohol use with low productivity in the workplace (e.g. Grundberg, et al., 1999; Mangione, et al., 1999; Ames, et al., 1992). It is probable that low productivity associated with alcohol use among workers is as a result of the low engagement of workers who use alcohol during work.

The findings of this study have implications for strategic management and counseling in our workplace, especially in universities. Excessive use of alcohol could be very detrimental to an individual's health. Use of alcohol during working periods could also harm the individual and the employing organization. There is need to build workplace that are less stressful as this will in turn reduce alcohol use among workers. . Designing work systems that encourage creativity and innovation may help in reducing boredom that may predispose individuals to stress. Streamlining work roles for individuals and adequate communication within the organization could also be important in reducing inter-personal and intra-personal conflict that lead to stress that may result in workplace alcohol use. Those who are already taking alcohol can benefit from counseling. Establishing a functional staff counseling centre is desirous in this circumstance.

## CONCLUSION

The use of alcohol during work tend to have negative impact on employee work behaviorus. The findings that workplace alcohol use and stress have negative impact on employee work engagement have implications for organizational effectiveness. Efforts geared toward reducing stress and workplace alcohol use may help in building a work environment that supports employee work engagement which has been viewed to be important in building a productive organization.

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# SURVEY OF DRUG USE AMONG YOUNG PEOPLE IN IFE, NIGERIA

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## ABSTRACT

The objectives of this study were to identify various drugs used by adolescents, the prevalence of such practices and the factors that influence in-school adolescents to use drugs. The study was conducted in the four local government areas of Ile-Ife, South-Western Nigeria, with a total of 800 senior secondary school students. Permission for the survey and consent were obtained from appropriate school authorities. Relevant data were obtained using a modified version of a questionnaire designed by the United Nations for conducting school surveys on drug abuse. The toolkit had been previously validated in Nigeria. The questionnaire items solicited information on students' drug use practices including the types of drugs, sources, frequency of administration and reasons for drug use. Students most widely used caffeine (19.8%), alcohol (5.6%), cigarette (6.3%) and occasionally marijuana (0.4%) as psychoactive substances. The substances were obtained from open drug market (23.5%), peers (5.2%) and village drug hawkers (0.6%). Reasons for drug use included; to keep awake (22.2%) to experience high feelings (21.8%), for body building (14.1%) and to moderate appetite (11.9%). The drugs were used mostly anytime and mainly by oral route of administration. There was a high frequency of psychotropic drug use among the students with caffeine being the most widely used. Drug use by the youths could be attributed to psychosocial perceptions of self need and peer influence.

**Key Words:** Drug use, psychoactive substance abuse, secondary schools, adolescents

## INTRODUCTION

Studies have shown a high prevalence of substance use among young people and much of this practice takes place in schools (Eneh & Stanley, 2004). Drug and alcohol use during adolescence is usually a social experience and a learned behaviour (Swaid, 1988). One of the important psychological phenomena observed among this demographic group is experimentation (Graham *et al*., 1999) and this behaviour has been found to lead to trying out of new experiences in drug use and sexual relations, sometimes with dire consequences for the adolescents. One widely accepted definition of drugs states that drugs are compounds that change the functioning of biological systems by virtue of their chemical composition

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(Levithal,1999). Such systems include the respiratory, growth, excretory, locomotive and reproductive organs. The effects may be beneficial as in the treatment of diseases, however drugs have been found to be capable of producing effects that may be both beneficial and harmful (Oloyede,1996). The term drug abuse, applies only to instances in which people take drugs purely to change their moods, and in which they experience impaired behaviour or social functioning as a result of doing so (Wallace & Fischer, 1987). It is pertinent to note that when people consume consciousness-altering or psychoactive drugs on a regular basis, they often develop dependence as they come to need the drug on a regular basis.

Studies on psychoactive drug use among adolescents in Nigeria have indicated an emerging problem, particularly with the socially acceptable drugs like alcohol and cigarettes. (Odejide *et al*., 1987; Abiodun, *et al.*, 1994; Obot, *et al*., 2001). Having realized that majority of drug abuse start in adolescence, especially for the 'gateway' drugs, alcohol and cigarettes, it becomes imperative to check the practice of psychoactive drug use in the society. Alcohol and cigarettes are described 'as gateway' drugs because they are usually, the first substances used before other drugs are tried out (Indiana Preventive Centre, 2003). Drug abuse by students can lead to a sharp decline in their academic performance, increase reports of truancy, deviant behaviours and ultimately, expulsion from schools. It can also lead to addiction (increased desire for drugs without which normal life processes is disturbed), increased appetite and libido. Other vices such as stealing, fighting and gambling may also be caused by drug abuse as a result of alteration in the brain chemistry of the abusers. Continued use of a drug of abuse over a prolong period of time often leads to drug tolerance and in some cases, tolerance for one drug increases tolerance for another, this is known as cross-tolerance (Baron & Kashler, 2008).

Patterns of drug use may vary greatly around the world over time. The result of one large survey in the United States, indicated that teenagers' use of many drugs –including, alcohol, cocaine, marijuana, and nicotine (in cigarettes) - dropped during the 1980's, but increased again during the 1990s (Baron & Kashler, 2008). Some studies have indicated considerable prevalence in the use of alcohol among secondary school students in both rural and urban communities in Nigeria (Fatoye & Morakinyo, 1997; Eke, 1997; Obot *et al*., 2001) and the average age of self – initiated drinking among the students was 13.2years (SD=2.7). A similar trend was observed among undergraduates in Nigerian universities ( Adelekan, 2000). Furthermore, a study conducted by Eneh and Stanley (2004) on the pattern of substance use among a large population of students in four secondary school in Rivers State, Nigeria revealed that eighty seven per cent (87%) of the respondents had used at least one substance at the time of the survey. The psychoactive substances commonly used included alcohol (65%), kola nut (63.1%), cigarettes (61%) and cannabis (26%) while the medications obtained for various reasons included paracetamol (41.5%), tetracycline (25.7%), ampicillin (24.3%) and Diazepam$^{R}$ (24%). Mention was also made of other substances but those that were least used included Ativan$^{R}$, heroin, cocaine, latex and petrol as inhaler. Findings from the various studies showed that substance abuse among youths in Nigeria is assuming a dangerous dimension and hence a need for immediate intervention. Drug abuse is a global health and social problem with conditions and problems that vary locally. The use of psychoactive substances among adolescents and young adults has become a subject of public concern globally in view of the potentials to contribute to unintentional injury. Drug abuse and addiction has a universal phenomenon that extends across socioeconomic, cultural, religious and ethnic boundaries.

Despite the efforts of various tiers of Government in Nigeria and the National Drug Law Enforcement Agency [NDLEA] to stem the tide of drug abuse in the country there seems to be a consistent increase and a link with cases of cultism and violent disorders among Nigerian youths, hence the need for this study. The

objectives of this study were to identify the various drugs used by adolescents in the study area, the incidence of such practices, mode of administration and sources of the drugs. Furthermore the study aimed to identify the factors that influence in-school adolescents to use drugs and possible strategies to curb substance abuse among this demographic population.

## METHOD

The study was conducted in the four local government areas of Ile-Ife, Osun state in south-western Nigeria, with a total of 800 senior secondary students drawn from eight schools in the study area. A cross-sectional descriptive study design was employed. Permission and assent for the survey was obtained from appropriate school authorities. The questionnaire administered was a modified version of the United Nations questionnaire for conducting school surveys on drug abuse after a pilot study (United Nations,2003). The survey instrument was pre-tested to ensure comprehension at the grade level of respondents and validated further by expert judgement of test developers. The final survey instrument consisted of items which solicited information on students' drug use practices including the types of drugs, sources, frequency of administration and reasons for drug use.

A multistage sampling method was used to select the schools and respondents in each class. A total of 782 questionnaires were returned for a response rate of 98%. The self-administered questionnaire was filled out in the classrooms by consenting students and the average time spent to respond to the questionnaire was 12 minutes. The questionnaire consisted of two sections, with section A addressing socio-demographic data of respondents on such issues as age, gender, and current grade level in school. Section B included issues relevant to drug use practices such as the types and sources of drugs, frequency of use, route of administration and perceived consequences of drug use. Other relevant items sought to identify the motives for consuming the drugs and it also solicited for student's views on possible strategies to curb drug use in the schools.

Data were analyzed using SPSS version 16.0. In the analysis, positive responses to items in Section B of the questionnaire were scored 'Strongly agree' (4), 'Agree'(3), 'Disagree' (2), 'Strongly disagree' (1), and 'Can't say' (0). The weighted average of the responses was computed to assess the students' perceptions on drug use.

## RESULTS

The demographic data of respondents are presented in Table 1. The study sample consisted of 379 (48.5%) males and 403 (51.6%) females with most (95%) of them below 20 years of age and most of the respondents had used at least one substance as at the time of the survey.

Table 2 presents the frequency distribution of selected variables relevant to drug use by the students. The factors included types of drugs commonly used, the source and routes of administration, frequency of use and suggestions on ways to curb substance use among the students. From the results the psychoactive substances frequently used as indicated by the students included caffeine 155 (55.5%), cigarettes 49 (17.6%) and alcohol 44(15.7%).

**Table 1:** Demographic characteristics of respondents

| Variable | Frequency (%) |
|---|---|
| **Age (years)** | |
| 12-15 | 407 (52.1) |
| 16-19 | 349 (44.6) |
| 20 and above | 26 (3.3) |
| **Sex** | |
| Male | 379 (48.5) |
| Female | 403 (51.5) |
| **Current grade level** | |
| Senior secondary 2 | 394 (50.4) |
| Senior secondary 3 | 388 (49.6) |

**Table 2:** Frequency distribution of selected variables relevant to drug use by the students

| Variables | Frequency (%) |
|---|---|
| **Selected drugs used by the students** | |
| Alcohol | 44 (15.7%) |
| Cigarette | 49 (17.6%) |
| Caffeine (Nescafe$^{R}$) | 155 (55.5%) |
| Diazepam | 12 (4.3%) |
| Cocaine | 16 (5.7%) |
| Marijuana | 3 (1.1%) |
| **Sources of drugs used by the students** | |
| Open drug market | 183 (79.9%) |
| Peers | 41 (17.9%) |
| Village drug hawkers | 5 (2.2%) |
| **Routes of drug administration employed** | |
| Oral | 191 (90.1%) |
| Inhalation | 11 (5.2%) |
| Injection | 10 (4.7%) |
| **Frequency of drug use** | |
| Once daily | 31 (15.6%) |
| Once a week | 38 (19.1%) |
| Anytime | 130 (65.3%) |
| **Suggestions on ways to curb psychoactive drug use among students** | |
| Health education on school visit and counselling sessions | 349 (95.6%) |
| Religious intervention | 14 (3.8%) |
| Health clubs in schools | 2 (0.6%) |

Some other drugs less commonly used were cocaine 16(5.7%), valium$^{R}$ (diazepam) 12(4.3%) and marijuana 3 (1.1%). Most of the students who used cigarette were in the age range of 15 to 19 years. The earliest age at first exploration was 13years. Most respondents obtained their drug supply from the open drug market (23.5%) while others consulted with friends and itinerant hawkers. The oral route of administration (90.1%) was predominant among respondents with less common incidents of injection drug users (4.7%). Some of the students used the substances anytime (65.3%) while others used them once a day (15.6%). The responses obtained on suggested means to curb drug use among the students included school visits (95.6%), religious intervention (3.8%), and establishment of health clubs in schools (0.6%).

Table 3 presents the possible reasons for the use of drugs by students and these were as a stimulant to stay awake for studies (31.7%%), for altered sense of well being (31.1%), to stimulate appetite to aid in muscle building (20.1%) and as a replacement for meals for being overweight (17%) with the specific drugs that were used for such purposes.

Table 4 presents the perceived consequence of drug abuse among the students; the level of agreement was determined by calculating the weighted average for each of the identified factors. With regards to the students' perception of the various consequences of drug abuse as reflected in their choice of the "strongly agree" or "agree" alternatives, the following are the frequencies reported as presented in Table 4; truancy 437 (62.4%), risky sexual behaviour 439 (68%), hooliganism/gangster 439(67.9%), suicidal attempt 369 (59.2%), stealing/robbery 434 (67.2%), cultism 432 (66.6%), mental disorder 465 (70%), murder 414 (64.3%), rape 436 (55.8%) and others 16 (2.1%). With a weighted mean score of 2.5 there seemed to be a general agreement on such consequences as mental disorder (2.84), risky sexual behaviour (2.75), hooliganism (2.76) and cultism (2.67) However, suicidal attempt with a weighted average of 2.43 has the least rating, thus indicating a low level of occurrence of this consequence among students in the area of study.

## DISCUSSION

Drug abuse is a major problem among adolescents and it may have serious consequences on their well being and those in their environment. These negative effects are not limited to short-term effects but may also present as

**Table 3:** Frequency distribution of responses on reasons for drug use among students

| Reasons for drug use | | Alcohol | Cigarette | Pawpaw leaves | Glue | Diazepam | Caffeine | Cocaine |
|---|---|---|---|---|---|---|---|---|
| To stimulate appetite/ increase body size - 20.1% | f | 19 | 23 | 7 | 8 | 16 | 18 | 2 |
| | (%) | 4.1 | 5.0 | 1.5 | 1.7 | 3.5 | 3.9 | 0.4 |
| As a replacement for meals - 17% | f | 13 | 17 | 16 | 9 | 9 | 11 | 6 |
| | (%) | 2.7 | 3.6 | 3.4 | 1.9 | 1.9 | 2.3 | 1.3 |
| For high or altered feelings - 31.1% | f | 37 | 41 | 17 | 11 | 9 | 16 | 11 |
| | (%) | 8.1 | 9.0 | 3.7 | 2.4 | 2.0 | 3.5 | 2.4 |
| To stay awake - 31.7% | f | 25 | 26 | 10 | 9 | 76 | 11 | 5 |
| | (%) | 4.9 | 5.1 | 2.0 | 1.8 | 14.9 | 2.2 | 1.0 |

health complications in adult life. For instance, the adolescent brain is still in development and this process may be affected by drug use. Substance abuse is an international problem of significant epidemiologic proportions that has particularly devastating effects on youths because early initiation of gateway drugs such as alcohol, tobacco or other psychoactive substances has been linked with deviant behaviours.

The finding in this study that most of the respondents were below 20 years of age and each one of them had used at least one substance as at the time of the survey is an indication of extent of substance use among youths and this finding agrees with the report of a similar study by Eneh and Stanley (2004) on the incidence of substance use among high school students in Rivers State, Nigeria. The frequency of cocaine use by the students may be explained by their close proximity to a large university with its diversity and sophistication. The finding that most of the students who used cigarette were in the age range of 15 to 19 years agrees with earlier findings of similar studies on the pattern of substance use among students in various parts of Nigeria (Eneh and Stanley, 2004; Shehu *et al*., 2008), thus suggesting risky behaviour among this demographic group. A significant number of the respondents who used the psychoactive substances reported engaging in risky sexual behaviours and this corresponds with an earlier study (The Henry Kaiser family foundation, 2002). The earliest age of 13years at first exploration found in this study was in line with previous findings where the most frequent age at first exploration fell between 13 and 16years. Graham *et al*., (1999) observed that one of the most important phenomena observed during the period of adolescence is experimentation and this behaviour has been found to lead to trying out of new experiences such as drug and sex, sometimes with dire consequences for the adolescents, with a possibility of increased trend in the pattern of drug use as observed by Baron and Kashler (2008).

As found out in this study that most respondents obtained their drug supply from the open drug market, friends or itinerant hawkers agree with the fact that use of psychoactive substances in adolescence is usually a social experience and a learned behaviour and a common problem among adolescents (Abiodun *et al*., 1994). The oral route of administration, which seemed to be predominant among the respondents with less common incidents of injection, is of importance in view of additional risks of infections associated with injectables such as hepatitis and HIV infections. The results obtained for frequency of drug use among the students should be of concern as regards the poor knowledge of youths on the harmful effects of indiscriminate use of these substances.

The responses obtained on suggested means to curb drug use among the students show

**Table 4:** Students' perceptions of the consequences of substance abuse

| Perceived consequences | | Level of agreement | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly agree | Agree | Disagree | Strongly disagree | Can't say | Weighted average (WA) WA=Σfx/Σf |
| | x | 4 | 3 | 2 | 1 | 0 | |
| Truancy | f | 223 | 179 | 102 | 64 | 76 | |
| | % | 34.6 | 27.8 | 15.8 | 10 | 11.8 | 2.64 |
| | fx | 892 | 537 | 204 | 64 | 0 | |
| Risky sexual behaviour | f | 232 | 207 | 83 | 56 | 67 | |
| | % | 35.9 | 32.1 | 12.9 | 8.7 | 10.4 | 2.75 |
| | fx | 928 | 621 | 166 | 56 | 0 | |
| Stealing or robbery | f | 242 | 192 | 83 | 68 | 61 | |
| | % | 37.5 | 29.7 | 12.9 | 10.5 | 9.4 | 2.75 |
| | fx | 968 | 576 | 166 | 68 | 0 | |
| Hooliganism/gangsterism | f | 238 | 201 | 85 | 61 | 61 | |
| | % | 36.8 | 31.1 | 13.2 | 9.4 | 9.4 | 2.76 |
| | fx | 952 | 603 | 170 | 61 | 0 | |
| Cultism | f | 217 | 215 | 74 | 72 | 72 | |
| | % | 33.5 | 33.1 | 11.4 | 11 | 11 | 2.67 |
| | fx | 868 | 645 | 148 | 72 | 0 | |
| Mental disorder | f | 271 | 194 | 78 | 64 | 57 | |
| | % | 40.8 | 29.2 | 11.8 | 9.6 | 8.6 | 2.84 |
| | fx | 1084 | 582 | 156 | 64 | 0 | |
| Murder | f | 227 | 187 | 81 | 73 | 76 | |
| | % | 35.3 | 29 | 12.6 | 11.3 | 11.8 | 2.65 |
| | fx | 227 | 374 | 972 | 243 | 0 | |
| Rape | f | 206 | 230 | 83 | 65 | 64 | |
| | % | 26.4 | 29.4 | 10.6 | 8.3 | 8.2 | 2.69 |
| | fx | 824 | 690 | 166 | 65 | 0 | |
| Suicidal attempts | f | 172 | 197 | 84 | 69 | 102 | |
| | % | 27.6 | 31.6 | 13.4 | 11.1 | 16.3 | 2.43 |
| | fx | 688 | 591 | 168 | 69 | 0 | |

that youths desire adequate preventive measures to curb the menace of substance use. It is highly desirable that appropriate school health programmes be institutionalised in order to curtail this menace of substance use and its consequences among our youths. The students can be educated through establishment of preventive programmes in various schools which can help to strengthen peer-driven interventions. With regards to reasons given for the

use of drugs, adolescents could be obsessed about being overweight, while others may use drugs such as steroids to aid in muscle building. Some other motives which are particularly relevant to adolescents are the altered sense of well being and enhanced ability to experiment with sex, hooliganism and other deviant behaviours. All these factors explain the term 'drug abuse', which applies only to instances in which people take drugs purely to change their moods and in which they experience impaired behaviour or social functioning as a result of doing so (Wallace and Fischer,1987). This is in agreement with the widely accepted definition of a drug as compounds that change the functioning of biological systems because of their chemical structure (Levithal, 1999). A significant number of the respondents who used the psychoactive substances reported engaging in risky sexual behaviours as consequences of substance abuse and this corresponds with the result of an earlier study (The Henry Kaiser family foundation, 2002) while the perceived consequences of drug abuse among the students agree with findings from a previous study reported by Baron and Kashler (2008).

## CONCLUSION

This study showed a considerable level of drug use among secondary school students in the four local Government Areas of Ile - Ife in line with similar studies among this demographic group in Nigeria. It is also evident from the responses that youths desire adequate preventive measures to curb the menace of substance abuse. Furthermore, in spite of the high incidence of substance use among the youths, there is a recorded significant level of perceived consequences of drug abuse. It becomes imperative to reiterate the dangers of drug abuse in general and early drug use in young people in particular. Therefore, it is concluded that psychoactive drug use among in-school adolescents is assuming a dangerous proportion and hence the need for immediate intervention to curb the menace.

**Policy recommendations**

Adolescents need support, guidance and orientation to facilitate their development of capacity to coping with, resisting and recovering from risky situations. In order to cub the use of hard drugs, it may be necessary to develop specific strategies to prevent transition to drug use, reach out to hard drug users and provide services by encouraging drug dependence treatment to help drug users and likewise establish a hierarchy of risk reduction strategies to prevent and reduce drug abuse among youths. Other preventive strategies could be based within the family structure, the schools, out-of-school or media interventions. Evidence – based studies indicate that risk and protective factors are context dependent and operate on people taking drugs for disparate reasons. With these caveats, improving the general social environment of children coupled with supporting parents will probably be the most effective strategies for primary prevention of drug use. Studies indicate that risk and resilience can be successfully altered with interventions of parental monitoring and enhancement of social attachments and skills. Appropriate training of children in the homes as well as parents teaching positive family interactions have been shown to be effective strategies. However, family intervention is only effective when the focus is on multiple risk and protective factors and the cultural background of the families is taken into consideration. Similarly, educational and media campaigns may be matched to youths as target audience. Studies have shown that children are attentive to alcohol advertisements and a fair proportion sees them as a source of information on real life (Wyllie *et al*., 1998).

Regulatory approaches to drug markets have shown considerable success in limiting and shaping drug use among youths particularly when there is a legal market in the drug sale. In this circumstance, regulatory authorities may efficiently enforce limits on youth access as a condition of licences to sell. However, the success of such regulatory approaches is dependent on a popular consensus. Maintaining this consensus may require efforts at public

persuasion (Saltz *et al*., 1995). Moreover, policies work directly and indirectly by reflecting social norms and reflecting what is acceptable. The positive impact of policies on consumption as well as subsequent harm could be supported by consistent scientific evidence, especially in the case of alcohol. Health care personnel may also contribute to curbing substance use among youths through their participation in campaigns against indiscriminate use of psychoactive substances and also by providing the necessary information on rational use of drugs.

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# SEX WORK, DRUG USE AND SEXUAL HEALTH RISKS: OCCUPATIONAL NORMS AMONG BROTHEL-BASED SEX WORKERS IN A NIGERIAN CITY

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## ABSTRACT

This article examines drug use and sexual health risks among sex workers in Ikot Ekpene, an urban centre in Akwa Ibom State of Nigeria. Data for the study were obtained through in-depth personal interviews and focus group discussions (FGDs) involving 86 brothel-based female sex workers. Findings showed that the use of drugs was part of the occupational culture of sex work. Drug use among sex workers is functional in attracting and keeping clients, coping with stigma and negative societal perception, enhancing role performance, maximizing gains from the sexual economy and dealing with threats of violence from clients, pimps and the police. It is argued that alcohol and drugs use among sex workers is shaped by the social organization of sex work, including normative expectations, social pressures, negative societal attitudes towards sex work and threats arising from the socio-cultural context of their lives and work. Drugs occupy an ambiguous position in the lives of sex workers; while helping sex workers negotiate occupational threats and improve role performance, it also predisposes them to negative sexual health outcomes. Efforts to improve the sexual health of sex workers should grapple with the cultural realities of drug use as a risky behaviour in sex work.

**Key Words:** Sex work, drug use, brothels, sexual health risks, Nigeria

## INTRODUCTION

Social policy on sex work has mostly focused on social exclusion and the control of 'immoral or loose women' (Doezema, 2000; Nelson, 2003). In most cases, such policies have been driven by moral panics that centre on a medical model in which sex workers are perceived not only as reservoirs of contagion but also as women in need of mandatory rehabilitation (Goodyear, 2009). The single most significant factor shaping contemporary social policy on sex work has been the emergence of HIV/AIDS in the 1980s as one of the most threatening pandemics of modern times and certainly the most threatening of those associated with sexuality. The rapacious effects of the pandemic on population, health and development generated global concern on the need to control the pandemic. Since efforts to control the pandemic targeted high risk groups, sex workers became the focus of attention.

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The unintended consequence of this policy was that it reinforced societal stigma and the vulnerability of sex workers, thereby heightening the potential for disease transmission.

Sex work is the stable employment of a growing number of women in many parts of the world, including sub-Saharan Africa. Poverty and socio-economic marginality are often adduced as the factors that make sex work a viable option for women. The common view is that women who lack alternative viable forms of employment enter into sex work in the quest for income for survival (Whelelan, 2001). But the issue of poverty is suspect in situations where the women who are engaged in sex work are from middle class families. Thus, Gysels et. al., (2002) argue that sex work is not necessarily the outcome of economic necessity, but may be regarded as an alternative 'strategy for obtaining financial and social independence'.

Murphy and Venkatesh (2006) have developed a view of sex work as a career. They argue that notwithstanding the uncertainties of the profession and the lack of conventional mobility structures, sex work can nevertheless be both perceived and understood to be a career by the sex workers themselves. While it is difficult to substantiate this concept of sex work because of the diffused, 'disorganized' and informal character of the sex industry, it is justifiable to view sex work as an occupation. Sex work is an occupation not necessarily because of the material rewards it brings, but because of "the meaning and significance that it takes on in (sex workers') lives….". Studies confirm that sex workers view their work as a type of employment that generates income with which they meet their own needs and those of their dependents (Whelehan, 2001; Stadler and Delany, 2006). Whelehan (2001) pointed out that 'female prostitutes in the US and cross-culturally can earn as much or more in the kind of work that they do than comparably paid work in the straight world given their skills and level of education'. The attraction of sex work as an occupational form could also include better working conditions relative to other available employment opportunities (Sharpe, 1998) and the self-regulated nature of the work (Pheonix, 1999).

The occupational structure of sex work comes into sharper focus when attention is turned to the hazards that characterize the work. These hazards are diverse and complex. For example, dominant discourses formalized in anti-sex work legislations often construct sex workers as different from 'decent' women. Similarly, the stigmatized figure of the sex worker is often the target of public apprehensions regarding drugs, crime and moral decadence (Hubbard, 1997). Sex workers, who are located at "the lowest end of a stigmatized and marginalized profession, accept physical, sexual and psychological violence as occupational hazards" (O'Neil, 1996). The most notable hazards of sex work are poor and dangerous working conditions, limited access to condom and health services, violence and abuses by clients and law enforcement agents and drug use (Harcourt & Donovan, 2005; Kulick, 2003).

Drug abuse has been recognized as a significant problem among sex workers in diverse settings (Graham, 1994; Cusick, 1998; Green, 2004; Malta et. al., 2008). Studies suggest an overlap between drug using and sex workers populations (Maher, 1996; Maher and Curtis, 1992; Maher and Daly, 1996; Dalla, 2000; Epele, 2001; Miller and Neaigus, 2002). Drug users may turn to sex work to earn income to support addiction, while sex workers may use drugs in order to escape the circumstances of their life and work (Strathdee & Sherman, 2003).

In either situation, sex under the influence of drugs is a high-risk encounter because the chemical properties of drugs can compromise sex workers' judgment, self-control and the ability to practice safe sex. For example, studies conducted by Stall and his co-workers in the 1980s (Stall et al., 1986; Stall, 1988; Stall & Ostrow, 1989) found a strong connection between the use of alcohol and illicit drugs during sexual activity and failure to comply with 'safe sex' guidelines intended to minimize HIV/AIDS risk. Similarly, recent studies have documented sex workers own accounts

of the harms associated with the use of drugs (Stadler & Delany, 2006).

Many of the connections between alcohol, other drugs, and sex are attributable to the coalescence of social and cultural patterns, especially those related to leisure and sociability (Plant, 1991). Indeed, drug use has been shown to be a part of the culture of prostitution, informed by its economic motivation and responsive to the social relations between sex workers and their clients. In a 1985 study of adolescent prostitution, Weisberg reported that:

> The prostitutes indicate that drugs relax them and make their work more bearable. They claim, for example, that drug use 'takes their mind off what you're doing', 'makes it bearable', 'calms me down so I can go through with it', 'makes me feel less miserable' and that 'otherwise I'd kill myself' (1985, p. 118).

In the light of the foregoing, understanding the cultural meanings of drug use in sex work makes an obvious contribution to our knowledge of the social determinants of drug use and the relation between drug use and sexual health. This study, therefore, examines drug use in sex work; it maintains a focus on the socio-cultural particularities of the sex industry, which serve as enabling factors for the use of drugs among sex workers. This attempt is made in the light of the intensifying problem of drug use, high risk behaviour and STIs/HIV/AIDS among sex workers and the dearth of social scientific work illuminating the occupational and cultural realities underpinning these disturbing trends. The study demonstrates how insights into the meanings of drug use and the occupational culture of sex work has the potential to enlighten researchers, policy makers and activists on the cultural factors underlying the persistence of drugs and negative sexual health outcomes among sex workers.

**Drug use risk behaviour and sex work: theoretical issues**

Any attempt to understand the interplay of the cultural realities of the sex industry and the use of drugs in the production of sexual health risks among sex workers needs to be grounded in existing theories of risk. Here Mary Douglas' theoretical work on risk, *Risk and Danger* (1992), provides important leads in formulating a theoretical background. Douglas (1992) argues against the perceived irrationality of voluntary risk-taking in modern society, pointing out that human agents are risk-takers or risk-aversive depending on the relationship between the person and the community. Therefore, blanket judgments that condemn risks taking as irrational actions may be misplaced since they do not take into consideration the social realities within which those taking risk make their decisions regarding which risk is rational and which is irrational. As Sanders (2004), elaborating Douglas ideas, points out, 'if we are to understand how others interpret their social environments in deciding what is too risky and what is worth the risk, their reaction to the space in which they face the dilemma is an integral part of understanding risk in society'.

In the context of this study, the use of hard drugs among sex workers does portend risks for their health, particularly sexual health. This point is clearly and repeatedly stated in the discussions that will follow in order to inform policy and interventions to address the problems. However, sex workers' risk taking decisions must be understood in the light of the socio-cultural realities that shape their lives and work. 'Sex workers react to their surroundings and, through a complex process of assessing their own biography, skills and experience, decide whether to take or avoid risks' (Sanders, 2004).

Sex work is a site of moral contestations and there is much evidence to support that argument that in many places sex workers are regarded as morally debased persons by the larger community. These stereotypical images, along with the moral, socio-cultural and gendered context of commercial sex, deepens the vulnerability and social marginality of sex workers. As the discussions that will follow confirms, sex workers use drugs in attempt to deal with these realities in which their lives

and work are enmeshed, and the 'rationality' of their risk-taking decisions should be judged in the light of this trade-offs between different types and profiles of risk in their work.

Douglas (1992) argued in effect that risk is about the relationships individuals have with those in the community and not necessarily a measure of their character or personality traits. Social relations, particularly relations between the risk-taker and others in the community, should, therefore, be the focus of any attempt to understand risk and risk behaviour. Taking the relationship of sex workers to clients, police and the wider community into account enables us to produce a more grounded and contextually-specific explanation of drug use among sex workers. Following Sanders (2004), the study draws on the personal accounts and narratives of sex workers in order to ground their experiences and decision-making regarding drug use as a risk behaviour in the realities of their lives and work.

## METHOD

Fieldwork for the study described here was conducted in Ikot Ekpene, one of the commercial towns in Akwa Ibom State, Nigeria. Ikot Ekpene is considered the oldest local government council in Nigeria, which dates back to 1914 during the colonial era. The town lies between latitudes $5^0$ $10^0$ North and longitudes $7^0$ $43^1$, and has an estimated population of 184, 801 persons (NPC, 2006). Ikot Ekpene is the headquarter of Akwa Ibom Northwest Senatorial District and the traditional capital of the Annang people. It is bordered by Abak, Ikono, Essien Udim and Obot Akara LGAs in Akwa Ibom State, and Aba and Calabar in Abia and Cross River State respectively. For over 6 months, the research team conducted in-depth interviews and Focus Group Discussions (FGDs) with 86 female sex workers operating in brothels around the community. The interviews and group discussions focused on drug use in sex work, the factors motivating sex workers to use drugs and the effects of drug use on their lives, health and work. The participating sex workers were recruited through a systematic sampling procedure that involved the identification and enumeration of all brothels in the research community with the help of the brothel operators. Murphy and Venkatesh's (2006) definition of a brothel as 'an indoor location, often a house, in which women sell and commit sexual act for sale within the house' guided the identification and enumeration process. A sampling frame was constructed from the enumeration result, and every fifth brothel on the sampling frame was selected and the brothel managers were contacted and their permission sought to interview a pre-determined number of sex workers in their brothels. All interviews and group discussions were tape recorded and transcribed. A textual analysis was used to identify common themes running through the data. A few samples of the responses are quoted verbatim to support the discussion of findings.

## RESULTS

### Drug Use and the Realities of Sex Work

Data reveals that many sex workers use alcohol and other chemical substances as part of recreation and during relaxation with clients. In a sense, this finding is not novel. Several studies have documented the use of various psycho-active substances among female sex workers in different parts of the world (e.g Malta et. al., 2008; Fortenberry et. al., 1997). However, the present study provides new and interesting dimensions to the phenomenon of drug use among female sex workers, particularly because a considerable amount of time was devoted to the exploration of the subject during personal interviews and group discussions with the participating sex workers. Interestingly, the sex workers commented freely and elaborately on their substance use habits during the interviews.

A significant percentage of the sex workers interviewed (85.8%) agreed that they use psycho-active substances. Many of them (54%) reported that they use such substances regularly, and about 65% stated that they have used one

or more substance within the week preceding the interview. This suggests that the level of substance use among the sex workers is fairly high, a fact that is corroborated by previous studies. Sex workers use various types of alcoholic beverages such as palm wine, spirits, lager beer and stouts. They also smoke cigarettes, marijuana, heroin and cocaine. Lager beers and stout are the most popular alcoholic beverages consumed by sex workers, while cigarette is the most commonly used hard drug.

In most cases, clients pay for the drinks and cigarettes that the sex workers consume. At other times, sex workers purchase these substances with their own money. Where the cost is at the expense of their clients, sex workers perceive this as an opportunity to maximize the amount of money they extract from them, hence they consume as much as they can. Many of the sex workers told us during interviews that they usually order many drinks and cigarettes when their clients are willing to pay. Thus, drug use stems in part from the availability of these substances at no cost to sex workers. This process often leads to drug dependence and harm.

The use of alcoholic beverages and chemical substances among female sex workers in the study is predicated on a number of factors, which together constitute the socio-cultural determinants of drug use in sex work. A great deal of time was spent during interviews in teasing out sex workers' views of the factors encouraging the use of drugs among them. Sex workers generally observed that drug use was an integral part of their work, and that it was nearly impossible for a sex worker not to use alcohol and/or drugs. In the words of one of the sex workers, "we drink and smoke a lot… it is just part of it. If you do the kind of work we do, there is no way you will not drink". Other sex workers expressed similar views to the effect that alcohol and drug use is part of their occupational culture. It was also observed that new entrants into the occupation quickly learn to drink and smoke as a way of integrating into the culture.

As an aspect of the culture of prostitution, substance abuse may be understood as a marker of group identity and solidarity. The participating sex workers observed that drinking and smoking is what makes one a 'real' sex worker. They noted that if you don't drink or smoke, clients will treat you as a novice and may attempt to take you for granted. But those who drink and smoke are often feared by clients, who will suppose that they are experienced, savvy and potentially dangerous. Sex workers told us that most clients like of sex workers who drink heavily and smoke as men. Clients are also carefully in dealing with sex workers who use drugs for fear that they can be violent. In the words of a sex worker, "when a man who wants to take you home sees you drinking and smoking, he will fear you… he will say 'I have to be careful with this one o!'". Thus, drug use becomes a way of stemming the risk of client violence against sex workers, including rape, refusal to pay for sex, extortion and physical abuse. The potential function of drug use in dealing with risk of violence, for instance by toughening sex workers against abuses and victimization, provides a strong motivation for drug abuse leading to drug dependence among sex workers. The following comment puts this point in proper perspective:

> You have to drink, smoke and be smart. In this work, you cannot be soft and think you will survive. You must be tough. You have to stand up for yourself because if you don't nobody will do that for you… most women are not naturally strong that is why most of us take a lot of drinks to give us courage so that when a man wants to do something funny, you can defend yourself (IDI/Participants #19/IK/2008).

Interview data indicates that alcohol and drugs are used as a coping strategy against the stress of sex work. The sex workers generally viewed sex work as stressful and as posing grave dangers to their mental and emotional health. The negative effects of commercial sex mentioned by the sex workers include constant feelings of low self-esteem, lack of self-confidence, guilt and self-condemnation, frequent intimidation by male clients and law

enforcement agents and the risk of rejection by friends and family members, where their identity as sex workers is revealed. As a matter of fact, some of the sex workers (46%) considered emotional risks more devastating than other forms of risk. "If you get HIV now, you can just go on knowing that the worse that can happen is that you will die…but to lose your respect as a human being is terrible", observed one of the sex workers during interviews. Other factors that make their work emotionally exacting include ostracism and rejection by friends and family members, the challenge of concealing their true identity from their relations, and physical risks such as violence perpetrated against sex workers by clients, pimps and police officers.

The emotional trauma associated with sex work tends to encourage the use of drugs among sex workers. Sex workers narrated that they often drink heavily so as to forget their frustrations, anxieties and troubles. This suggest that drugs and alcohol provides them with a means of escape from the vicissitudes of their lives. According to one of the sex workers, "you drink to forget your problems… you know it is trouble that dragged most of us into this work. This work itself is full of problem, so you must find a way to cope". Drug use, particularly alcohol consumption, also helps sex workers deal with the stigma associated with their identity as sex workers.

Sex workers are generally regarded as immoral or loose women, vectors of contagious diseases and threats to public health and welfare. They are often treated with contempt by other members of the society. These stereotypical images have enormous negative impacts on the lives of sex workers, including their mental and emotional health. Sex workers reported that they grapple with these negative societal perceptions in everyday life. This partly explains why most of them resort to alcohol and drugs as a coping strategy. The temporary feeling of invincibility associated with intoxication provide sex workers with respite from negative perceptions and public vilification, and this reinforces their reliance on drugs and alcohol. The following comment by one of the sex workers we interviewed captures this trajectory:

> Most of our women (referring to sex workers) drink and smoke a lot. I too smoke and drink… you know, in a situation where people treat you like the worst sinner you must find a way to feel like you are somebody. Sometimes your mind will be condemning you harshly… but when you drink and you are high, you feel normal… That is how we survive in this work (IDI/Participants #27/IK/2008).

This comment, which is typical of the views expressed by the interviewed sex workers, also suggest that alcohol and drugs does more than enable sex workers manage negative public perception; it is also a strategy for dealing with negative self-perception. It provides momentary relieve from the condemnation of their consciences. Thus, using drugs becomes a way of dealing with threats both in the external and internal environments.

Alcohol and drugs could also be used as aphrodisiac in sex work. This means that sex workers use drugs and alcohol to stimulate sexual desire precursor to sexual encounter with clients. Majority of the sex workers we surveyed (58%) reported that alcohol and cigarettes stimulates them sexually. They also observed that drinking heavily before having sex with clients helps prolong orgasm, thereby making the episode last longer than usual. This intersects strikingly with the perceived interests of their clients, who generally crave prolonged and highly pleasurable sexual encounter. In this way, alcohol and drugs become performance enhancers helping sex workers attract and sustain clients, provide desirable sexual services and maximize gains from sex work.

**Drug Use and Sexual Health Risks**

The sex workers were quite aware of the negative implications of alcohol and drug abuse, particularly sexual health-related risks. Their accounts suggest an appreciation of the

ways in which alcohol and drug abuse exposes them to negative sexual health outcomes. These narratives are very significant for interventions targeting sex workers. Among other things, they spot-light entry points for interventions seeking to reduce harm associated with drug abuse among sex workers. Particularly noteworthy in this respect is the sex workers' view that intoxication with alcohol compromises their ability to negotiate safer sex with their clients.

The majority of the sex workers (89%) stated that using condom during sex with clients is the surest way to prevent infection with STIs, including HIV/AIDS. They maintained that, as a matter of policy, they usually insist that their clients should wear a condom before they agree to have sex with them. Although they admitted that they may have sex with their regular partners (or boy friends) without condom because of the trust they share, they reported that insistence on condom use was standard practice in their work. As one of the sex workers pointed out, "there are no two ways about it… if you don't wear condom, I am not interested". Another sex worker elaborated on this point thus:

> Any girl (referring to sex workers) who sleeps with a man, when he does not have a condom on is a fool. Do you know how many people he has been sleeping with? Do you know if he is carrying some dangerous disease? He will pass it on to you, even if it is HIV… in this work you don't take chances. You must make sure that the man wears condom before you agree to do it (have sex) with him. If he refuses to comply then you just work away. Your life is more precious than any amount of money he may offer (IDI/Participants #11/IK/2008).

The no-condom-no-sex policy is, however, undermined by the use of drugs. The use of drugs prevents sex workers from observing the rule of condom use consistently with their clients. In their different narratives, sex workers told us that whenever they come under the influence of alcohol and/or hard drugs, they loose control over their body. This allows their clients, most of whom prefer sex without condom, to have their way with them. Under the influence of alcohol or drugs, sex workers are at risk not only of unprotected sex with clients, but also of gang rape, abduction and ritual murder. But unprotected sex is the most common risk sex workers face when they abuse alcohol and/or drugs, and many of them narrated incidences where they were victims of unprotected sex when they got drunk or used drugs. The following is a typical example of such narratives:

> Once I followed this young man out. He took me to a drinking joint and bought drinks for both of us. I drank heavily till I was drunk. I couldn't even walk down to the car. He eventually carried me home and whatever he did with me I don't know… When I woke up the following day, I asked him if he used condom. He was honest and told me plainly, 'No'. I was scared that I might have been infected with a venereal disease. I latter found out that nothing happened to me (IDI/Participants #13/IK/2008).

Apart from the risk of unprotected sex with clients, and attendant risk of infection with STIs, the use of drugs also predispose sex workers to violence with the attendant risk of bodily harm and physical injuries. Drug using sex workers are prone to fighting and physical violence. According to the sex workers, in some cases the fights involve the use of harmful instruments such as broken bottles, daggers and razor blades, which leads them to inflict bodily harms on each other. "Drinking causes a lot of fight between us", said one sex worker, who also pointed out that, "sometime the fights results in serious physical injuries that may make the police come to arrest us".

## DISCUSSION

Sex work has been a subject of academic research and policy debate for over three

decades, beginning from the emergence of HIV/AIDS in the late 1980s. Both research findings and policy discussions acknowledge sex work as a major public health problem and a threat to human well-being and societal development. Sex work has also been blamed for the rapid spread of HIV/AIDS and other sexually transmitted infections in many African societies. Informed by this construction of sex work, public policy has often criminalized sex work and sex workers have been subjected to violence and harassment by law enforcement agents, and by their pimps and clients who, taking advantage of the illegal status of sex work, exploit sex workers. Where it receives a more humanitarian perception, the tendency has been to treat sex workers as morally debased persons who should be protected from the hazards of sex work.

Health and welfare programmes targeting sex workers have tended to focus on minimizing the likelihood of involvement in risky sexual practices among female sex workers. Such programmes have, however, been handicapped by the absence of the views and perspectives of sex workers on the socio-cultural realities that impacts negatively on their lives and work. In view of the relativity of health concepts, and in line with the need to involve grassroots perspectives in policy decisions, this study seeks to voice the perspectives of sex workers on the cultural realities of sex work and the factors that dispose them towards negative sexual health outcomes by focusing on their accounts of drug use in sex work.

Sex workers in this study spoke of the prevalence of drug use in their work. Drug use is a normative element in the social organization of sex work. It is a learned behaviour that sex workers are expected to assimilate as part of their socialization into the occupational culture. This underscores the cultural factor in drug use in the sex industry. As in other sociocultural contexts of drug use, the use of drugs among sex workers responds to the socio-cultural realities of sex work, including normative expectations of relaxing with and/or entertaining clients and the construction of 'professional identity' of the sex worker. Drug use also serve the ritualized function of initiation into the occupational culture, defining social identity and establishing group boundaries. Studies have demonstrated the functional role of, for instance, alcohol use in many forms of sociability (Partanen, 1991), and their social and ritualized functions in specific contexts (Sulkunen, 2002). The current study reveals that drug use forms part of the social organization of the sex industry.

Sex workers also commented on the motivation behind their use of drugs. Their accounts suggest a coalescence of both the motivation for and the functionality of drug use within the occupational culture. In the sex work culture, drugs serve two main (ritualized) functions; dealing with the negative effects of sex work and enhancing role performance. Drugs serve as cultural mechanisms enabling sex workers to cope with threats arising from the sociocultural context within which they work, and their location in the social structure. Their use of intoxication in combating societal stereotypes and safety threats buttresses the view that drinking comportment is not a result of the properties of drugs, but is socially produced through the imposition of meaning by human agents. It also enable them to deal with the risks in their work through a discourse that links drug use with toughness, invincibility and capacity for violence.

Beyond coping with the hazards of their work, the use of drugs in enhancing role performance through substance abuse is also noteworthy. As a hard drug, tobacco is generally regarded as a stimulant (Obot, 2002). Sex workers leverage on the stimulation which the smoking of tobacco provides to enhance sexual performance and to satisfy the desires of their clients. In this way, drugs serve aphrodisiac purposes enabling sex workers to serve more clients and to maximize financial gains from sexual services. This indicates that drug abuse is deeply embedded in the sexual economy, since sex workers rely on it to engage clients, enhance performance and optimize gains.

Drugs, however, occupy an ambiguous position in sex work. The ambiguity lies in the fact that while it is appropriated, both in

discourse and practice, as modalities for coping with the vicissitudes of the occupation and for enhancing performance in the economy of sex work, abuse of drugs also foment risks in sex work, particularly the risk of infection with STIs such as HIV/AIDS. There is also evidence of a significant level of awareness of the sexual health risks associated with drug use, including risks of unprotected sex, rape and violence, in the data presented above. But the most important insight arising from the findings is how sex workers themselves link drug use and negative sexual health outcomes; they recognize the capacity of drugs to compromises their ability to negotiate safer sex with their clients.

Sex workers accounts buttresses the fact that the pharmacological properties of drugs can (and does) handicap their judgment, undermine their self-control and predispose them to unprotected sex. Given the fact that unprotected sexual intercourse is the major route of transmission of HIV, sex workers in this situation are at grave risk of infection with HIV, as well as other STIs. As the sex workers reported having sex under the influence of drugs, it stands to reason that unprotected sex is a fact, despite their pretensions to the contrary. All these factors support the view that sex workers are a high risk group for STIs and HIV/AIDS (Campbell, 1991; Caldwell & Caldwell, 1993; Caldwell, 1995; Outwater at. al., 2001; Perkins & Gary, 2003 inter alia), hence the need for laboratory tests to enable them ascertain their status and be guided in their efforts to guarantee their sexual health and well-being.

## CONCLUSION: IMPLICATIONS FOR POLICY

This study, which examined the cultural realities of sex work with a focus on the factors encouraging the use of drugs by sex workers, shows that drug use is an integral part of the occupational culture of sex work and occupies an ambiguous position in the lives of sex workers. On the one hand, it provides a means for dealing with threats to their lives and work, enhancing role performance and maximizing benefits from the sexual economy. On the other hand, it increases the vulnerability of sex workers to negative sexual health outcomes. Drug use in sex work may, therefore, be understood as 'ritual', a practice that encodes the ambiguity of pain and pleasure which characterizes sex work. The discourse that recasts drugs as 'functional' is popular among sex workers because it enables them to impose control and meaning on their harried existence. Social policy addressing the sexual health vulnerabilities of sex workers should make efforts to reduce alcohol and drug abuse, thereby alleviating the likelihood of dependence and harm. This may be achieved by focusing on the realities of the commercial sex occupation and the discourses and practices that encourage drug use among sex workers.

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# PERCEPTION OF ALCOHOL AVAILABILITY, PROMOTION AND POLICY BY NIGERIAN UNIVERSITY STUDENTS

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## ABSTRACT

As a follow-up to the Monitoring Alcohol Marketing and Promotion in Africa (MAMPA) project conducted in Nigeria and three other countries in Africa, a survey of Nigerian students was conducted to assess their perceptions of alcohol promotion and policy in the country. Nearly five hundred students drawn from five faculties in the University of Uyo, Nigeria completed a perception of alcohol policy survey, in which they indicated their levels of agreement with statements on alcohol policy. The sample consisted of 265 (53.9%) male and 227(46.1%) female students; with age range of 16-37 years (mean of 24.8 years). Findings revealed that respondents were in support of policy options that sought to reduce availability of alcohol (in terms of access and cost). They also agreed with statements on alcohol as the cause of health and social problems; supported strong laws against drunk-driving; and agreed with the statement that the industry flouts self-imposed code on alcohol advertising. Chi-square analyses of data however confirmed the hypothesis that drinkers will significantly differ from non-drinkers in their perception of alcohol policy in Nigeria. The implications of these findings were discussed in the context of the development of effective alcohol control policy in Nigeria and other low and middle-income countries.

**Key Words:** Perception, alcohol policy, alcohol advertising, university students

## INTRODUCTION

Nigeria has an estimated population of 160 million, spread across 36 states and a federal territory, making the country by far the most populous in Africa and accounting for one out of five people in the continent as a whole. This population is projected to grow to 176 million by 2015 and more than 300 million by 2050. Many are young – about half of all Nigerians are under the age of 25. The urban population more than doubled in a span of thirty years, growing from 23 percent in 1975 to 48 percent in 2005. This high proportion of young people in the population and the increasing number of them living in urban areas have significant implications for alcohol marketing and consumption, especially as much of the advertising of alcoholic beverages is directed at young people. Added to this, per capita income has been growing in the past decade and the projections for the

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future seem to indicate a better economic condition.

About half (49.4%) of male, 74% of female and a total of 61.7% of Nigerians abstain from alcohol consumption (WHO, 2011). This high abstention rate is in part due to religious prohibitions, in Islam and some Christian groups. The most popular beverage is western commercial beer but traditionally brewed or distilled beverages are consumed widely, mainly because of their relative affordability. However, Nigeria has one of the highest adult alcohol per capita consumption rates in Africa at 12.3 litres of pure alcohol (compared to the African average of 6.2 litres). Considering that a majority of Nigerians are abstainers, this level of per capita consumption means that drinkers in the country consume large quantities of alcohol. Recent data from the World Health Organization (WHO, 2011), show this to be the case – total APC among drinkers is 32 litres; 37 litres for male drinkers and 23 litres for female drinkers. Nearly a third of male drinkers engage in heavy episodic drinking, defined as the consumption of 60 grams (5-6 drinks) or more of pure alcohol on at least one occasion weekly.

A few surveys have shown that heavy alcohol use is a pervasive and enduring public health problem and the hazardous pattern of consumption in Nigeria is increasingly associated with social and health problems, especially unintentional injuries among young men (Roerecke, Obot, Patra, & Rehm, 2008). Hospital admissions data also show that harmful drinking seems to have significant effects on the mental health of Nigerians, and has been implicated in domestic and other types of violence (Obot, 2006, 2007).

In spite of this negative picture, Nigeria is one of many countries in Africa without a coordinated response to alcohol problems. Though there are laws that prohibit sale of alcoholic beverages to underage children, time of sales and stipulated maximum legal blood alcohol concentration, these laws are rarely enforced. In addition, there are no policy provisions to regulate marketing and promotion of alcohol. What semblance of control exists is one that was initiated by the Advertising Practitioners Council of Nigeria (APCON) and the industry but it is not clear how much the industry does what it promises to do. There has, therefore, been some interest in studying the marketing and advertising practices of alcohol producers in the country (e.g., Jernigan & Obot, 2006; Obot & Ibanga, 2002), especially in the context of growing consumption and related problems. Issues surrounding alcohol policy, health and social consequences of alcohol use have also attracted research interest (Parry, Rehm and Morojele, (2010).

Lavigne, Witt, Wood, Laforge & DeJong (2008) examined predictors of alcohol control policy support among students at a public university and found less support among men, heavier drinkers, and frequent drinking drivers. A few other studies in extant literature have shown students' support for some alcohol control policies (DeJong, Towvim & Schneider, 2007; Wechsler, Lee, Nelson & Kuo, 2002). However, the relationship between students' perceptions of alcohol policies and their individual alcohol use is largely unexplored, especially in Nigeria. As a follow up to the MAMPA study in Africa which confirmed the widespread availability, affordability and accessibility of alcohol in urban and rural Nigeria (De Brujin, 2010), this work aimed at extending the limited research on student support for alcohol control policies in Nigeria and to compare the characteristics of drinking students to those of non-drinking students with respect to their perception of such policies. In specific terms, this paper is tailored to assess the views of drinkers and non-drinkers about policies directed at alcohol demand/supply control. It was hypothesized that drinkers will differ from non-drinkers in their perceptions of alcohol policy in Nigeria.

## METHOD

### Participants and setting

Four hundred and ninety two (492) Nigerian students were conveniently drawn for this study which was conducted in six faculties of

the University of Uyo, south- south Nigeria and distributed as follows: College of Medical Sciences, 81(16.5%); Faculty of Social Sciences, 113(23%); School of Management Studies, 103(20.9%); Natural and Applied Sciences, 122(24.8%); Faculties of Engineering and Agriculture, 73(14.8%). Sample consisted of 265(53.9%) males and 227(46.1%) females. Of the male participants, 127(47.9%) were alcohol drinkers while 138(52.1%) abstained. Similarly, female drinkers were 98(43.2%), while 129(56.8 %) of the female participants were abstainers. Participants had an age range of 16 – 37, with a mean of 24.84.

**Measures**

Demographic information was collected by requesting respondents to state their age, gender, department and level of study in the university. To delineate between alcohol drinkers and non drinkers, an item, adopted from Alcohol Use Disorder Identification Test (AUDIT) enquired about the frequency of use of drinks containing alcohol with options which ranged from 'never' through '2 to 4 times a month' to '4 or more times a month'.

A structured questionnaire on the perception of alcohol policy (Davies & Walsh, 1983; Karlsoon & Osterberg, 2001) was used to generate data for this study. The questionnaire consists of 16 items structured in a five-point Likert format of 'strongly agree', 'somewhat agree' 'somewhat disagree', 'strongly disagree' and 'don't know'. It probes into the perception of respondents on alcohol related issues such as: perception of social and health consequences; availability, accessibility, affordability and promotion strategies; perception of alcohol policies with emphasis on control/enforcement efforts and ease of obtaining alcohol. In a pilot study using more than two hundred students of higher institutions in Akwa Ibom State, PAPS was subjected to SPSS (version 17.0) analysis and it yielded a Cronbach's Alpha of 0.95 and a split-half range of 0.82 to 0.96.

**Procedure**

The researchers, together with a research assistant did the questionnaire distribution/ administration during large faculty lectures in the Faculties of Social Science, Business Studies, Natural and Applied Sciences, Engineering and Agriculture. The lecturers in charge were briefed of the aims and objectives of the study and permission to use about five minute of their lecture time sought. With permission granted, students were addressed on the essence of the study, the study time frame of 5 minutes was emphasized just as they were informed that participation was optional. Respondents' anonymity was guaranteed by asking them not to write their names, registration number and other identification data on the research materials. Few students however declined participation and informed consent was therefore assumed on the basis of voluntary acceptance, completion and return of questionnaire. Five hundred (500) copies of questionnaire were administered over a time frame of three days. Of this number, four hundred and ninety two (492; 98.4%) were retrieved with useable data.

**Design and statistics**

A cross sectional survey design was adopted for this study. Simple percentages were also used to describe the response pattern of respondents and chi-square test of independence was applied in hypothesis testing.

## RESULTS

This section presents tables of the overall perception of alcohol policy and the differential perceptions of such policy by drinking and non-drinking students in Nigeria. The number and corresponding percentages of drinkers and non drinkers are also highlighted.

Table1 shows that respondents acknowledged the serious social and health hazards posed by alcohol consumption in Nigeria as over 97% (80.5% of respondents who strongly agreed and 17.1% who somewhat agreed) supported statement 1. A little over 84% (61.0% and 23.8%) of the respondents also confirmed that the harm to society caused by alcohol is more than the economic benefits from

**Table 1:** Response patterns to statements on alcohol and alcohol policy

| Statements | Strongly Agree | Somewhat Agree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|
| 1. Alcohol consumption poses serious social and health hazards in Nigeria. | 396(80.5%) | 84(17.1%) | 5(1.0%) | 4(0.8%) | 3(0.6%) |
| 2. Harm to society caused by alcohol is more than the economic benefits from alcohol production and sale. | 300(61.0%) | 117(23.8%) | 42(8.5%) | 26(5.3%) | 7(1.4%) |
| 3. Government has to intervene in order to protect individuals from alcohol-related harm caused by their drinking. | 323(65.7%) | 111(22.6%) | 25(5.1%) | 23(4.7%) | 10(2.3%) |
| 4. Alcohol is a commercial product like any other and does not require any special restriction. | 93(18.9%) | 86(17.5%) | 87(17.7%) | 211(42.9%) | 15(3.1%) |
| 5. Alcohol products are too expensive and not affordable to most Nigerians | 31(6.3%) | 39(7.9%) | 91(18.5%) | 298(60.6%) | 33(6.7%) |
| 6. It is easy to buy alcohol anywhere in Nigeria. | 372(75.6%) | 49(10.0%) | 20(4.1%) | 30(6.1%) | 21(4.3%) |
| 7. Alcohol taxes should be increased. | 215(43.7%) | 71(14.4%) | 44(8.9%) | 108(22.0%) | 54(11.0%) |
| 8. Alcohol is sold in too many places in Nigerian town. | 360(73.2%) | 79(16.1%) | 17(3.5%) | 12(2.4%) | 24(4.9%) |
| 9. The number of alcohol outlets in Nigeria should be decreased. | 281(57.1%) | 87(17.7%) | 44(8.9%) | 54(11.0%) | 23(4.67%) |
| 10. There is a law that regulates the sale of alcohol to minors in Nigeria. | 95(19.3%) | 70(14.2%) | 40(8.1%) | 127(25.8%) | 160(32.5%) |
| 11. Billboard advertising alcohol should not be erected near primary/secondary schools in Nigeria. | 278(56.5%) | 88(17.9%) | 45(9.1%) | 67(13.6%) | 67(13.6%) |
| 12. Alcohol advertisements on Nigerian television are broadcast only from 9pm, after minors have gone to bed. | 135(27.4%) | 75(15.2%) | 49(10.0%) | 158(32.1%) | 75(15.2%) |
| 13. There should be a strong law against driving when drunk. | 451(91.7%) | 9(1.8%) | 5(1.0%) | 14(2.9%) | 13(2.6%) |
| 14. Advertising of alcohol should be restricted | 233(47.4%) | 91(18.5%) | 69(14.0%) | 82(16.7%) | 17(3.5%) |
| 15. The blood-alcohol limit for drivers should be kept as low as possible to prevent drunk driving. | 384(78.1%) | 56(11.4%) | 10(2.0%) | 15(3.1 %) | 27(5.5%) |
| 16. Breath testing of drivers should be widely enforced all year round. | 353(71.8%) | 82(16.7%) | 12(2.4%) | 14(2.8%) | 31(6.3%) |

alcohol production and sale. Over 88% of the respondents consented to statement 3 calling on government to intervene in order to protect individuals from alcohol-related harm caused by their drinking. However, more than 60% expressed some level of disagreement with item 4, which states that alcohol is a commercial product as any other and does not require any special restriction. Item 5 'alcohol products are too expensive and not affordable to most Nigerians' however attracted negative responses as over 79% disagreed with this statement. Over, 85%of the respondents confirmed that it is easy to buy alcohol anywhere

in Nigeria. More than half (58.1%) agreed that alcohol taxes should be increased, about 11.0% did not know if such policy would curb alcohol demand, while 30.9% disagreed with this statement. More than 89% of the total respondents confirmed the availability of alcohol in Nigeria by registering their agreement with item 8 which suggested that alcohol is sold in too many places in Nigerian towns. Item 9, 'the number of alcohol outlet in Nigeria should be decreased' attracted positive responses as 74.8% of the total respondents agreed with this statement. Item 10 however elicited mixed reactions from the respondents as less than a half (33.5%) agreed that there is a law that regulates the sale of alcohol to minors in Nigeria; however, a sizeable proportion of the respondents (32.5%) did not know of the existence of such law, while 33.8% stated that such law does not exist. Statement 11- billboards should not be erected near primary/secondary schools in Nigeria also got the support of 74.4% of the total respondents, while item 12, which stated that alcohol advertisement on Nigerian television are broadcast only from 9pm, after minors have gone to bed also elicited mixed responses; 42.7% of the respondents were in support of this statement, 42.1% disagreed with this statement, while 15.2% expressed ignorance. About 93% of the respondents supported statement 13, which calls for a strong law against drunk driving. About 65.9% called for the restriction of alcohol advertising (item 14). A sizable proportion of the respondents ( 89.4%) consented to the proposal that the blood-alcohol limit for drivers should be kept as low as possible to prevent drunk driving, while 88.4 supported statement16 – breath testing of drivers should be widely enforced all year round.

Item 17 probed the respondents' frequency of taking a drink containing alcohol. It was instrumental in dichotomizing respondents into the drinking and non drinking categories. Of the 492 respondents who took part in this survey, 225(45.7%) were alcohol drinkers while 267(54.2%) were non-drinkers.

Sixteen policy related statements are presented in Table 2. Chi-square analysis of data reveals a significant difference between drinkers' and non-drinkers' perception of alcohol policies in about 9 of these statements. Non-drinkers (262; 98.1%) were significantly different from drinkers (218; 96.9%) in their agreement to statement 1 which states that alcohol consumption poses serious social and health hazards in Nigeria $\{X^2 (1) = 4.03; p< 0.05\}$. A significant difference between drinkers (183; 81.3%) and non-drinkers (234; 87.6%) was also established in students' agreement to statement 2 'harm to society caused by alcohol is more than the economic benefits from alcohol production and sale' $\{X^2 (1) = 6.24; p< 0.05\}$. A chi-square analysis of data $\{X^2 (1) = 5.31; p< 0.05\}$ also confirmed a significant difference in students' perception of statement 3 which calls for governments' intervention in order to protect individuals from alcohol-related harm caused by their drinking, as only 193(85.8%) drinkers consented to this call compared to (241; 90.3%) of the non-drinkers. Statement 4 which states that alcohol is a commercial product like any other and does not require any special restriction was also perceived differently by drinkers and non-drinkers $\{X (1) = 4.85; p < 0.05\}$. A smaller proportion of drinkers 130(57.8%) disagreed with this statement compared to non-drinkers 168(62.9%). Another significant difference in students' perception $\{X^2 (1) = 5.05; p< 0.05\}$ was observed in their responses to statement 7- alcohol taxes should be increased. About 124(55.1%) of drinkers supported this statement compared to 162(60.7%) of the non-drinkers. Statement 9 – the number of alcohol outlets in Nigeria should be decreased- also attracted a significant perceptual difference between respondents in both categories $\{X^2 (1) 4.98; p< 0.05\}$; about 164(72.9%) of the drinkers agreed compared to 207(77.5%) of the non-drinkers. A significant difference was established in students' agreement to statement 11 which suggests that billboards advertising alcohol should not be erected near primary/secondary schools in Nigeria $\{X^2 (1) 7.39; p< 0.05\}$;157(69.8%) drinkers compared to 209(78.3%) non-drinkers agreed to this statement. Statement 14 which calls for the restriction of alcohol

**Table 2:** Differential perceptions of alcohol policy by drinking and non-drinking students

| Statement | Drinkers (n=225) | | Non-Drinkers (n=267) | | $X^2$ | p |
|---|---|---|---|---|---|---|
| | Agree | Disagree | Agree | Disagree | | |
| 1. Alcohol consumption poses serious social and health hazards in Nigeria. | 218(96.9%) | 5(2.2%) | 262(98.1%) | 4(1.5%) | 4.03 | < .05 |
| 2. Harm to society caused by alcohol is more than the economic benefit from alcohol production and sale. | 183(81.3%) | 35(15.6%) | 234(87.6%) | 33 (12.4%) | 6.24 | < .05 |
| 3. Government has to intervene in other to protect individuals from alcohol-related harm caused by their drinking. | 193(85.8%) | 22(9.8%) | 241(90.3%) | 26(9.7%) | 5.31 | < .05 |
| 4. Alcohol is a commercial product as any other and does not require any special restriction. | 88(39.1%) | 130(57.8%) | 91(34.1%) | 168(62.9%) | 4.85 | <.05 |
| 5. Alcohol products are too expensive and not affordable to most Nigerians. | 36(16.0%) | 183(81.3%) | 34(12.7%) | 206(77.2%) | 1.36 | >.05 |
| 6. It is easy to buy alcohol anywhere in Nigeria. | 199(88.4%) | 20(8.9%) | 222(83.1%) | 30(11.2%) | 1.26 | >.05 |
| 7. Alcohol taxes should be increased. | 124(55.1%) | 73(32.4%) | 162(60.7%) | 79(29.6%) | 5.05 | < .05 |
| 8. Alcohol is sold in too many places in Nigerian towns. | 203(90.2%) | 13(5.8%) | 236(76.0%) | 16(6.0%) | 2.48 | >.05 |
| 9. The number of alcohol outlets in Nigeria should be decreased. | 164(72.9%) | 48(21.3%) | 207(77.5%) | 50(18.7%) | 4.98 | < .05 |
| 10. There is a law that regulates the sale of alcohol to minors in Nigeria. | 84(37.3%) | 77(34.2%) | 81(30.0%) | 90(33.7%) | 0.05 | >.05 |
| 11. Billboard advertising alcohol should not be erected near primary/secondary schools in Nigeria. | 157(69.8%) | 62(27.6%) | 209(78.3%) | 50(18.7%) | 7.39 | < .05 |
| 12. Alcohol advertisements on Nigerian television are broadcast only from 9am, after minors have gone to bed. | 96(42.7%) | 103(45.8%) | 114(42.7%) | 104(39.0%) | 1.69 | >.05 |
| 13. There should be a strong law against driving when drunk. | 210(93.3%) | 7(3.1%) | 250(93.6%) | 12(4.5%) | 3.48 | >.05 |
| 14. Advertising of alcohol should be restricted. | 133(59.1%) | 91(40.4%) | 191(71.5%) | 60(22.7%) | 10.38 | < .05 |
| 15. The blood-alcohol limit for drivers should be kept as low as possible to prevent drunk driving. | 201(89.3%) | 12(5.3%) | 239(89.5%) | 13(4.9%) | 3.28 | >.05 |
| 16. Breath testing of drivers should be widely enforced all year round. | 195(86.7%) | 11(4.9%) | 240(89.9%) | 15(5.6%) | 4.66 | < .05 |

advertising attracted a significant difference in the perception of drinking and non-drinking students {$X^2$ (1) 10.38; p< 0.05}. It is glaring from table 2 that 133(59.1%) of drinkers compared to 191(71.54%) of the non-drinkers supported this statement. Statement 16, breath testing of drivers should be widely enforced all year round attracted 195(86.7%) drinkers against 240(89.9%) non-drinkers in support. A chi-square analysis reveals a significant difference in perception of students in both categories {$X^2$ (1) 4.66; $p$< 0.05}.

## DISCUSSION

Emerging insights from this study corroborate previous findings of high alcohol availability, accessibility and affordability in Nigeria (Obot, 2006; De Brujin, 2010). It reveals that Nigerians are aware of the health and social implications of hazardous alcohol consumption, just as a majority of them are skeptical, if not completely ignorant of existing alcohol regulatory laws in the country; hence their inevitable call for government intervention in order to protect individuals from alcohol-related problems. The position of Nigerians as reflected by their call for governments' intervention supports the findings of Wechler et al., 2002; Dejong, Towvin & Schneider (2007 ) and may not be unconnected with the obvious social, health, domestic and other problems posed by harmful alcohol use as evidenced in increased violence, accidents, unintentional injuries, etc. (Obot, 2006; 2007; Roerecke, Obot, Patra & Rehm, 2008).

The significant association between drinking and unfavourable perception of alcohol policy implementation in Nigeria and as inferred by respondents' reaction to statements 1,2,3,4, 7, 9, 11, 14.and 16(see table 2) is also glaring. Drinking students tend to favour options that support availability, and opposed to intervention strategies aimed at restricting alcohol advertisement, and those aimed at encouraging taxation and reducing alcohol outlets. Drinking students also showed disapproval to statements that protect the minors from exposure to alcohol advertisements and also disagreed with major drunk driving policies. This result supports the findings of Lavigne, Witt, Wood, Laforge & DeJong (2008) and could be explained by the expected resistance always exhibited when substance users' source(s) of pleasure eliciting stimuli (alcohol drinking) are threatened.

### Practical implication of result and Suggestion for policy implementation

This study found a preponderance of alcohol drinkers in Nigerian universities (45.7%), with a male to female drinkers' ratio of 48% to 43%. Evidence abounds to support the assumption that apart from the health and social consequences of drinking, declining academic performance and/or eventual drop- out holds potential for this population (Tumwesigye & Kasirye, 2005). The resistance that should be envisaged from the drinking population in the course of implementation of interventions in the Nigerian universities is also highlighted by the result of this study. However, allowing this population of drinkers to suffer the afore-stated effects spells doom for the nation's valuable resource-the youth.

This paper therefore re-echoes the need for strict enforcement of alcohol control policies at the macro level through taxation and other demand/supply reduction strategies. It is also pertinent to emphasize the regulation of the physical availability of alcohol by partial or total bans, regulating retail outlet, hours and days of retail sale, restriction on eligibility to purchase and sell alcohol, minimum alcohol purchasing age laws, promotion of alcohol free activities and community mobilization approach.

Data from this and other supporting studies provide ample evidence that efforts designed to persuade students and by extension, Nigerian youth, to understand and support attempts to reduce high risk drinking as enumerated above, may be too broad, thus may not effectively address the targeted population. Resistance (subtle or confrontational) should be expected as majority of respondents may have only expressed verbal support for policies. Thus, apart from use of access restriction and alcohol taxation strategies mentioned above, we recommend that intervention would benefit from approaches that target both student perception and specific policies that are more conducive to student support engagements in Nigerian campuses. In specific terms, we advocate that the university authorities should use more economically efficient and potentially more effective targeted approaches geared towards changing the perception and behavior of drinking students who may perceive alcohol policies as being stringent.

In addition, using social norms marketing to correct misperceptions of drinking norms is

encouraged. Moreover, publicizing the majority support for alcohol control policies on campus may impact on the attitudes of students. It is also suggested (Buettner, et al., 2010), that using mass media campaigns to promote positive attitudes towards university policies might make it easier for university officials to implement strict penalties for alcohol related violations without provoking strong resistance from students.

The perception of alcohol policies in Nigeria and other developing societies deserves further investigations as no cause-and-effect relationships can be established from findings of this study. A cause-and-effect relationship between student perceptions of alcohol policies and the drinking behavior of students should therefore be explored in further studies. Moreover, the sample drawn for this study was confined to one university in a small Nigerian town, so the findings are limited in terms of generalizability. Future studies on this should include many more schools across the whole country and also members of the general public.

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# DETERMINANTS OF PSYCHOACTIVE SUBSTANCE USE AMONG INCARCERATED DELINQUENTS IN NIGERIA

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## ABSTRACT

The objective of the study was to identify the prevalence of psychoactive substance use among incarcerated delinquents in Nigeria and its determinants. The total inmate population of 401 individuals were interviewed over a period of four weeks using an interviewer administered questionnaire that assessed for socio demographic, forensic, and drug use history among other variables. All the respondents were males, with a mean age of 20.6 ± 3.1 years, ranging from 12 to 39 years and had spent an average of 16.1 ± 9.9 months. The average age of first use was 12.6 ± 5.9 years. The prevalence of lifetime and current use of any substance was 88.0% and 64.3% respectively. Prior arrest, being sexually active and family drug use significantly ($p<0.05$) predicted lifetime use of any substance while being raised in a monogamous family was protective. Prior arrest, family drug use, and being sexually active significantly ($p<0.05$) increased lifetime use of illicit substances while being raised from a monogamous home significantly ($p<0.05$) reduced same. Prior arrest and substance use before incarceration significantly ($p<0.05$) predicted current use of any substance. Being sexually active and substance use before incarceration significantly ($P<0.05$) predicted current use of illicit substances while high self esteem and being the first born was protective. Since substance use prevalence is high among incarcerated delinquents, the incorporation of substance abuse screening and treatment as part of their programmeme is advocated.

**Key Words:** Substance use, delinquents, incarceration, Nigeria,

## INTRODUCTION

Many young people in the criminal justice system have a substance use disorder (Atkins et al., 1999; Gray & Wish, 1998; Marsteller et al., 1997; Teplin et al., 2002). While it cannot be claimed that the relationship between substance use and delinquency among juveniles is causal in nature, both behaviours are certainly strongly correlated. In Nigeria there has been relatively little empirical work on juvenile delinquency and drug use.

The objective of this study is to evaluate the prevalence of substance use among young

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people incarcerated at a juvenile correctional institution (Borstal) in Nigeria. This study also aims to evaluate any possible correlations between drug use and variables such as sociodemography, religiosity, family member use of drugs, parenting style, self esteem and assertiveness

Many researchers agree that the foundation of adolescent delinquency is rooted in the kind of home the adolescent is brought up (Odebunmi, 2007; Otuadah, 2006; Okpako, 2004). These studies claim that the behaviours of adolescents are as a result of the parenting style which is often defined by the way youths perceive their parents and thus react to the authority of their parent.

Researchers have conceptualized four parenting styles namely: authoritative, authoritarian, permissive and uninvolved (Glasgow, Dornbusch, Troyer, Steinberg, & Ritter (1997). Others categorize parenting into two major broad forms: "Demandingness" and "Responsiveness"(Ang & Goh, 2006; Chen & Wu, 2005)

Authoritative parenting is usually warm and supporting with the parents being both demanding and responsive and the child's opinion are recognize as he is part of the decision making process. This parenting style appears to produce children who are less influenced by negative peer pressure (Collins, Macoby, Steinberg, Hetherington & Bornstein, 2000). The parents, according to Ang and Goh (2006), are flexible and responsive to the child's needs but still enforce reasonable standards of conduct. Steingberg, (1996), reported that juveniles raised in authoritative households were more self confident, more responsible and less likely to engage in substance abuse and delinquent behavior. A significant relationships between high levels of parental warmth and low levels of externalizing problem behaviours in children of authoritative parents have been observed (Garber, Robinson & Valentine, 1997).

Authoritarian parenting which is referred to as "demanding" focuses on controlling the child and influencing them to comply with rules. The basis of parent–child relationship is obedience to strict rules and "worshipful" respect for authority with little or no responsiveness to the child's needs. Apart from being strict and harsh, authoritarian parents are said to be restrictive and punitive when directions are not followed (Ang & Goh, 2006; Baumrind 1971, 1991) While some insist that such parenting yield positive effects in adolescents, for example in Asians and Indians(Ang & Goh, 2006), others conclude that parenting characterized by hostility, criticism, punishment and coercion is associated with antisocial behavior(Rutter Giller & Hagell, 1998). Juveniles from authoritarian households were observed to lack self confidence and responsibility but were less likely to engage in substance abuse and delinquent behavior (Steinberg, 1996). Children whose parents are authoritarian may perceive them as being mean and punitive and are likely to score high on aggressive scale while children in less punitive households scored lower (Thomas, 2004)

Permissive parenting is usually indulgent, exercising little control over the child's behavior and generally allow the child have more freedom. The parents are very responsive and extremely committed to the child with few restrictions, rules, limits or demands on their children. One study observed that parents of children with antisocial behavior are likely to be less positive, more permissive and inconsistent (Reid, Webster-Stralton & Baydar, 2004).

Some researchers belief that poor parental supervision is usually the strongest and most replicable predictor of offending (Farrington & Loeber, 1999; Smith & Stern, 1997). Juveniles from permissive households are observed to engage in substance abuse and delinquent behavior more frequently, but reported high level of self confidence (Steinberg, 1996). This may result from the fact that they exercise freedom to make choices of their own and express a sense of authority over themselves and their decisions. They may however be influenced more by their negative associates and delinquent peer groups because of lack of firm, clear direction and supervision by parents.

The neglectful or uninvolved parenting style does not provide adequate supervision neither does it support the child's needs. These

parents seem to focus more on their own lives and appear to be detached from the child, being neither demanding nor responsive. Juveniles from uninvolved households are more likely to engage in substance abuses and delinquent behavior and report a higher frequency of psychological problems such as depression and anxiety (Jackson & Crocket 2000; Steinberg, 1996). Research suggest that a lack of involvement as well as poor monitoring and supervision of children's activities, strongly predicts antisocial behavior (Loeber & Stouthamer-Loeber, 1986).

Severe persisting forms of antisocial behavior affects 5-10% of children in developed Western countries and are linked to future adult crime, drug and alcohol misuse, unemployment, poor physical health and mental disorder (Rutter, Bishop, Pine, Scott, Stevenson, Taylor et al., 2008; Cohen, 1998; Moffitt, Caspi, Harrington, & Milne, 2002; Odgers, Milne, Caspi, Crump, Poulton, & Moffitt, 2007).

Mann, Mckeowin, Bacon, Vesselinor and Bush, (2007), posited that: spirituality pertains to ones sense of connection to a transcendent power or purpose with or without conformity to a set of prescribed beliefs or practices while religiousity pertains to one's involvement in a system of worship and doctrine that is shared within a group. Many studies have examined the role of religiosity in preventing substance use among adolescents. Young people who are highly religious consistently report lower levels of drug use than young people who are less religious (Gorsach, 1988, 1995; Johnson Tomkins & Webb, 2002). This finding may not be unconnected with the fact that many religions prohibit the use or abuse of alcohol and other drugs among adherents resulting in the utilization of religious beliefs and practices in the treatment of and recovery from alcohol and drug abuse (Calburn, 2007; Brown, Pavlik, Shegog, Whitney, Friedman, Romero, et al, 2007). Some qualitative and quantitative research support the claim that religiosity is negatively associated with substance abuse and is useful in the substance abuse recovery process (Brown, 2006; Bazargan, Sherkat & Bazargan, 2004). Despite these findings, the assumption that religiousity and spirituality are protective factors against deviant behavior has been criticized as spurious, lacking empirical validation (Cochran, wood & Arneklev, 1994; Evans, Cullen, Dunaway & Barton, 1995).

Many studies have rather focused on the "lack" of religion as a risk factor for increased substance use (Bry,Mckeon, & Pandina, 1982; Hawkins, Cathlano & Miller 1992; New Cump, Maddahian, Skagger & Bentler, 1987; Maddahian, New cumb, & Bentler, 1988). Despite the use of a variety of samples, research methods and measures of substance use and religiosity, the data generally suggest that young people who are more religiously engaged are less likely to use drugs than their less religiously engaged counterparts. Miller, (1998) put it simply "There is strong evidence that spirituality/religious involvement is generally associated with decreased risk of alcohol/drug use problems and dependence " (p.981).

Studies have investigated several life skills and examined their association with substance use among juveniles. Though not much has been done on the effects of self esteem on drug use, studies on substance use and area specific self esteem found high home and school self esteem to be a protective factor against the use of a number of different substances while peer self esteem was found to have little relationship with substance use (Emery, McDermott, Holcomb & Marty, 1993; Young & Werch, 1990; Young, Werch & Bakema, 1989). These studies examined each aspect of self esteem and substance use separately.

It has also been observed that self esteem serves as the mediator between mental health and peer attachment while low levels of self esteem have been correlated with increased risk behavior such as deviant social behavior, poor health and depression (Wilkinson, 2004; Daane, 2003; Donnellan, Trzeniewski, Robins, Moffitt & Caspi, 2005; Trzeniewski, Donnellan, Moffitt, Robins, Poulton & Caspi, 2006). Additionally Donnellan et al, (2005) found that adolescents with low self esteem tended to increase aggressive behavior with age and had a higher chance of antisocial behavior and delinquency including substance use.

Boisvert, Beaudry and Bittar, (1985) defines assertiveness as a bold behavior that enables a person to act on his or her own benefit without neglecting the right of others. Some have argued that there is a strong connection between external locus of control and addictive behaviours (Bernett, Norman, Murphy, More, & Tudor-Smith, 1998). Others posit that the lack of self esteem and assertiveness and poor family relationships increases the risk of substance use by adolescents. (McNeal & Hansen, 1999; Rhodes J., & Jason L, 1990).

## METHOD

### Study setting and participants

This study was carried out in a juvenile prison in Barnawa, Kaduna, situated in Kaduna city in Northern Nigeria. There are just two of such prisons in Nigeria under the Nigerian Prisons Service and administered like a school. Inmates undergo academic and vocational experience and it has a capacity for about 300 persons.

Permission to carry out the study was obtained from the Nigerian Prison Authority and ethical approval was gotten from the Research and Ethics committee of Federal Neuro-Psychiatric Hospital, Barnawa, Kaduna. A total population of the inmates were studied.

### Instrument

An Interviewer administered questionnaire was used in the study which had four sections. Different parts of this questionnaire has been validated and used in similar settings. The first section documented socio-demographic variables while the second sections assessed the type, pattern and frequency of substance use by both inmates and their family members. It also assessed the current and lifetime use of these substances and the age of initiation of each of them. Section three contained items regarding the criminal justice system and type of offences committed.

Section four assessed parenting style as perceived by the inmates and their religiosity. The fifth section was concerned about the rating of their personal life skills like self esteem, and assertiveness and it also assessed risky behaviours like fighting under the influence of drugs, and having unprotected sex.

A pilot study was carried out to prefect the instrument among 15 inmates who were excluded from the main study. It provided an idea of the estimated time of completing a questionnaire and the inclusion of some substances of abuse that were left out.

Data collection was carried out over a period of 8 weeks (March-April 2011) by trained volunteers. Confidentiality was maintained as no prison staff was present and they were assured of anonymity. The purpose and nature of the study was explained to them and they were given opportunity to ask questions. Their names were not requested and they were informed of their right to refuse participation.

## RESULTS

### Socio-demographic characteristics

A total of 401 (94.04%) inmates were studied comprising of all males with a mean age of 20.6years $\pm$ 3.1, age range 12-39years. The mean time spent was 16months $\pm$ 9.9 with a range of 1-38months and the mean age of initiating drug use by respondents was 12.6years $\pm$ 5.9.

Christians constituted 52.9% of inmates while Muslim made up 45.4% and traditional and other religions made up the remaining 1.7%. The majority (73.8%) of respondent's parents were still married and 59.1% were from monogamous family.

### Family and respondents' substance use

Family members in this study refers to the respondent nuclear family and other family members he grew up with in the same house. Respondents reported that 57.6% of family members used drugs out of which 39.9% used illicit drugs. Licit drugs in this study referred to only cigarette and alcohol.

Lifetime use of substances was 88% with 75.3% of respondent having used illicit substances which could be one or a combination

of marijuana, cocaine, heroin, codeine, and solution. Prior to their incarceration, 78.1% had used drugs. 64.3% of respondent were currently using substances with 25.9% using illicit substances. The majority (65.3%) of respondent were introduced to drugs by friends.

**Predictors of substance use**

Family type ($x^2$= 5.70, $p$=0.02), family drug use ($x^2$= 18.06, $p$=<0.001), prior arrest ($x^2$=26.25, $p$=<0.001), religiosity $x^2$= 4.51, $p$=0.05)and being sexually active ($x^2$= 17.7, $p$=<0.001) was associated with lifetime use of any substance. Marital status ($x^2$= 6.2, $p$=0.05), family type ($x^2$= 4.0, $p$=0.05), family drug use ($x^2$= 14.11, $p$=<0.001), prior arrest ($x^2$= 14.11, $p$=<0.001), assertiveness ($x^2$= 5.27, $p$=0.02) and being sexually active ($x^2$= 20.3, $p$=<0.001) was significantly associated with lifetime use of illicit drugs. Significant association of current use of any drug was found with marital status($x^2$= 6.14, $p$=0.05), family type($x^2$= 7.01, $p$=<0.01), prior arrest($x^2$= 19.92, $p$=<0.001), birth order($x^2$= 6.41, $p$=0.04), self esteem($x^2$= 3.77, $p$=0.05), drug use before incarceration($x^2$= 15.48, p=<0.001) and being sexually active($X^2$= 3.97, p=0.05). Prior arrest($X^2$= 5.32, p=0.02), birth order ($x^2$=6.91, $p$=0.03), self esteem($x^2$= 5.98, $p$=0.02), drug use before incarceration($x^2$= 7.31, $p$=<0.01) and being sexually active($x^2$= 8.13, $p$=<0.01) was significantly associated with current drug use.

Prior arrest (OR=3.30, $p$=<0.001,), being sexually active (OR=2.43, $p$=0.01,), and positive history of drug use by family members (OR=2.8, $p$=<0.01,) predicted the lifetime use of any drug while being raised in a monogamous home (OR=0.42, $p$=0.02,) was protective(Table 1). Prior arrest (OR=1.97, $p$=<0.01), family drug use(OR=1.83, $p$=0.02), and being sexually active(OR=2.26, $p$=<0.01), predicted lifetime use of illicit drugs while being raised in a family where both parents are still married (OR=0.34, $p$=0.02), was protective against lifetime use of illicit drugs (Table 2).

Prior arrest (OR=2.34, $p$=<0.001) and use of drugs before incarceration (OR=2.03, $p$=<0.01), predicted current use of any drug among the respondents (Table 3). Being

**Table 1:** Summary of logistic regression analyses for variables predicting lifetime substance use for incarcerated juveniles (n=401)

| Variable | Odds Ratio | *p*-value | 95% CI |
|---|---|---|---|
| Contact with criminal justice system | 3.30 | <0.001 | 1.69-6.45 |
| Sexually active | 2.43 | 0.01 | 1.24-4.76 |
| Family drug use | 2.8 | <0.01 | 1.38-5.66 |
| Religiosity | 0.59 | 0.13 | 0.30-1.16 |
| Family (monogamous) | 0.42 | 0.02 | 0.20-0.88 |

**Table 2:** Summary of logistic regression analyses for variables predicting lifetime illicit substance use for incarcerated juveniles (n=401)

| Variable | Odds Ratio | *p*-value | 95% CI |
|---|---|---|---|
| Family type | 0.65 | 0.10 | 0.38-1.09 |
| Contact with criminal justice system | 1.97 | <0.01 | 1.19-3.25 |
| Marital status (Married) | 0.34 | 0.02 | 0.13-0.87 |
| Family drug use | 1.83 | 0.02 | 1.11-3.02 |
| Assertiveness | 1.60 | 0.08 | 0.94-2.70 |
| Sexually active | 2.26 | <0.01 | 1.33-3.86 |

**Table 3:** Summary of logistic regression analyses for variables predicting current substance use for incarcerated juveniles (n=401)

| Variable | Odds Ratio | *p*- value | 95% CI |
|---|---|---|---|
| Family type | 0.74 | 0.20 | 0.46-1.17 |
| Contact with criminal justice system | 2.34 | <0.001 | 1.47-3.71 |
| Marital status | 0.62 | 0.19 | 0.30-1.26 |
| Sexually active | 1.35 | 0.25 | 0.81-2.25 |
| Use before incarceration | 2.03 | <0.01 | 1.21-3.41 |
| Self esteem | 0.65 | 0.05 | 0.41-1.00 |
| Birth order | 1.13 | 0.70 | 0.61-2.10 |

sexually active (OR=2.23, $p$=<0.01), and use of drugs before incarceration (OR=1.97, $p$=0.05), predicted current use of illicit drugs while high self esteem(OR=0.48, $p$=<0.01), and being the first born (OR=0.42, $p$=0.02) was protective (Table 4).

## DISCUSSION

This study revealed that the average age of onset of substance use was 12.6years while some initiated substance use as early as age 7years. It may be inferred that those who are likely to be delinquent initiate drug use at an earlier age. Conversely, those who begin the use of drug at an earlier age are more likely to become delinquent.

Lifetime prevalence of any substance use was 88% while that for illicit substance use was 75.3%. Current use prevalence for any substance and illicit substances was 64.3% and 25.9% respectively. Lifetime Prevalence of as high as 95.7% have been reported among delinquents (Frank, John, Graham, and Gregory, 2003) while prevalence rate among the general population of adolescents may be as low as 10% for illicit substance use (SAMHSA, 2010).

There seems to be an association between lifetime illicit substance use and adolescents coming from a home whose parents are divorced. Similar finding was observed with current substance use though it was not predictive of substance use among them. Many studies have identified the nature of some family structure as a risk to adolescent's use of drugs. (e.g. Flewelling & Bauman, 1990; Needle, Su & Doherty, 1990; Turner, Irwin & Millstein, 1991; Hoffman 1993; Adlaf & Ivis, 1996; Albrecht, Amey & Miller, 1996; Suh, Schutz & Johanson, 1996; Amey & Albrecht, 1998; Gil, Vega & Biafora 1998; Aquilino & Supple, 2001). This risk is greatest when neither parent is present (Adlaf & Ivis 1996; Albrecht et al. 1996; Suh et al., 1996).

**Table 4:** Summary of logistic regression analyses for variables predicting current illicit substance use for incarcerated juveniles (n=401)

| Variable | Odds Ratio | *P*-value | 95% CI |
|---|---|---|---|
| Contact with criminal justice system | 1.59 | 0.10 | 0.92-2.74 |
| Sexually active | 2.23 | 0.01 | 1.18-4.24 |
| Use before incarceration | 1.97 | 0.05 | 1.01-3.83 |
| Self esteem | 0.48 | <0.01 | 0.29-0.78 |
| Birth order | 0.42 | 0.02 | 0.21-0.85 |

According to Clark (1970), the juveniles who are the greatest threat to the public are those who live in broken homes. This was observed more with adolescents who come from fatherless homes while the presence of a father was a protective factor for especially male adolescents in regard to delinquency (Flouri & Buchanan, 2002; Wilson, 2000). The difference in the pattern of substance use depending on family type is also seen with the age of initiation of substance use, current use and lifetime use (Suh et al., 1996; Gil et al., 1998; Albrecht et al. 1996; Adlaf & Ivis 1996). Studies have shown that compared to children with married parents, children with divorce parents are more likely to have behavior problems, such as aggression and acting out and more likely to engage in criminal behavior, (Hilton & Desrochers, 2002; Mednnick, Baker, & Carothers, 1990)

Parenting style has been identified as a predictor of delinquency in adolescents (Odebimi,2007; Otuadah, 2008; Okpako, 2004). This study revealed no association between parenting style with substance use among incarcerated adolescents.

Only 48.1% of the respondents were religious and religiousity was not associated with substance use. Many studies have shown that highly religious adolescents report lower levels of drug use than those that are less religious (Gorsch, 1988, 1995; Johnson, Tomskins, & Webb, 2002). Many assert that religion is an important factor against substance use for adolescents. (John, Tony, Jerald, Thomas, 2012). The lack of any association of religion with

substance use may not be unconnected with the over bearing majority who are not religious in the close knit company they find themselves.

The general perception in Nigeria that birth order is an important indicator of how parents treat their children and administer correction informed the assessment of birth order in this study. There are conflicting opinion as to whether the first child or the last child is most affected in terms of parental control and delinquency. In this study, birth order was not associated with lifetime use of substances. First born children were however significantly less likely to engage in current illicit substance use.

The link between substance use and delinquency resulting in frequent contact with the criminal justice system has been noted by some researchers (NIJ, 1996; Altschuler & Broustein, 1991). Among the respondents, 67.9% of them have been arrested at least once for misdemeanor ranging from possession of drugs to stealing, traffic offences and assault. Respondents who have been arrested before were more than three times as likely and almost two times as likely to use any substance and illicit substances respectively in their lifetime. Current substance use was also associated with prior arrest and they were twice as likely to use licit substances currently. This did not predict for current illicit substance use. It may be that since illicit substance use carry heavier punishment within the prison system, those who have had prior contact with the criminal justice system may be more careful to offend while being incarcerated.

Adolescents whose family members use drugs were almost three times as likely and almost two times as likely to use any substance and illicit substances respectively in their lifetime. This could mean that adolescents who live in homes where drugs are used by family members are more likely experiment with drugs.

Less than half(43.9%) of the respondents had high self esteem and among them lifetime and current use prevalence was 87.5% and 25.9% respectively. Respondents with high self esteem were significantly less likely to use illicit substances currently. It was not predictive of lifetime use of any substance or current use of licit substances. Doglas-Pelish (2006), opined that high level of self esteem are necessary to effectively manage social and peer pressure. The majority (72.6%) scored high on assertiveness but it did not predict a less likelihood to use drugs among respondents.

Many researchers have documented the relationship between substance use and early initiation of sex and risky sexual activity (Miller, Naimi, Brewer & Jones, 2007; NHTSA, 2008). Being sexually active was predictive of lifetime use of any substance and current and lifetime use of illicit substances. Those who were sexually active were more than two times as likely than those who were not sexually active to have a history of any substance use, illicit substance use and current use of illicit substance.

## CONCLUSION

In this study, variables like prior arrest, being sexually active, and drug use by family members predicted the likelihood of substance use by incarcerated delinquents. By contrast, being raised in a monogamous family and having both parents still married predicted the less likelihood of substance use.

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**ERRATUM**

The authors of a paper published in an earlier issue of the journal discovered some errors in the data presented and have provided the following erratum. The errors are regretted. *Editor.*

**Priscilla Martinez, Anne Landheim, Thomas Clausen, Lars Lien A comparison of alcohol use and correlates of drinking patterns among men and women aged 50 and above in Ghana and South Africa. Volume 10 (2), 75-88, 2011**

As shown in the table below, all the estimates for the drinking types have overlapping confidence intervals between the different models, indicating no significant influence of either sociodemographics or smoking on the association between drinking pattern and country according to this measure. Among women, however, at risk drinking loses statistical significance in model 2 with the addition of sociodemographics. This suggests the association between being an at risk drinker in Ghana vs. South Africa compared to being a lifetime abstainer is partially explained by sociodemographics. The magnitude of the estimate, however, changes only from 2.05 to 1.97, and the confidence intervals between these values are overlapping. Among men, the estimates for low and at risk drinkers change notably upon the addition of smoking into the model. The wide confidence intervals in Model 3, however, overlap with the estimates from Model 2, indicating the change in estimate is not statistically significant. The wide confidence intervals reduce certainty in the estimate, and likely reflect the small number of at risk drinkers. These results suggest smoking does not explain the differences in drinking pattern among men or women between older adults in Ghana and South Africa, and sociodemographics may provide some explanation for the difference in the proportions of at risk drinkers among older adult women between Ghana and South Africa.

**Revised Table 6:** Differences in drinking patterns between Ghana and South Africa by gender in models adjusted for 1. age, 2. plus marital status, ethnicity, religion, education, work status , chronic illness <12 months, good self-reported health, 3. plus smoking

| | **Women** | | | **Men** | | |
|---|---|---|---|---|---|---|
| **Drinking pattern*** | **Ghana vs. South Africa* Model 1** | **Ghana vs. South Africa Model 2** | **Ghana vs. South Africa Model 3** | **Ghana vs. South Africa Model 1** | **Ghana vs. South Africa Model 2** | **Ghana vs. South Africa Model 3** |
| | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| Low risk drinker | 5.21 (3.53,7.61) | 4.10 (2.75,6.11) | 5.53 (3.53,8.67) | 4.95 (3.53,6.96) | 6.82 (3.97,11.70) | 13.61 (7.92,23.37) |
| At risk drinker | 2.05 (1.20,3.54) | 1.97 (0.71,4.01) | 3.78 (1.57,9.21) | 3.63 (2.53,5.21) | 5.75 (3.49,9.49) | 11.82 (7.36,19.11) |

* Lifetime abstention is the reference for each drinking pattern, and South Africa is the reference country.

**Inclusion of people not meeting low or at risk definitions**

In the full sample of older adults in both Ghana and South Africa, there were a total of 100 people who reported drinking in the last 7 days but did not meet the criteria for either low risk or at risk drinking. Please see Table A. below for a breakdown of this group by country and gender. This group did not differ significantly on age, marital status, ethnicity, religion, education, rural/urban status or working for pay from the low risk drinking group (analyzed within each country and by gender) and was thus included in this group, rather than excluded from the sample. To further justify including this group in the low risk drinking category, for both genders I also ran the analysis as described in the paper with low risk drinking groups with and without these additional participants and observed little change in the estimates, and no differences in which factors were significantly associated with drinking pattern.

To be clear, In Ghana there were 238 low risk drinking women, and I included the additional 6 in this group for a total of 244. Also in Ghana there were 591 low risk drinking men, and I included the additional 42 for a total of 633. In South Africa, there were 69 low risk drinking women, and I included the additional 8 for a total of 77. Among men in South Africa there were 144 low risk drinking men, and I included the additional 44 for a total of 192.

As can be computed from Table 1 in the article, the proportions of the 4 drinking categories (lifetime abstainers, previous drinkers, 12 month drinkers and current drinkers) sum to 100 in each column, and the country totals are the same as described in the Methods, indicating that all participants were included in the sample. Because these groups did not differ from the low risk drinking group and in an effort to maximize the data we had, I decided to keep them in the dataset.

**Table A:** Frequencies of older adults included in the sample by country and gender

| | Ghana | South Africa | Total |
|---|---|---|---|
| Women | 6 | 8 | 14 |
| Men | 42 | 44 | 86 |
| Total | 48 | 52 | 100 |

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